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Remittance Income: Implications for Household Welfare in a Developing Economy

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Abstract.

Scholars have emphasized the antecedent role of remittance income on household welfare. The existent literature on remittance and household welfare has however presented mixed findings with other revealing no relation while others otherwise. There is dearth of knowledge regarding remittances in emerging economies. The current study seeks to establish the influence remittances on household welfare using a sample derived from households in Uganda which is a developing economy. The study adopted a panel design using data from 2013 to 2020 obtained from Uganda Bureau of statistics. The study findings reveal that remittance income enhances household welfare. Specifically, remittances enhance the consumption expenditure as well as reducing the poverty of the households. The study shapes the directional strategies by government economists to come up with the relevant measures to improve both internal and external remittances so as to reduce household poverty and enhance the household expenditure to spur economic growth and development. The study used a panel design with time gaps because there wasn't enough data. As a result, time series data may be used in future studies to better understand long-term relationships

.**Keywords:** Remittances; Household Welfare; Instrumental Variables; Uganda.

Introduction

Household welfare is a vital economic aspect that should be given close attention since it determines the stability of the country. With this aspect, economists have devised different strategies to enhance the welfare of households basing on the welfare drivers. Household welfare refers to the standard of living of a group of people sharing common household existences and identities measured in terms of consumption expenditure as well as level of poverty (Akanle & Adesina, 2017; De et al., 2013). Among such welfare drivers is remittance income which has been found to be growing especially for poor households. Researchers and policymakers are becoming increasingly interested in the economic consequences of remittances.

Remittance income is money sent home by migrants' family (Cohen, 2011; De et al., 2013; Escriba-Folch et al., 2015; Kangmennaang et al., 2017; Ratha, 2021). Cooper et al., (2018) define remittances as all non-reciprocal money transfers from one individual, family, or community to another individual, home, or community in another location. This money is either sent from within (internal remittance) of from oversees (international remittances). International remittance refers to the money or in-kind commodities that migrants send back to their family and friends in their home countries, whereas internal remittance refers to all financial and non-financial flows sent by domestic migrants to their relatives (Adams & Cuecuecha, 2013; Aggarwal et al., 2011; Sobiech, 2019; World Bank, 2021; Yang, 2011). Remittances mostly take the form of money but most especially are connected with working migrants who send money on a regular basis to assist their communities and families back home (Cooper et al., 2018). Remittances can be sent in cash or in kind, and they can come in a variety of formal and informal methods (Yang, 2011).

Globally, migrant workers are now 169 million individuals, accounting for around 4.9 percent of the worldwide workforce (ILO, 2021). Remittances have witnessed tremendous growth in recent years due to their critical role on spending by households on necessities such as food and health education. Remittances to low and middle income nations increased by 7.3 percent in 2021, compared to a 1.7 percent fall in 2020. (World Bank, 2022b). According to a World

Bank (2022b), remittance flows grew to 21.6 percent across Latin America and the Caribbean, 9.7 percent in the Middle East and North Africa, 8% within South Asia, 6.2 percent for Sub-Saharan Africa, and 5.3 percent in Europe and Central Asia. More specifically in Sub – Saharan Africa (SSA), remittance flows have surpassed Foreign Direct Investment (FDI) and development aid reaching a peak of $ 550 billion in 2019 (Ratha, 2021). Uganda has aggressively promoted labour export and realized sizable amounts of remittances inflow. On average, 4.3 percent of Ugandans seek employment abroad annually (Bakunda & Mpanga, 2011). This number has kept on increasing especially those flocking to the middle East in recent years (GTZ, 2020). In 2020, Uganda was one of the top ten remittance recipient countries in SSA (Odhiambo & Handoo, 2021).

Despite the increasing trend of remittance flows, world household welfare has seen significant decline. For example, 860 million people live in extreme poverty today, with an additional 250 million expected to be impoverished by the end of 2022. (Oxfarm, 2022). An estimated 1.2 billion children were already living in multifaceted deprivation without access to sanitation, nourishment, housing, health care or education by the end of 2020 (Xinhua, 2022). In Afghanistan, 70 percent of the households reported not being able to cover basic food and non – food necessities as a result of decline in their earnings (WorldBank, 2022a). In addition, the poverty rate in Mongolia has been consistently high at 27.8 percent in 2020 (HSES, 2021). In Sub Saharan Africa, the situation is not any different, for instance, the region registered a growth in the number of individuals living in poverty, from 420 million in 2018 reached 424 million in 2019. (Aguilar et al., 2022).

The impact of remittances on household wellbeing has receive enormous attention in the academic circles. For instance Hung & Peng (2020) analyzed rural-urban mobility using remittances and welfare data. They learned that immigrants, for a variety of reasons, send home a portion of their salaries to help their families of origin. Their findings also imply that if remittances rise, the gap between entrepreneurs and migrant employees would widen. According to the study, migrant households' average utility level was growing in the remittance rate due to low trade expenses. Ajaero et al. (2017) used secondary cross-sectional data, ordinary least squares, and probit regression to investigate the link between living standards in Nigeria and remittances from abroad. They demonstrated that having an immigrant from abroad and getting remittances greatly improves household welfare. They also discovered that household head age, household size, and home region all had an impact on welfare. Kangmennaang et al. (2017) used primary data to explore how household welfare is affected by migration and remittances in rural Malawi. They discovered that migrant members were less likely to be food insecure, implying that immigration has a favorable impact on welfare. Using the Dose – response function technique and data from Kosovo, Arapi-gjini et al. (2020) looked at the effects of transfers on poverty and inequality. Remittances lower both overall and relative poverty levels, according to the study's findings, but they also result in rising inequality over time.

Extant literature, on the other hand, has produced mixed results: Some research have discovered a favorable and large influence of remittances on welfare (Ajaero et al., (2017); Arapi-gjini et al. (2020); Baffour et al. (2020); Cuong & Linh (2018); Hung & Peng (2020); Kangmennaang et al. (2017). On the contrary, Several studies have found no beneficial or substantial impact of remittances on the welfare of migrant sending households (Cardozo et al., 2019); Cuadros-Menaca et al. (2020)). We therefore join this debate to holistically determine the effect of remittance income on welfare using different outcomes of household welfare including household consumption expenditure and poverty. This study will identify methods via which remittance money can affect migrant sending households by investigating the effect of remittance income on various components of household welfare. Studies have either focused on external remittance or internal remittance but this study considers both sources of remittance.

Remittance income has a different impact on household welfare in different countries. (Cuong & Linh, 2018). To fully comprehend the economic effects of transfers on household wellbeing in the context of developing countries, more scientific research is required. The goal of this study is to determine the impact of remittance income on household consumption and poverty in Uganda. This study also uses more updated (recent) and nationally representative survey data (UNPS: 2013 – 2020) to analyze the pattern and impact of remittance income on household welfare as remittances and household welfare are both dynamic factors that change over time.

The current research contributes to theory as well as practice. To theory, the study adds to the remittance and welfare literature by empirically demonstrating the role of remittances on the two welfare outcomes, and demonstrating that consumption expenditure and poverty incidence are alternative channels through which remittances can affect household welfare, using the most recent panel data that is nationally representative and includes both urban and rural dimensions. The study also investigates the welfare theory in a developing country (Uganda) and determines its external validity. Given the relative roles of remittance income in improving Ugandans' lives, the study provides diverse insights into the necessary ways to increase the welfare of Ugandan households.

Three sections make up the remaining portion of the essay. The first section summarizes the literature on remittance earnings and household wellbeing. The second section discusses the data and methodology of the study. The study's findings, discussion and implications are presented in the final part.

2.0 Literature Review

Remittances are essential for people's (recipients') daily survival (De et al., 2013). Remittance transfers, on the other hand, serve a critical role in ensuring household food security, health care, savings, and investment opportunities (Odhiambo & Handoo, 2021). Remittances have a significant impact on welfare, according to Akanle and Adesina (2017), because remittance-receiving households are able to meet their survival and investment needs through school fees, rent, house construction, commercial activities (transportation), medical bills, and even improvements in household status. Furthermore, Ajaero et al. (2017) found that remittances had an impact on a variety of family requirements, including as investing in human capital and education, reducing poverty, and reducing inequality, and overall household wellbeing in the nation of origin.

Consumption, savings, and investment are all influenced by remittance flows. Increased family income leads to increased consumption of both durable and non-durable products, as well as increased savings (Anyanwu & Erhijakpor, 2010). As family members move to work, households should get more money in remittances (Arapi-gjini et al., 2020; Cuadros-Menaca et al., 2020; Cuong & Linh, 2018). Escriba-Folch et al. (2015) mentioned that remittances go directly to the individual and thereby increase the household's income. Remittances are, in fact, part of Uganda's private welfare scheme, which distributes purchasing power from relatively wealthy to comparatively poorer family members. As a result, remittances help family members who remain in the nation of origin to consume and invest more (Cuadros-Menaca et al., 2020). Remittances assist receiving households in increasing per capita income, expenditure, and poverty reduction (Cuong & Linh, 2018). This is especially true when the funds are used for consumption, savings, and the purchase of household assets by the recipient households. Remittances are expected to improve both household expenditure and income.

Remittances also help to alleviate poverty, enable consumption, offer working capital, and have a multiplier effect by increasing household expenditure on education, health, and improved nutrition (Anyanwu & Erhijakpor, 2010). Remittances help the sending household to develop faster by alleviating poverty (Nyikahadzoi et al., 2019). Moreover, remittances have been found to relieve poverty by enhancing aggregate demand and directly augmenting the income of impoverished recipient households (Ajaero et al., 2017). Furthermore, remittances are more than simply financial; they represent and enhance the sender's social status as funds flow to support not only family but also community, local government, cultural rituals, and celebrations (Cohen, 2011). Remittances also provide social security and education for the children of retired senior parents (Nyikahadzoi et al., 2019). Remittances are used to pay off debts incurred by households who borrow to pay for migration (Cuong & Linh, 2018). When remittances are invested in high-return activities, they might cause a household's labor and production to alter (Cuong & Linh, 2018).

In Bangladesh, an empirical examination of this theory demonstrated that remittances improve welfare (Kumar, 2019). Kumar (2019) employed primary data as well as ANOVA to evaluate the remittance welfare relationships in his study looking at how poverty and household welfare are affected by international remittances. The study discovered that remittance recipients had a lower poverty rate (at 6%) than non-recipients (at 48 percent). The study also found that remittance-receiving households' gross per capita expenditure was three times greater than non-receiving households, implying that recipient households are better off. The study found that to reduce poverty and improve wellbeing, pathways that boost foreign remittances should be pursued.

In a research study on how migration patterns affect Vietnamese households' satisfaction, Cuong and Linh (2018) utilized panel data and fixed effect regression to discover that remittances assist recipient households increase per capita consumption and income as well as reduce poverty. Akanle and Adesina (2017) looked into the effect of remittances on Nigerian household well-being. They investigated the correlations using primary and secondary data. Their research demonstrated a beneficial link between remittances and welfare, as well as more robust spending behaviors beyond consumption. Propensity score matching was used by Baffour et al. (2020) to predict the parameters in a study to evaluate the if access to mobile money has an impact on Ghana's domestic remittances, consumer spending, and household prosperity. According to the study, using mobile money boosts welfare, especially for poor households that employ the domestic remittance channel. Their findings also show that those who utilize mobile money get a lot more remittances and spend more as a result significantly on consumption than non-users.

Aguayo-téllez et al. (2020) used survey data from nuclear households with migrant fathers to look into how remittances from abroad and within Mexico affect welfare. They realized that remittances have a significant impact on women's clothing, insurance, durable goods, food, health, and education expenditure shares. Cuadros-Menaca et al. (2020) indicated that kids from homes that receive remittances are far less likely to participate in the market labour and there is no indication that remittances influence school attendance in Colombia. Furthermore, Cardozo et al. (2019) used cross-sectional data with auxiliary regression to look into how Haitian wellbeing is affected by migration and remittances. They learned that remittances do not always lead to improved household welfare. Remittances, according to the study, do not assist people escape moderate poverty. As a result, we propose the following hypothesis:

H_1. Remittance income significantly influences household welfare

3.0 Methods and Data

3.1 Data

The most current rounds of the Uganda National Panel Study (UNPS) that were undertaken between 2012 and 2020, provided the data for this study. With help from the World Bank, the Uganda Statistics Bureau (UBOS) conducted the UNPS in all of Uganda's regions. The UNPS is a yearly survey that gathers socioeconomic information from Ugandan households. UNPS, as its name suggests, is a study that looks at the economic, social and demographic characteristics of Ugandan individuals, households, and communities. Although the UNPS is meant to be taken annually, there have been a few years since its initial collection in 2009/2010. Major household level statistics recorded in the UNPS for this study included demographics, consumption spending, poverty, welfare indicators, and remittance paid and received. 3119 households from all throughout the nation are included in each UNPS.

Although there are various data sources available for studying household welfare, only the UNPS is a national survey that captures comprehensive data on household characteristics. The sources of revenue and expenditure are shown by UNPS. One of the sources of income is remittance income, which is a variable interest rate, whereas the categories of expenditures include things like education, health, energy, clothing, food, maintenance, and construction. All income and other details are reported voluntarily. Remittance income is the sum of all annual remittances that a household receives in Ugandan Shillings. For this study, an explanatory research strategy was chosen. Using STATA 16 and the 2SLS econometric analysis, data was examined.

3.2 Econometric Methods

The relationship between remittance income and household welfare was explored by Newman et al. (2008) using a traditional panel model. As a result, the empirical formulations of the panel models in this study were influenced by the way the proxy components of home welfare were quantified. For instance, household expenditure was calculated as a continuous variable. Two static panel models are described for the proxy of household wellbeing, the respective Fixed Effects and Random Effects models. As a result, when consumption expenditure (CONSEXP) were utilized as proxy variable to quantify household wellbeing, two (2) statistic panel models were estimated. The fixed Effect (FE) empirical model was specified as follows:

$$\mathrm{LN(CONSEXP)_{it}} = \beta_{0i} + \beta_1 \mathrm{LogREMIT_{it}} + \beta_2 \mathrm{edul_{it}} + \beta_3 \mathrm{age_{it}} + \beta_4 \mathrm{age\_sq_{it}} + \beta_5 \mathrm{gender_{it}} + \beta_6 \mathrm{marital_{it}} + \beta_7 \mathrm{hhsize_{it}} + \beta_8 \mathrm{resid_{it}} + \beta_9 \mathrm{religion_{it}} + \beta_{10} \mathrm{asocc_{it}} + u_{it}. \quad \ldots\ldots \quad (1)$$

When consumption spending is used as a proxy measure of household wellbeing, we design a Random Effects panel model as follows:

$$\mathrm{LN(CONSEXP)_{it}} = \beta_0 + \beta_1 \mathrm{LogREMIT_{it}} + \beta_2 \mathrm{edul_{it}} + \beta_3 \mathrm{age_{it}} + \beta_4 \mathrm{age_{sq_{it}}} + \beta_5 \mathrm{gender_{it}} + \beta_6 \mathrm{marital_{it}} + \beta_7 \mathrm{hhsize_{it}} + \beta_8 \mathrm{resid_{it}} + \beta_9 \mathrm{religion_{it}} + \beta_{10} \mathrm{asocc_{it}} + \alpha_i + u_{it}. \ldots\ldots \quad (2)$$

This study's panel model 3 for econometric investigation is the LOGIT panel model in which the dependent variable is measured qualitatively and is estimated by logistic regression is specified as;

$$\mathrm{Ln}\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 \mathrm{LogREMIT_{it}} + \beta_2 \mathrm{edul_{it}} + \beta_3 \mathrm{age_{it}} + \beta_4 \mathrm{age_{sq_{it}}} + \beta_5 \mathrm{gender_{it}} + \beta_6 \mathrm{marital_{it}} + \beta_7 \mathrm{hhsize_{it}} + \beta_8 \mathrm{resid_{it}} + \beta_9 \mathrm{religion_{it}} + \beta_{10} \mathrm{asocc_{it}} + \alpha_i + u_{it}. \ldots\ldots \quad (3)$$

The logistic regression model was also used to specify the empirical panel model's econometric form, in which household welfare acts as a qualitative stand-in for poverty status.

$$P_i = E(\mathrm{POV} = 1) = \varphi(\beta_0 + \beta_1 \mathrm{LogREMIT_{it}} + \beta_2 \mathrm{edul_{it}} + \beta_3 \mathrm{age_{it}} + \beta_4 \mathrm{age_{sq_{it}}} + \beta_5 \mathrm{gender_{it}} + \beta_6 \mathrm{marital_{it}} + \beta_7 \mathrm{hhsize_{it}} + \beta_7 \mathrm{resid_{it}} + \beta_8 \mathrm{religion_{it}} + \beta_9 \mathrm{asocc_{it}} + u_{it}) \quad \ldots\ldots \quad (4)$$

4.0 Study Findings

4.1 Descriptive Statistics Summary

According to Table 1's descriptive statistics on family annual household consumption, the overall average yearly household consumption spending for all families during the four waves was around Ug. Shs. three million Seven hundred thousand. The least mean annual household consumption spending during the examined waves was around Ug.Shs.

twenty-two thousand, and the study further demonstrates that this minimal mean annual household consumption expenditure was recorded in UNPS wave 2015/2016. The maximum mean annual household consumption spending during the waves investigated, on the other hand, was about Ug.Shs. 362 million, and a review of the raw data reveals that such a maximum mean annual household consumption expenditure was recorded in UNPS wave 2017/2018. The descriptor statistics in Table 1 also show that the standard deviation of the mean annual household consumption expenditure for the 2017/2018 wave, which was about Ug.Shs nine million, was the greatest. This shows that, in contrast to the earlier waves under examination, the 2017/2018 wave of UNPS showed the largest variations in annual consumption expenditures among families. The descriptor statistics in Table 1 also show that the mean annual household consumption expenditure had a standard deviation of roughly Ug.Shs. four hundred thousand and was recorded in the wave 2015/2016, showing that the wave of UNPS 2015/2016 had the least consumption expenditure disparities among households.

Table 1: Descriptive statistics on household consumption expenditure (CONSEXP)

(Figures are in Ug. Shs)

Wave	Mean	Minimum	Maximum	Std.dev.
2013/2014	5,323,503	368,501	9.66e+07	5,162,845
2015/2016	351,725	22,786	1.03e+07	391,208
2017/2018	4,412,815	234,177	3.62e+08	9,137,697
2019/2020	5,290,936	492,775	6.87e+07	5,084,346
Overall	**3,775,661**	**22,786**	**3.62e+08**	**6,144,725**

Total observations made: 9,943

Source: Author (2022)

Thus according descriptive analysis of the poverty situation of households shown in Table 2, during the four waves examined, 82 percent of families were categorized as non-poor, constituting the bulk of the households. However, Table 2's descriptive information reveals that, 17.18 percent among all households were deemed to be poor. Therefore, the overall rate of poverty across households all over the four waves under study was roughly 17%, as shown by the descriptive analysis in Table 2. Table 2's descriptive statistics on household poverty status further show that wave 2019/2020 of the UNPS contained the majority of non-poor families over the four waves.

Table 2: Descriptive statistics on household poverty status (POV)

(Figures indicated are counts, percentages in parentheses)

Wave	Non-Poor	Poor
2013/2014	1,898	551
	(19.09%)	(5.54%)
2015/2016	2,171	461
	(21.83%)	(4.64%)
2017/2018	1,974	470
	(19.85%)	(4.83%)
2019/2020	2,192	226
	(22.05%)	(2.27%)
Total	**8,235**	**1,708**
	(82.82%)	**(17.18%)**

Pearson Chi-sq. = 160.4228* Pr. = 0.000**

Total observations made: 9,943

Source: Author (2022) *** indicates significance at 1 percent level.

Regarding remittance revenue, Table 3's descriptive statistics reveal that during the four waves under study, the average yearly household remittance income was around Ug. Shs. 221,000. The biggest mean annual household remittance income was observed in the UNPS wave for 2019/2020 and was roughly Ug. Shs. 207,000. The average yearly household remittance income observed was the lowest, roughly Ugandan Shillings 128,000 recorded in the UNPS wave of 2015–2016.

Table 3: Remittance Income (Ug. Shs)

Variable: Remittance income (REMIT)				
Wave	**Mean**	**Minimum**	**Maximum**	**Std.dev.**
2013/2014	168347.1	0	7.24e+06	520537.7
2015/2016	128232.3	0	5.41e+06	389161.3
2017/2018	207338.8	0	6.25e+06	540589.3
2019/2020	207338.8	0	6.25e+06	540589.3
Sub-Total	**221,464**	**0**	**2.17e+06**	**549,083**

Source: Author (2022)

4.2 Testing for Diagnostics

We performed unit root tests on model parameters with quantitative measurements. In this study, the Fisher-type (Choi, 2001) panel unit root test approach was utilized since it enables for imbalanced panels or panel data sets with temporal gaps, both of which are relevant for the empirical panel data included in this study set and can be used for empirical analysis. We rejected or do not dismiss the null hypothesis depending on the most of the four statistically significant statistics provided by this unit root panel testing technique at the 5% significance level. Table 4 summarizes the stationarity estimates for all model variables.

Table 4: Stationarity Results for all Model Variables

Variable	Statistic	Estimated Statistic	p-value	Order of integration
Logarithm of consumption expenditure (LOGCONSEXP)	Inverse chi-square.	288.3492	0.0000	I(0)
	The inverse normal	-16.2518	0.0000	I(0)
	Inverse logit, t	-40.6370	0.0000	I(0)
	Modified Inverse chi-square	70.0873	0.0000	I(0)
Logarithm of Remittance income (LogREMIT)	Inverse chi-square.	262.2932	0.0000	I(0)
	The inverse normal	-15.3687	0.0000	I(0)
	Inverse logit, t	-36.9650	0.0000	I(0)
	Modified Inverse chi-square	63.5733	0.0000	I(0)
Education level of the HH head (hheducl)	Inverse chi-square.	288.3492	0.0000	I(0)
	The inverse normal	-16.2518	0.0000	I(0)
	Inverse logit, t	-40.6370	0.0000	I(0)
	Modified Inverse chi-square	70.0873	0.0000	I(0)
Age of the HH head(years) (age)	Inverse chi-square.	288.3492	0.0000	I(0)
	The inverse normal	-16.2518	0.0000	I(0)
	Inverse logit, t	-40.6370	0.0000	I(0)
	Modified Inverse chi-square	70.0873	0.0000	I(0)
Age square of the HH head(years) (agesq.)	Inverse chi-square.	288.3492	0.0000	I(0)
	The inverse normal	-16.2518	0.0000	I(0)
	Inverse logit, t	-40.6370	0.0000	I(0)
	Modified Inverse chi-square	70.0873	0.0000	I(0)
Size of the household (HHsize)	Inverse chi-square.	288.3492	0.0000	I(0)
	The inverse normal	-16.2518	0.0000	I(0)
	Inverse logit, t	-40.6370	0.0000	I(0)
	Modified Inverse chi-square	70.0873	0.0000	I(0)
Categorical variables	-	-	-	I(0)
Poverty status of the household (POV)	-	-	-	I(0)
Marital status of the HH head (Marital)	-	-	-	I(0)
Residence of the household (residence)	-	-	-	I(0)
Region of the household (region)	-	-	-	I(0)
Employment sector (employsec)	-	-	-	I(0)

Source: Author (2022)

None of the four generated Fisher-type statistics support the null hypothesis that all panels have a unit root for each of the non-categorical variables included in the empirical model, according to the results of Table 4's unit root test. It is presumable that categorical variables have stationary levels. According to Table 4's findings from the panel unit root test,

all the model variables are stationary and are therefore integrated of order zero (0). This suggests that the conditions for a cointegration test are not satisfied, and as a result, we do not proceed to test for cointegration. This is due to the requirement that the cointegration test be performed on panel model specifications where either all panel variables are non-stationary in levels or at least the dependent variable is non-stationary in levels. Because all the model variables were determined to be I(0), this study did not meet the requirement for the cointegration test.

We, tested for multicollinearity by estimation and analysis of the pairwise correlation coefficients between variables in the panel regression. It would be a sign of strong multicollinearity in the regression if the estimated correlation coefficients between the independent variables were greater than 0.8. Table 5 displays the estimated pairwise correlation matrix for all of the model variables.

Table 5: Correlation Matrix

	LOGCONSEXP	POV	HHEDUCL	AGE	AGESQ	GENDER	MARITAL	HHSIZE	RESIDENCE	LOGREMIT	EMPLOYSEC
LOGCONSEXP	1.0000										
POV	-0.3707	1.0000									
	(0.0000)										
HHEDUCL	0.1699	-0.1383	1.0000								
	(0.0000)	(0.0002)									
AGE	0.0588	0.0365	-0.1474	1.0000							
	(0.1132)	()0.3258	(0.0001)								
AGESQ	0.0429	0.0345	-0.1434	0.9856	1.0000						
	(0.2477)	(0.3530)	(0.0001)	(0.0000)							
GENDER	0.0289	-0.0130	0.1325	-0.1167	-0.1139	1.0000					
	(0.4366)	(0.7263)	(0.0003)	(0.0016)	(0.0021)						
MARITAL	0.0713	0.0348	0.0637	-0.1104	-0.1355	0.5384	1.0000				
	(0.0547)	(0.3485)	(0.0865)	(0.0029)	(0.0003)	(0.0000)					
HHSIZE	0.2424	0.1715	-0.0121	0.3678	0.3180	-0.0241	0.1770	1.0000			
	(0.0000)	(0.0000)	(0.7436)	(0.0000)	(0.000)0	(0.5158)	(0.0000)				
RESIDENCE	0.3222	-0.1553	0.2117	-0.0829	-0.0767	-0.0117	-0.1066	-0.0751	1.0000		
	(0.0000)	(0.000)0	(0.0000)	(0.025)5	(0.0389)	()0.7530	(0.0041)	(0.0431)			
LOGREMIT	0.0495	-0.1005	-0.0723	0.2771	0.2959	-0.1695	-0.1588	0.1252	-0.0049	1.0000	
	(0.1824)	(0.0068)	(0.0514)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0007)	(0.8937)		
EMPLOYSEC	0.0255	-0.1296	0.0464	-0.0817	-0.0843	0.1502	0.0163	-0.0554	0.1637	0.0517	1.0000
	(0.4919)	(0.0005)	(0.2117)	(0.0278)	(0.0232)	(0.0000)	(0.6599)	(0.1356)	(0.0000)	(0.1636)	

Source: Author (2022)

The correlation matrix in Table 5 of the research showed a significant correlation ($r = 0.9856$; $p = 0.0000$) between age and age squared control variables. A correlation coefficient level higher than 0.8 indicates a possible risk of severe multicollinearity if both influencing factors are incorporated into the model at the same time. Age squared is thus left out of the study's final model, which nevertheless includes age. Due to the fact that age squared and the dependent variables have a somewhat stronger correlation than age, age squared has been omitted from the analysis.

The transformed dependent variables that are quantitatively measured in the study are subjected to a normalcy test. Table 6 displays the normality test results for the variable "LOGCONSEXP" using the Jarque-Bera method (Jarque and Bera, 1987). We assume that "LOGCONSEXP" has a normal distribution as the null hypothesis. The normal plot of "LOGCONSEXP" is added to the Jarque-Bera normality test to help with the analysis. Figure 3 depicts the normal plot of the same variable, while Table 6 displays the findings of the Jarque-Bera normality test's on the dependent variable, which has undergone log transformation.

Table 6: Normality test results on "LOGCONSEXP"

Jarque-Bera test for normality	**Estimated statistic value**	**p-value**
Chi-square statistic	0.6179	0.7675
Null hypothesis: LOGCONSEXP is normally distributed.		

Source: Author (2022)

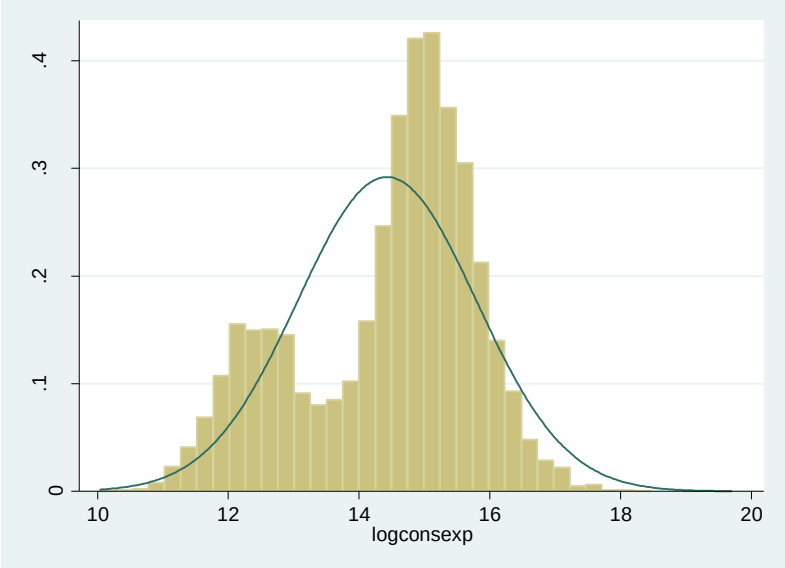

Figure 1: Normal plot of "LOGCONSEXP"

Source: Author (2022)

Table 6 displays the outcomes of the Jarque-Bera normality test, and the chi-square statistic is statistically insignificant for it has a p-value over 0.05. The test results thus do not disprove the null hypothesis of "LOGCONSEXP" has a normal distribution. Additionally, it appears from Figure 3's normal plot that the LOGCONSEXP variable has a distribution that is roughly normal. This leads us to the conclusion that "LOGCONSEXP," the dependent variable for models 1 and 2, has a normal distribution. These results of the normalcy test are in agreement with many of the parametric econometric estimate methods for linear regression.

4.3 Model Estimation

When the dependent variable is a quantitative variable, we utilize two estimators: a two-stage least-squares within estimator for fixed effects, and a two-stage least-squares stochastic estimator for random effects. In order to fix endogeneity issues with remittance income, which are related to possible measurement mistakes in the variable, this is done. Both of these estimators are instrumental variable estimates. We also estimate the models with robust standard errors to take into consideration potential heteroscedasticity and serial correlation in the individualistic error term. Table 7 shows the summary regression estimates for models 1 and 2, where the logarithm of household consumption expenditure is employed as a proxy for household welfare.

Table 7: Regression Estimates for Fixed effects and Random Estimation: Dependent variable is: "LOGCONSEXP"

	Model 1	**Model 2**
	2SLS Fixed-Effects IV regression	**2SLS Random-Effects IV regression**
Independent Variables:	**(robust SEs in parentheses)**	**(robust SEs in parentheses)**
Logarithm of Remittance income	0.011652***	0.011797***
	(0.0032786)	(0.0035849)
Household head's educational level	0.020965***	0.020284***

	(0.0013274)	(0.0013756)
Household head's age (years)	0.007573***	0.007972***
	(0.0007973)	(0.0008439)
Household Size	0.066105***	0.066184***
	(0.0027557)	(0.0018116)
Gender of the household head (Ref=female)		
Male headed households	-0.189144***	-0.2116315***
	(0.027181)	(0.0289119)
Marital status of the HH head (Ref=Married monogamously)		
Married polygamously	-0.049820***	-0.031007***
	(0.0211079)	(0.0215304)
Divorced / Separated	-0.305840***	-0.286799***
	(0.012413)	(0.0153445)
Widow/Widower	-0.328258***	-0.364366***
	(0.0927267)	(0.1089528)
Never married	-0.272722***	-0.2904761***
	(0.0203014)	(0.0225242)
Residence of the HH **(Ref=Rural)**		
Urban	0.182872***	0.186406***
	(0.0562591)	(0.0517209)
Region of the country(Ref=Central)		
Eastern	-0.439855***	-0.454574***
	(0.0345648)	(0.0370236)
Northern	-0.295362***	-0.310717***
	(0.0188643)	(0.0227051)
Western	-0.096532***	-0.1169261***
	(0.0179553)	(0.0260403)
Sector of employment of the main job of the HH head **(Ref= Agriculture)**		
Industry	-0.087186***	-0.085696***
	(0.0247887)	(0.0274196)
Services	0.126081***	0.135138***
	(0.0179551)	(0.0224466)
Other	-0.035238***	-0.041089***
	(0.1827915)	(0.1709887)
	• Wald=8150.15***	• Wald= 11.47***
	• Wald prob. > chi-sq.= 0.0000	• Wald prob. > chi-sq.= 0.0032
	• Hausman chi-sq. = 856.48*** (p=0.000)	
	Ho: RE is appropriate	

Source: Author (2022) *, **, *** represent significance at 10%, 5% and 1% levels respectively.

Hausman test Results on the choice between FE and RE models

When the preferred model is the random effects estimator, the estimated Hausman chi-square statistic at the 5% level of significance, the null hypothesis is overwhelmingly rejected in support of the alternative hypothesis. So, based on the Hausman study results, a fixed-effects model is a suitable fit for predicting the individual-level effects in this study. Results of the fixed effects model are thus considered when interpreting and analyzing the results. Table 7's regression estimates reveal that the estimate for remittances are positive and statistically significant at 5% level. When consumption is employed as a surrogate for household wellbeing, the results suggest that a one percent increase in remittance income boosts household welfare by around 1.1 percent while holding other factors constant. The summary estimates in Table 7 show that when Consumption is used to assess household well-being, the control variables that have positive significant effects on household welfare are: the education level of the household head, the age of the head, the size of the household, and residing in urban instead of rural area.

Taking the estimates of model 1, the summary regression estimates in Table 7 show that the control variables that have negative significant effect on household welfare are: male headed households rather that female headed households, households in polygamous families rather than monogamous families, households in divorced or separated families rather than monogamous families, households in widowed/widowered families rather than monogamous families, households in never married families rather than monogamous families, and households with main jobs in the industrial sector instead of the agricultural sector.

In the study, panel logit and panel probit models are used in the case of a panel model with a discrete dependent variables (see Table 8). The probit model was estimated as an instrumental variable model to address the endogeneity of the explanatory variable remittance income, whereas the logit model was evaluated as the standard panel logistic regression model. Consequently, the logistic model does not address the endogeneity issues of some regressors in the empirical model. The poverty status of the household head has been used to assess household well-being. Table 8 shows the summary regression results of models 3 and 4, which were used to calculate household welfare.

Table 8: Regression Estimates of the PROBIT and LOGIT Estimators: Dependent variable is: "POV"

Independent Variables:	**Model 3** IV-Probit regression: Coefficient are predicted probabilities (robust SEs in parentheses)	**Model 4** xtlogit regression: Coefficient are log-odds (SEs in parentheses)
Logarithm of Remittance income	-0.0167598	-0.068788 **
	(0.0206585)	(0.0270464)
Household head's educational level	-0.058188***	-0.113030***
	(0.020434)	(0.0330006)
Household head's age (years)	-0.003531	-0.002346
	(0.0055482)	(0.0109825)
Household Size	0.144226***	0.242940 ***
	(0.0316118)	(0.0417141)
Gender of the household head (Ref=female)		
Male headed households	-0.0077896	-0.234283
	(0.1881247)	(0.3792841)
Marital status of the HH head (Ref=Married monogamously)		
Married polygamously	-0.1279087	-0.261741
	(0.1623867)	(0.3417656)
Divorced / Separated	-0.1316387	-0.590099

	(0.290109)	(0.6494226)
Widow/Widower	0.301699	0.2093306
	(0.2552421)	(0.1089528)
Never married	0.3455987	0.622628
	(0.2814941)	(0.7085472)
Residence of the HH **(Ref=Rural)**		
Urban	0.3153564**	0.1361513
	(0.1547534)	(0.2996208)
Region of the country(Ref=Central)		
Eastern	0.220177***	2.567453***
	(0.3686561)	(0.4022734)
Northern	0.723080***	1.798329 ***
	(0.2564647)	(0.3946845)
Western	0.315877*	0.634729
	(0.184812)	(0.4213249)
Sector of employment of the main job of the HH head **(Ref= Agriculture)**		
Industry	0.1445626	0.113065
	(0.222526)	(0.3547597)
Services	-0.128083	-0.771548 ***
	(0.1494169)	(0.2914274)
Other	-0.756370 *	-0.6105796
	(0.4232741)	(0.9411882)
	• Wald=290.09***	
	• Wald prob. > chi-sq.= 0.0000	• Wald= 106.02***
	• Wald test of no endogeneity:	• Wald prob. > chi-sq.= 0.0000
	Ho: No endogeneity	
	Prob > chi-sq. = 0.0000	
	• Hausman test of exogeneity	
	Ho: Instrumented variables are exogenous	
	Prob > chi-sq. = 0.0005	

Source: Author (2022) *, **, *** represent significance at 10%, 5% and 1% levels respectively.

Contrary to the logit model, which has only been estimated using "xtlogit," the probit panel model has been calculated by instrumental variables. The "xtlogit" estimates cannot be relied upon due to endogeneity bias in the empirical models, which raises suspicions of endogenous regressors. Because of this, we focus on the interpretation and discussion of the IV-probit regression in the household model estimates where the poverty status of the home has served as a proxy for measuring household welfare. The interpretation of the results from two related exogeneity tests comes first. These tests are the Hausman's exogeneity test of the instrumented variables used in the IV-regression and the Wald exogeneity test,

which has as its null hypothesis the absence of endogeneity in the model being estimated. In order to determine if the use of instruments is initially warranted in the estimate of the probit model, we start by interpreting these exogeneity tests.

The Wald exogeneity test results indicate a chi-square p-value less than the 5% significance threshold. As a result, at the 5% level of significance, the null hypothesis of no endogeniety is rejected. Thus, the Wald exogeneity test suggests that IV-probit is appropriate for use, indicating that instruments were necessary in the estimation, supporting the hypothesis that the instrumented explanatory variables were endogenous.

According to the summary estimates from the IV-probit model in Table 8, at the 5% level, the coefficient on remittance income is significantly negative, implying that it is a significant predictor of household well-being. Specifically, estimates suggest that for any one percent growth in remittance income, the predicted risk of a household being poor decreases by about 1.7%. According to this finding, variations in remittance income between households can account for the observed variances in household welfare.

Table 8's summary estimates from the IV-probit show that only the household head's education level among the control variables at the 5% level, has a statistically significant and negative coefficient. This research reveals that, when all other variables are held constant, one extra year of schooling for the family head lowers the likelihood that they will be poor by roughly 6%. Consequently, the estimates show that having a household head with a higher level of education significantly improves the wellbeing of the household.

According to Table 8's IV-probit estimates, the following control variables significantly lower expected probability of poverty and, as a result, significantly lower welfare for households: household size, urban rather than rural residence, Eastern rather than Central region residency, and Northern rather than Central region residency. According to Table 8 from IV-probit estimation, the control variables with statistically insignificant coefficients at the 5% level are the gender of the household head, his or her current marital status, the industry in which the primary employment is held, and the fact that the household is situated in the Western as opposed to the Central region.

5.0 Discussion

Remittance income has shown to be a crucial component in determining household wellbeing based on review of the estimates from both of the favored estimating methodologies. Additionally, it is demonstrated by the IV-fixed effects and IV-probit estimates indicate remittances can improve household well-being. Remittances, as defined by Kangmennaang et al. (2017), is defined as monetary inflows or receipts into households without the need for an exchange of goods or services for another. Researchers in the field of remittance income have acknowledged the crucial role remittance revenue plays in enhancing overall household income, reducing a household's risk of returning to poverty, and promoting the consumption of commodities at the household level. Remittances have gained significance as a mechanism of wealth transfer throughout the world as migratory workers and immigrants return a percentage of their earnings to their home (Bahadir et al., 2018). Particularly in distant locations with little to no access to conventional financial institutions like banks, families and friends trade remittances as financial aid (Munyegera & Matsumoto, 2016). Compared to urban households, rural households receive most of their remittances from within their own country (Cuong & Linh, 2018). Remittances from abroad can have both small- and big-picture effects on an economy (Kumar, 2019). Remittance recipients' households' budgetary restrictions are alleviated by remittances, especially at the micro level (Kumar, 2019). According to published research, receiving remittances increases food intake in households (Rahman & Mishra, 2020).

The results of this study are consistent with those of Kelikume (2018), who revealed that getting remittances significantly and favorably impacted welfare. This is true because remittance money bridges the financial gap that exists between what households can afford to spend on goods and services and how well those purchases affect the wellbeing of the entire household. Remittance income is vital for recipient households' efforts to reduce their levels of poverty, according to studies (Cuong & Linh, 2018). According to overall spending, food and non-food purchases, clothes purchases, pots and pans purchases, car purchases, and savings levels, remittance income provides recipient households with valuable benefits (Javed et al., 2015). Combatively, remittance revenue enables a family to acquire goods for raising household happiness, which in turn raises the family's standard of living.

Both the IV-fixed effects and IV-probit estimates demonstrate that the education level of the household head, residence with in Eastern rather than the Central region, and residence with in Northern rather than the Central region are major determinants of household wellbeing. Total years of schooling were used to determine the household head's education level. The positive and statistically significant coefficient on education in the IV-fixed effects model and the negative and statistically significant coefficient on education in the IV-probit model all posited that a higher education level for the household head was linked to a greater welfare level for the household, which was consistent with our theoretical a priori expectations. Higher education levels of head of household are positively linked to improved employment, better welfare planning skills, higher capacities to meet the basic needs of the household, and better opportunities for the household to receive sustainable support, all of which raise the possibility that the household will experience higher welfare standards. This may help to explain why there is a link between household welfare and the education level for household heads.

Four categories made up the categorical variable "region," which was part of the empirical model, with the category "central region" acting as a reference category. This variable's results revealed that the welfare of households was significantly impacted by two of the three mentioned areas. For instance, according to the study's calculations, the welfare of households located in the eastern and northern regions as opposed to the central region was significantly impacted negatively. This may be explained by the higher levels of poverty that have been seen in Uganda's northern and eastern regions. For instance, regional disparities in poverty levels were discovered between the Uganda national household survey periods of 2015/2016 and 2019/2020, according to UBOS, the northern region had the highest percentage of chronically poor households (15.1%), followed by the eastern region (7.1%), and the central region had the lowest percentage (0.4%). (UBOS, 2021). Furthermore, household heads have more access to better jobs, better amenities, and greater chances of engaging in profitable economic activities in the central part of Uganda, which also happens to be home to the country's capital.

6.0 Conclusion And Implications

This study set out to examine how remittance money affected Uganda's household welfare. The study used the current four waves of panel data from the Uganda National Panel surveys, 2019/2020, 2017/2018, 2015/2016, and 2013/2014, as well as two proxies for household welfare: household consumer expenditure and household poverty status. The final model estimates were based on the preferred IV-FE and IV-logit regressions. Four estimators were used to estimate the empirical panel models: instrumental variables probit, instrumental variables random effects, and instrumental variables fixed effects (IV-probit), and logistic regression (logit).

Regression analysis results showed that household wellbeing was highly impacted by remittance income. According to the study's findings, differences in remittance income may be able to account for variances in household welfare. The study therefore draws the conclusion that households should take advantage of remittance income because it has a trickle-down effect on household welfare because it can be invested to increase household income and thereby lower the incidence of poverty or used to close the gap in consumption needs. Further findings showed that families' wellbeing was significantly impacted positively by the education level of household heads whereas compared to the central region, northern and the eastern regions may have significantly worse effects on welfare.

7.0 Recommendations

Increased remittance income accruing to households has the potential to improve household wellbeing. By encouraging the idle labor force to relocate both within and internationally and to send money home to support their families, household welfare can be significantly improved. This suggests that families who encourage their members to relocate and participate in economic activities may be better off than families who do not employ remittance.

Despite the benefits the current study has provided, there are still flaws that need to be filled by research. First, our study used a panel design with time gaps because there wasn't time series data. As a result, time series data may be used in future studies to better understand long-term relationships. Additionally, because the bureau lacked all data collected over time on some key welfare factors due to its difficulty to get them, some important welfare variables, such as asset value, were dropped at the time of study. As a result, welfare was not thoroughly studied. Future research may think about employing mixed methods biased to using primary data to conduct a thorough examination of the welfare consequences of remittance income.

Conflict of Interest

The authors declare No competing interests

References

[1] Adams, J. R. H., & Cuecuecha, A. (2013). The Impact of Remittances on Investment and Poverty in Ghana. World Development, 50, 24–40. https://doi.org/10.1016/j.worlddev.2013.04.009

[2] Aggarwal, R., Demirgüç-kunt, A., & Pería, S. M. M. (2011). Do remittances promote fi nancial development ? Journal of Development Economics, 96(2), 255–264. https://doi.org/10.1016/j.jdeveco.2010.10.005

[3] Aguayo-téllez, E., García-Andrés, A., & Martinez, J. N. (2020). Foreign vs domestic remittances and household welfare: evidence from Mexico. International Journal of Development Issues, 20(2), 176–190. https://doi.org/10.1108/IJDI-05-2020-0108

[4] Aguilar, R. A. C., Eilertsen, A., Fujs, T., Lakner, C., Mahler, D. G., Nguyen, M. C., Schoch, M., Baah, S. K. T., Viveros, M., & Wu, H. (2022). 2022 Global poverty Update From World Bank.

[5] Ajaero, C. K., Nzeadibe, C. T., Obisie-nmehielle, N., & Ike, C. C. (2017). The linkages between international migration, remittances and household welfare in Nigeria. Migration and Development, 2324(April), 1–15. https://doi.org/10.1080/21632324.2017.1322171

[6] Akanle, O., & Adesina, J. O. (2017). Remittances and household Welfare in Nigeria. African Population Studies, 31(1), 3194–3211.

[7] Anyanwu, J. C., & Erhijakpor, A. E. O. (2010). Do International Remittances Affect Poverty in Africa? African Development Review, 22(1), 51–91.

[8] Arapi-gjini, A., Möllers, J., & Herzfeld, T. (2020). Measuring Dynamic Effects of Remittances on Poverty and Inequality with Evidence from Kosovo. Eastern European Economics, 00(00), 1–26. https://doi.org/10.1080/00128775.2020.1720517

[9] Baffour, P. T., Rahaman, W. A., & Mohammed, I. (2020). Impact of mobile money access on internal remittances, consumption expenditure and household welfare in Ghana. Journal of Economic and Administrative Sciences, 1026–4116. https://doi.org/10.1108/JEAS-04-2020-0045

[10] Bahadir, B., Chatterjee, S. & Lebesmuehlbache, T., (2018). The Macroeconomic Consequences of Remittances. Journal of International Economics (2018), doi:10.1016/j.jinteco.2018.01.01.

[11] Bakunda, G., & Mpanga, G. F. W. (2011). Labour Export as Government Policy: An Assessment of Uganda's Potential for Export of Labour in the Framework of Regional and Multilateral Agreements. Investment Climate and Business Environment Research Fund (ICBE - RF): Dakar.

[12] Cardozo, A. R., Nowak-Lehmann, D. F., & Zebaze-Djiofach, C. (2019). Migration and Remittances in Haiti: Their Welfare Impact on Poor and Non - Poor Houeholds. Discussion Papers, No. 244, Georg-August-Universitat Gottingen, Ibero- America Institute for Economics Research (IAI).

[13] Cohen, J. H. (2011). Migration, Remittances, and Household Strategies. Annual Review, 40(103), 1–14. https://doi.org/10.1146/annurev-anthro-081309-145851

[14] Cooper, B., Esser, A., Peter, R. T., & Mohamood, S. L. (2018). Exploring Barriers to Remittances in Uganda. Centre for Financial Regulation and Inclussion.

[15] Cuadros-Menaca, A., Auirre, I., & Borja, I. (2020). International Remittances and Child Welfare: A Case Study on Cali Colombia. 122, 73–103. https://doi.org/10.13043/DYS.86.3

[16] Cuong, N. V., & Linh, V. H. (2018). The Impact of Migration and Remittances on Household Welfare: Evidence from Vietnam. International Migration & Integration.

[17] De, L. Le, Gaillard, J. C., & Friesen, W. (2013). Reduction Remittances and disaster: a review. International Journal of Disaster Risk Reduction, 4, 34–43. https://doi.org/10.1016/j.ijdrr.2013.03.007

[18] Escriba-Folch, A., Meseguer, C., & Wright, J. (2015). Remittances and Democratization. International Studies Quarterly, 1–16. https://doi.org/10.1111/isqu.12180

[19] GTZ. (2020). Better Migration Management (BMM) in Uganda.

[20] HSES. (2021). The 2020 Household Socio-economic Survey (HSES).

[21] Hung, L., & Peng, S. (2020). Rural-urban migration with remittances and welfare analysis. Regional Science and Urban Economics, 103629. https://doi.org/10.1016/j.regsciurbeco.2020.103629

[22] ILO. (2021). ILO Global Estimates on Migrant Workers: Results and Methodology. International Labour Office, Geneva: ILO.

[23] Jarque, C. M. & Bera, A. K., (1987). A Test for Normality of Observations and Regression Residuals. International Statistical Review Vol. 55, No. 2, pp. 163-72, https://doi.org/10.2307/1403192

[24] Javed, M., Awan, M. S. & Waqas, M., (2015). International Migration, Remittances Inflow and Household Welfare: An Intra Village Comparison from Pakistan. Social Indicators Research, 130(2), 779–797. doi:10.1007/s11205-015-1199-8

[25] Kangmennaang, J., Bezner-kerr, R., & Luginaah, I. (2017). Impact of migration and remittances on household welfare among rural households in Northern and Central Malawi. Migration and Development, 2324(May), 1–17. https://doi.org/10.1080/21632324.2017.1325551

[26] Kumar, B. (2019). Remittances, Poverty and Welfare: Evidence from Cumilla, Bangladesh. American Journal of Data Mining and Knowledge Discovery, 4(1), 46–52. https://doi.org/10.11648/j.ajdmkd.20190401.17

[27] Munyegera, G. K. & Matsumoto, T., (2016). Mobile Money, Remittances and Household Welfare: Panel Evidence from Rural Uganda. World Development, 79, 127-137. doi:10.1016/j.worlddev.2015.11.006

[28] Newman, C., Delaney, D. L. & Nolan, B., (2008). A Dynamic Model of the Relationship between Income and

Financial Satisfaction: Evidence from Ireland. The Economic and Social Review, Vol. 39, No. 2, pp. 105–130

[29] Nyikahadzoi, K., Dzingirai, V., Zamayisa, B., Quarshie, E., & Warinda, P. (2019). Incomes, remittances and implications for the welfare of migrant-sending households in Zimbabwe. Migrating Out of Poverty, December.

[30] Odhiambo, L., & Handoo, A. (2021). Uganda Remittances Decline but Still are Life Line for Rural People. International Fund for Agricultural Development (IFAD). Press News: Rome, 1 June 2021.

[31] Oxfarm. (2022). World Poverty Status Report: 250 Million People may Fall into Entreme Poverty this Year.

[32] Rahman, A. & Mishra, S., (2019). Does Non-farm Income Affect Food Security? Evidence from India. The Journal of Development Studies, 56(6), 1190–1209. doi:10.1080/00220388.2019.1640871

[33] Ratha, D. (2021). Keeping Remittances Flowing to Africa. Foresight Africa 2021 Report. Brookings Africa in Focus - Monday, March 15th 2021.

[34] Sobiech, I. (2019). Remittances, finance and growth: Does financial development foster the impact of remittances on economic growth? World Development, 113, 44–59. https://doi.org/10.1016/j.worlddev.2018.08.016

[35] WorldBank. (2021). Migration and development Brief. 34 Resilience: COVID 19 Crisis Through a Migration Lens October 2020. World Bank, Washington, DC.

[36] WorldBank. (2022a). Afghanistan Welfare Monitoring Survey, Round I.

[37] WorldBank. (2022b). Remittance Flows Register; Robust 7.3 Percent Growth in 2021. World Bank Report, Washington, November 2021.

[38] Xinhua. (2022, March 16). Households with Children Hardest Hit by Pandemic. The East African.

[39] Yang, D. (2011). Migrant Remittances. Journal of Economic Perspectives, 25(3), 129–152.