October 2018
Volume: 3, **No**: 2, pp. 135 – 150
ISSN: 2059-6588
e-ISSN: 2059-6596
www.tplondon.com/rem

REMITTANCES REVIEW

Article history: Received 28 June 2018; accepted 18 October 2018

The Impact of Remittances on Food Security Status in the Global South

Narges Ebadi [±]
Davod Ahmadi [§]
Ibrahim Sirkeci [ϒ]
Hugo Melgar- Quiñonez [∂]

Abstract

International remittances to developing countries attract increasing attention because of their rise in volume and their impact on the recipient countries. Receiving remittances from outside the country has become a household coping strategy that might reduce poverty, alleviate hunger, promote better diets and increase productive investments. The main purpose of this study is to investigate the link between receiving remittances and the food security status in the Global South countries. This is the first study that examines the association between food security and receiving remittances by using the Food Insecurity Experience Scale (FIES) for individuals in the Global South. Data were obtained from the 2017 Gallup World Poll (GWP), which interviewed face-to-face 68,463 individuals in more than 60 countries. We have found a significant association between receiving remittances and food security. In the unadjusted logistics regression, irrespective of geography, severe food insecurity was significantly related to not receiving remittances (OR=1.532; P= 0.000). Although receiving remittances seems to positively affect the food security status of individuals in the GS, the association might not apply to all countries in the analyzed sample.

Keywords: Remittances; food security; poverty; Global South.

JEL Classification: F22, F24

Introduction

Poverty, food insecurity, lack of employment opportunities, limited access to social protection, and lack of access to natural resources are the main factors which compel people to leave their homes (FAO, 2017). These are labeled as "human insecurity" reflecting various

[±] Narges Ebadi, first and corresponding author, Master student in School of Human Nutrition in McGill University, Montreal, Canada. Email: narges.ebadi@mail.mcgill.ca.
[§] Davod Ahmadi, Research Assistant, McGill Institute for Global Food Security, Ste-Anne-de-Bellevue Quebec H9X 3V9, Canada, Email: davod.ahmadi@mail.mcgill.ca.
[ϒ] Prof. Ibrahim Sirkeci, Director of Centre for Transnational Business and Management at Regent's University London, London, UK. Email: sirkecii@regents.ac.uk.
[∂] Prof. Hugo Melgar-Quiñonez, Director, McGill Institute for Global Food Security, Montreal, Canada. Email: Hugo.melgar-quinonez@mcgill.ca.

conflicts, conflicts of interest, tensions causing discomfort and potentially leading to out-migration (Sirkeci, 2009; Sirkeci and Cohen, 2016). Despite opposing views, remittances are often considered as one of the major benefits of migration to sending countries (Anghel, Piracha, & Randazzo, 2015). Similar to migration, flows of remittances have also increased to developing countries in recent decades despite the adverse effects of the global financial crisis (Sirkeci, 2017:61; Ratha et al., 2016; Sirkeci et al., 2012). Apart from macro level impacts, receiving remittances, as one of the coping strategies, supports families especially in the times of (financial or other) crises (Sirkeci et al., 2012) and contribute to poverty reduction and food insecurity (Dhungana & Pandit, 2016).

Earlier studies have shown that receiving remittances has an impact on household expenditure and (food) consumption (see Adams and Cuecuecha, 2010a; Zarate-Hoyos, 2004). They may lead to increases in overall expenditures or changes in the basket of food and non-food items consumed (Perakis, 2011). For instance, Quisumbing and McNiven (2010) in a study argue that remittances have a positive impact on housing, consumer durables, non-land assets, and total expenditures. Notably, another study shows that households with remittances have high food consumption compared to non-receivers (Adams & Cuecuecha, 2010b). However, little is known about the remittances and food security relationship. Hence, the main purpose of this study is to investigate the potential relationship between receiving remittances and the food security status in Global South (GS) regions. Although there are some studies on different countries that explore the association between receiving remittances and household food quality and quantity consumption or food consumption expenditures, this is the first study that examines the association between food security and receiving remittances by using the Food Insecurity Experience Scale (FIES) for individuals in the Global South (GS).

Methodology

Data were obtained from the 2017 Gallup World Poll (GWP), which interviewed face-to-face 68,463 individuals in more than 60 countries (Table 1). The target population in the GWP is the entire civilian, non-institutionalized, population aged 15 and older. All samples were selected using probability sampling techniques and are nationally representative. The GWP annual surveys cover on average 1,000 individuals per country per year. In this study, the GWP data were analysed using various statistical techniques and presented in descriptive tables, cross-tabulations as well as binary, and multinomial logistic regressions. We have particularly examined the potential

association between receiving remittances and the food security status, by controlling the role of covariates. Additionally, the predictors of receiving remittances were also measured.

Table 1. Sample of the Global South by countries in the GWP (n=68,463)

Regions	Countries	Sample
Commonwealth of Independent States	Kazakhstan	1000
	Kyrgyzstan	1000
	Tajikistan	1000
	Uzbekistan	1000
Asia (Southeast, South, and East)	Afghanistan	1000
	Bangladesh	1000
	Cambodia	1600
	India	3000
	Mongolia	1000
	Myanmar	1600
	Nepal	1000
	Pakistan	1600
	Philippines	1000
	Sri Lanka	1104
	Vietnam	1002
Latin America and the Caribbean	Argentina	1000
	Bolivia	1000
	Brazil	1000
	Chile	1040
	Colombia	1000
	Costa Rica	1000
	Dominican Republic	1000
	Ecuador	1000
	El Salvador	1000
	Guatemala	1000
	Haiti	504
	Honduras	1000
	Mexico	1000
	Nicaragua	1000
	Panama	1000
	Peru	1000
	Uruguay	1000
Middle East and North Africa	Egypt	1000
	Jordan	1012
	Lebanon	1000
	Palestinians Territories	1000
	Tunisia	1001
	Yemen	1000
Sub-Saharan Africa	Benin	1000
	Botswana	1000
	Burkina Faso	1000
	Cameroon	1000

Table 1. Continued.

Region:	Sub-Saharan Africa	Benin	1000
		Botswana	1000
		Burkina Faso	1000
		Cameroon	1000
		Chad	1000
		Congo Kinshasa and Brazzaville	2000
		Ethiopia	1000
		Gabon	1000
		Ghana	1000
		Guinea	1000
		Ivory coast	1000
		Kenya	1000
		Liberia	1000
		Malawi	1000
		Mali	1000
		Mauritania	1000
		Nigeria	1000
		Senegal	1000
		Sierra Leon	1000
		South Africa	1000
		South Sudan	1000
		Tanzania	1000
		Togo	1000
		Zambia	1000
		Zimbabwe	1000

Source: GWP, 2017

Outcome variable (Food Insecurity Experience Scale (FIES)

The outcome variable is the Food Insecurity Experience Scale (FIES) score, which is used to measure individuals' questions food security status. As an individual-based index, this tool contains eight items with "yes" or "no" answers, focusing on the access dimension of food security. Responses to the eight are combined, and each individual is assigned a food security score from zero to eight. The FIES was recoded as 0 for "food secure" (FS), 1-3 for "mildly food insecure" 4-6 for "moderately food insecure", and 7-8 for "severely food insecure". To run the logistic regression, every single value of the FIES (FS, Mild, Moderate, and Severe FIS) was recoded as a dummy variable.

Exposure variables

Receiving remittances is the principal independent variable in this study. The following question is used to measure remittances: "In the past 12 months, did this household receive help in the form of money or goods from another individual living inside this country, living in another country, both, or neither?" The answers to the original question were recoded as either "receiving remittances from outside" or "no remittances."

Statistical analyses

Data were analysed using SPSS (Version 24). We have used descriptive statistics to present the frequencies of food security statuses, receiving remittances, and of controlling variables. Crosstabulations were also carried out to explore the association between dependent and independent variables. Two binary logistic regression analyses were also carried out. The first one was performed to assess the association between the food security status and receiving remittances by controlling each of the covariates. The second was carried out to measure the association between receiving remittances and the covariates.

It should be noted that the FIES (as outcome variable) was separated into four different levels with yes and no answers. The level of significance was reported at the P-value equal to or less than 0.05. In the crosstab analyses, apart from the level of significance, the strength of associations between dependent and independent variables was estimated through Cramer's V and Gamma to show the direction of the association between the variables included in the models.

Results

Table 2 summarises the characteristics of the sample used in this study. The Global South (GS) (n=68,463) is made up of five regions included in this study: Sub-Saharan Africa (SSA) (n=27,000); Middle East and North Africa (MENA) (n=6,013); Latin America and the Caribbean (LAC) (n=16544); Asia (Southeast, South, and East) (n=14,906); and the Commonwealth of Independent States (CIS) (n=4000).

Regardless of region, 32% of individuals were food secure, while about 28% of individuals were severely food insecure in the Global South. 6% of households were reported to have received remittances from outside the country. Females represented just over half of the sample in this study. In terms of age, 44% of the sample were between 26 and 49 years old. Low level of education was significantly marked in the GS as 51% of the population were categorized as low educated, regardless of sex. The data has also revealed that a little more than a third of the sample were employed full time (36%) and around 50% reported feeling "difficulty" about their household income.

Table 3 illustrates the Food Insecurity Experience Scale (FIES) by regions in the Global South (GS) in 2017: About 14% of SSA and 58% of the Commonwealth of Independent States (CIS) reported being food secure. However, more than 40% of samples in MENA, LAC, and Asia reported being food secure in 2017.

Table 2. Characteristics of sample (n=68,463)

		N (%)
Regions	Commonwealth of Independent States	4,000 (5.8)
	Asia (Southeast, South, and East)	14,906 (21.8)
	Latin America and the Caribbean	16,544 (24.2)
	Middle East and North Africa	6,013 (8.8)
	Sub-Saharan Africa	27,000 (39.4)
Food security status	Severely food insecure	18,360 (28.3)
	Moderate food insecurity	12,479 (19.2)
	Mild food insecurity	13,065 (20.1)
	Food secure	20,965 (32.3)
Receiving remittances	Yes	3,373 (6.1)
Area of residence	Rural	44,266 (64.7)
	Urban	24,1925 (35.3)
Household size	7 and more	19,488 (28.5)
	4-6	30,230 (44.2)
	1-3	18,745 (27.4)
Sex	Female	35,199 (51.4)
	Male	33,264 (48.6)
Age	13-25	23,052 (33.7)
	26-49	30,472 (44.5)
	50-64	9,794 (14.3)
	65-99	5,145 (7.5)
Marital status	Single/never married	24,621 (36.1)
	Divorced/separated/widowed	6,437 (9.4)
	Married/living with partner	37,161(54.5)
Education	Completed elementary	34,597 (51.0)
	Secondary-3-year Tertiary	28,963 (42.7)
	Four years of over high school	4,344 (6.4)
Employment	Unemployed	5,372 (7.8)
	Out of workforce	24,955 (36.5)
	Employed part-time	13,383 (19.5)
	Employed full-time	24,752 (36.2)
Feelings about HH income	Very difficult	13,890 (20.7)
	Difficult	20,216 (30.1)
	Getting by	23,474 (35.0)
	Living comfortably	9,501 (14.2)
Not enough money for shelter	No	40,340 (60.6)

Source: Data analysis of the Gallup survey, 2017

Table 3. Prevalence of Food Insecurity Experience Scale in regions of the Global South (n=68,463)

	SSA	MENA	LAC	Asia	CIS
Severe FIS	47.9	12.4	21.6	12.2	5.7
Moderate FIS	22.6	17.8	16.6	18.4	11.6
Mild FIS	15.7	18.7	20.6	27.2	24.4
Food secure	13.8	51.0	41.1	42.2	58.2

Source: Data analysis of the Gallup survey, 2017

Gamma and Cramer's V coefficients are presented in Tables 4 and 5. The first table focuses on the determinants of the FIES and the second concerned the determinants of receiving remittances.

Table 4 shows the association between the FIES and explanatory variables. A significant association was observed between receiving remittances and the food security status. However, this association was very weak (0.043; P=0.000). All socio-demographic characteristics were also found to be significantly related to food security. Specifically, a significant association was observed between sex and the food security status (0.028; P=0.000). Males were more food secure than females in the GS countries, regardless of region. Association between education and food security was almost substantial (0.353; P=0.000). Unsurprisingly, income per capita was also found to be significantly associated with the food security (0.243; P=0.000). A significant association was observed between family size and household composition and the food security status (0.168; P=0.000). The results indicated that urban people were more food secure than their rural counterparts (0.141; P=0.000). This could be also a reflection of overall urban-rural inequalities in many countries (e.g. Sahn and Stifel, 2003; Thu and Booth, 2014). Food security was related significantly to "feelings about household income" where correlation was strong (0.577; P=0.000). Individuals living with food security felt comfortable about their household income, and people who were not able to afford expenditure for shelter reported being food insecure (0.330; P=0.000).

Table 4. Bivariate analyses between the food security status1 and independent factors (n=68,463)

		Strength of association	Level of significance
Receiving remittances	Cramer's V	0.043	0.000
Sex	Cramer's V	0.028	0.000
Area of residence	Cramer's V	0.141	0.000
Age groups	Gamma	-0.012	0.016
Marital status	Gamma	-0.041	0.000
Household size	Gamma	0.168	0.000
Education	Gamma	0.353	0.000
Employment	Gamma	0.035	0.000
Per capita income quintile	Gamma	0.243	0.000
Feelings about household income	Gamma	0.577	0.000
Not enough money for shelter	Cramer's V	0.330	0.000

Source: Gallup World Poll, 2017

1. FIES (0= Severely Food Insecure (FIS); 1= Moderately FIS; 2= Mildly FIS; 3=Food secure)

Table 5 shows the association between receiving remittances and explanatory variables. All explanatory variables were significantly

associated with receiving remittances, except insufficient money for shelter. However, for most variables, the strength of associations was very weak according to Cramer's V test. Only inadequate finances (i.e. not enough money for the shelter) shown a higher value but this relationship was not statistically significant (P=0.370).

Table 5. Bivariate analyses between receiving remittances and independent factors (n=68,463)

			Strength of association	Level of significance
Socio-demographic factors	Area of residence	Cramer's V	0.036	0.000
	Household size	Cramer's V	0.011	0.036
	Education	Cramer's V	0.036	0.000
	Employment	Cramer's V	0.036	0.000
	Per capita income quintile	Cramer's V	0.070	0.000
	Feelings about household income	Cramer's V	0.055	0.000
	Not enough money for the shelter	Cramer's V	0.204	0.370

Source: Data analysis of the Gallup survey, 2017

Tables 6 and 7 illustrate the unadjusted binary logistic regression between food security and receiving remittances by controlling the role of covariates: Severe food insecurity was significantly more likely among those who were not receiving remittances (OR=1.532; P=0.000). Sub-Saharan Africa (OR=15.28; P=0.000) was categorized as the region with the most severe food insecurity compared to the other regions. Results from socio-demographic factors of all regions indicated that the probability of being severely food insecure increased among females (OR=1.061; P=0.000), living in rural areas (OR=1.645; P=0.000), in large households (OR=1.750; P=0.000), between 26 and 49 years of age (OR=1.171; P=0.000), in the poorest 20% of income quintile (OR=2.994; P=0.000), with low education (OR= 6.568; P=0.000), being unemployed (OR=1.948; P=0.000), and divorced/separated and widowed (OR=1.370; P=0.000).

Table 6. Unadjusted binary logistic regression analyses between food security, and receiving remittances and covariates (n=68,463)

		Severely FIS			Moderately FIS		
			95% CI			95% CI	
		Odds ratio	Low	High	Odds ratio	Low	High
Receiving remittances	No	1.532	1.404	1.672	0.897	0.821	0.980
	Yes (Ref)						
Regions	Sub-Saharan Africa	15.28	13.26	17.60	2.218	1.997	2.463
	Middle East and North Africa	2.352	2.005	2.760	1.643	1.456	1.854
	Latin America and the Caribbean	4.577	3.960	5.291	1.514	1.357	1.689
	Asia (Southeast, South, and East)	2.309	1.990	2.678	1.705	1.529	1.902
	Commonwealth of Independent States (Ref)						
Area of residence	Rural	1.645	1.584	1.707	1.204	1.155	1.256
	Urban (Ref)						
Household size	7 and more	1.750	1.672	1.832	1.316	1.249	1.386
	4-6	1.059	1.014	1.106	1.086	1.034	1.140
	1-3 (Ref)						
Sex	Female	1.061	1.025	1.098	1.091	1.049	1.134
	Male (Ref)						
Age	13-25	1.006	0.938	1.079	1.035	0.955	1.122
	26-49	1.171	1.094	1.254	1.093	1.011	1.182
	50-64	1.036	0.958	1.121	1.044	0.961	1.141
	65-99 (Ref)						
Marital status	Single/never married	0.935	0.901	0.971	0.907	0.870	0.947
	Divorced/separated/widowed	1.370	1.294	1.452	0.944	0.881	1.012
	Married/living with partner (Ref)						
Education	Completed elementary	6.568	5.854	7.369	2.296	2.075	2.541
	Secondary-3-year Tertiary	3.297	2.935	3.705	1.743	1.572	1.931
	Four years of over high school (Ref)						
Employment	Unemployed	1.948	1.829	2.075	1.280	1.189	1.377
	Out of workforce	0.930	0.892	0.970	0.975	0.930	1.022
	Employed part-time	1.524	1.454	1.596	1.221	1.158	1.288
	Employed full-time (Ref)						
Per capita income quintile	Poorest 20%	2.994	2.828	3.169	1.788	1.677	1.906
	Second 20%	2.199	2.075	2.330	1.626	1.524	1.735
	Middle 20%	1.778	1.676	1.886	1.470	1.377	1.570
	Fourth 20%	1.381	1.300	1.476	1.337	1.251	1.429
	Richest 20% (Ref)						

Source: Data analysis of the Gallup survey, 2017

Food security was significantly associated with receiving remittances: Non-remittance receivers were less likely to be food secure (OR= 0.898; P=0.000). Similarly, food security was low in Sub-Saharan Africa (OR= 0.115; P=0.000) compared to the other regions. Within all regions, the probability of being food secure decreased among people living in rural areas (OR=0.567; P=0.000). Findings also showed that people living in large households (7 and more) were less likely to be food secure (OR=0.484; P=0.000). Females (OR= 0.898; P=0.000) were less

food secure compared to their male counterparts. Our results also shows that divorced/separated and widowed people were less food secure (OR=0.882; P=0.000). Education level was significantly associated with the food security status (OR=0.189; P=0.000). Surprisingly, people who were out of the workforce reported being food secure (OR=1.138; P=0.000). A significant positive association was observed between income quintile and the food security status (OR=0.257; P=0.000).

Table 7. Unadjusted binary logistic regression analyses between food security, and receiving remittances and covariates (n=68,463)

		Mildly FIS			Food secure		
			95% CI			95% CI	
		Odds ratio	Low	High	Odds ratio	Low	High
Receiving remittances	No	0.803	0.739	0.874	0.898	0.833	0.967
	Yes (Ref)						
Regions	Sub-Saharan Africa	0.574	0.528	0.623	0.115	0.106	0.123
	Middle East and North Africa	0.712	0.644	0.787	0.748	0.689	0.813
	Latin America and the Caribbean	0.804	0.739	0.875	0.501	0.465	0.539
	Asia (Southeast, South, and East)	1.155	1.063	1.256	0.524	0.487	0.564
	Commonwealth of Independent States (Ref)						
Area of residence	Rural	1.006	0.967	1.048	0.567	0.549	0.587
	Urban (Ref)						
Household size	7 and more	0.948	0.899	0.998	0.484	0.462	0.506
	4-6	1.069	1.021	1.121	0.864	0.831	0.898
	1-3 (Ref)						
Sex	Female	0.987	0.950	1.026	0.898	0.869	0.928
	Male (Ref)						
Age	13-25	1.066	0.985	1.153	0.930	0.871	0.992
	26-49	1.054	0.976	1.138	0.783	0.734	0.834
	50-64	1.076	0.986	1.175	0.894	0.831	0.962
	65-99 (Ref)						
Marital status	Single/never married	0.888	0.852	0.925	1.239	1.197	1.283
	Divorced/separated/widowed	0.812	0.757	0.871	0.882	0.830	0.937
	Married/living with partner (Ref)						
Education	Completed elementary	0.943	0.870	1.021	0.189	0.176	0.202
	Secondary-3-year Tertiary	0.987	0.911	1.070	0.435	0.406	0.465
	Four years of over high school (Ref)						
Employment	Unemployed	0.782	0.723	0.846	0.466	0.433	0.502
	Out of workforce	0.928	0.887	0.970	1.138	1.096	1.181
	Employed part-time	0.916	0.868	0.967	0.595	0.567	0.625
	Employed full-time (Ref)						
Per capita income quintile	Poorest 20%	0.905	0.850	0.962	0.257	0.243	0.272
	Second 20%	1.017	0.957	1.081	0.383	0.364	0.403
	Middle 20%	1.079	1.016	1.146	0.493	0.469	0.519
	Fourth 20%	1.091	1.027	1.159	0.647	0.615	0.679
	Richest 20% (Ref)						

Source: Data analysis of the Gallup survey, 2017

Table 8 shows the multinomial logistic regression results regarding the four levels of the FIES and receiving remittances: Apart from the four-level analyses of the FIES in the binary form, the four levels of the FIES all together were calculated with receiving remittances. Results of a multinomial regression analysis demonstrated that not receiving remittances increased the probability of severe food insecurity.

Table 8. Multinomial logistic regression analysis between the FIES (four levels) and receiving remittances (n=68,463)

				95% CI	
			Odds ratio	Low	High
Severely food insecure	Receiving remittances	No Yes (Ref)	1.421	1.288	1.567
Moderately food insecure	Receiving remittances	No Yes (Ref)	0.944	0.855	1.042
Mildly food insecure	Receiving remittances	No Yes (Ref)	0.868	0.790	0.955
Food secure (Ref)	Receiving remittances	No Yes (Ref)	1.421	1.288	1.567

Source: Data analysis of the Gallup survey, 2017

Table 9. Adjusted binary logistic regression analysis of receiving remittances and explanatory factors (n=68,463)

			95% CI	
		Odds ratio	Low	High
Area of residence	Rural	0.940	0.862	1.026
	Urban (Ref)			
Per capita income quintile	Poorest 20%	0.494	0.426	0.572
	Second 20%	0.643	0.565	0.731
	Middle 20%	0.692	0.612	0.781
	Fourth 20%	0.787	0.703	0.882
	Richest 20%			
Education	Completed elementary	1.219	1.035	1.436
	Secondary-3-year Tertiary	1.095	0.944	1.269
	Four years of over high school (Ref)			
Employment	Unemployed	1.536	1.322	1.786
	Out of workforce	1.275	1.155	1.407
	Employed part-time	1.498	1.343	1.671
	Employed full-time (Ref)			
Regions	Sub-Saharan Africa	0.757	0.630	0.911
	Middle East and North Africa	0.537	0.414	0.695
	Latin America and the Caribbean	0.628	0.522	0.756
	Asia (southeast, south, and East)	0.735	0.610	0.887
	Com. Wealth of Independent States (Ref)			

Source: Data analysis of Gallup survey, 2017

In Table 9 we present adjusted models for the determinants of remittances: Apart from the factors associated with the food security level of the FIES, adjusted models, regardless of region, was calculated for the determinants of receiving remittances. Findings from the adjusted model indicated that the probability of receiving remittances decreased among households that belonged to the poorest 20% income quintile (OR=0.494; P=0.000). This is perhaps not surprising as migration is less likely among the poorest segments of populations compared to lower middle and middle income groups (Sirkeci, Cohen, Yazgan, 2012; Gonzalez-Konig and Wodon, 2005; Du et al., 2005; Stark and Yitzhaki, 1988).

Discussion and concluding remarks

Since little is known about the remittances and food security relationship, the main purpose of this study was to investigate the possible link between receiving remittances and individuals' food security status in the Global South (GS) regions. Although there are some studies on different countries that explore the association between receiving remittances and food quality and quantity consumption or food consumption expenditure, this study is the first that considers the association between food security and receiving remittances through using the Food Insecurity Experience Scale (FIES) applied to the GS. As an individual-based index, this tool contains eight items with "yes" or "no" answers, focusing on the access dimension of food security and it was also validated by the Food and Agriculture Organization (FAO) in 2014 (Ballard et al., 2014).

Findings from descriptive analyses showed that Sub-Saharan Africa (SSA) has the highest prevalence of food insecure individuals compared to other regions. Results from this study are corroborated by previous studies reporting that 235 million people are chronically hungry in SSA. Regarding causes, many factors, such as climate change, farm productivity and access to soil amendments, labour availability and family income, influence food insecurity in SSA (Mendum & Njenga, 2018; Tumushabe, 2018). Conflicts and insecurity are among the primary drivers of food insecurity in Africa. In addition, climate disasters, specifically drought, are the major causes of food crises in Africa (Reliefweb, 2018). This is in line with the conflict model of migration (Sirkeci, 2009) which predicts higher levels of out migration in areas where perceived level of insecurity increases in response to conflicts and crises of any kind and intensity.

In Latin America and the Caribbean (LAC), although substantial progress has been made on the social and economic front (WB, 2018), large segments of the population (over 34 million people) still suffer from hunger, food insecurity, and chronic malnutrition (de

Moraes Sá et al., 2017). Results from this study confirm the findings of available studies and indicate that more than 20% of the sample from LAC reported being severely food insecure in 2017. Similar to SSA, factors such as climate change (which affects crop yields and local economies), persistent inequities in income distribution, and access to social protection are among the determinants of food insecurity in LAC (Chile, 2016; WB, 2018).

Available evidence has shown that remittances have significant positive effects on the food security status of developing countries (Szabo, Adger, & Matthews, 2018). For instance, Regmi and Paudel (2016) in their study focus on the impact of remittance income and how it contributes to alleviating food insecurity in the rural areas with severe hunger and poorer food consumption. Additionally, Perakis (2011) argues that regardless of the short-term or long-term effects, remittances improve food security status consistently. Notably, Combes and Ebeke (2011) argue that remittances decrease household consumption instability and function as a hedge against countries that face natural disasters, agricultural shocks, and banking crises. Further, receiving remittances can act effectively on households' expenditures on food. Specifically, Adams and Cuecuecha (2010) found that remittance-receiving households had an 8.5 % increase in their average budget share in consumption expenditure on food (i.e., purchased or non-purchased foods) compared to non-remittance receivers. Receiving remittances promotes quantity and quality of foods and encourages people to consume more food and macronutrients (e.g., staple crops, meat, milk, and processed foods) (Durand, Parrado, & Massey, 1996). In developing countries, such as SSA countries, inflows of remittances contribute to at least 4% of the gross domestic product (GDP). This leads to a considerable slowdown effect on high food prices in household food consumption (Combes, Ebeke, Etoundi, & Yogo, 2012; Combes, Ebeke, Etoundi, & Yogo, 2014). Therefore, declining or dropping inflows of remittances to vulnerable countries can create an economic burden on people as well as governments (Chami, Hakura, & Montiel, 2009). In this study, regardless of region, a significant association was observed between receiving remittances and the food security status of individuals (both crosstabs and regression analyses) in the GS.

The findings of this study showed that not receiving remittances was significantly associated with severe food insecurity at the global level. Results from the adjusted models show that socio-demographic factors, such as the area of residence, education, employment status, and income quintile, were significantly related to food security. As a

result, this study found that receiving remittances seems to indirectly influence the food security status of individuals in the GS regions. The findings from this study have been corroborated by other available studies. Compared to urbanites, people in rural areas comprise most of the food insecure in developing countries (Smith, Kassa, & Winters, 2017). Low level of education contributes to food insecurity status (Bruening, MacLehose, Loth, Story, & Neumark-Sztainer, 2012). Being unemployed is among the determinants of food insecurity in a population (Birkenmaier, Huang, & Kim, 2016). Household food insecurity is explained by changes in the national unemployment rate as well (Nord, Coleman-Jensen, & Gregory, 2014). Income plays a considerable role in households' food security status. Food secure households are less likely to provide an indication of any income-related problems (Tarasuk, Mitchell, & Dachner, 2016).

It should be noted that remittances are one of the most important factors contributing to the economic, social and political aspects of the lives of individuals in developing countries. The effects of remittances are seen on both the macro and micro levels. With respect to macro levels, remittances increase economic growth and gross domestic product (GDP), while reducing poverty and food insecurity in regions and countries receiving remittances. On the other hand, remittances, as a coping strategy, provide stable incomes for migrant relatives in their home countries by lessening financial constraints, smoothing consumption, encouraging investment, and supporting migrant relatives in times of economic shock and crises. Further, in line with the literature, receiving remittances seems to have a positive impact on income, human capital, social capital, agricultural production, and business/self-employment among individuals who receive them. The main purpose of this study was to investigate the linkage between receiving remittances and individuals' food security status in the Global South (GS) regions. This is a pioneering study examining such relationship in GS countries using representative samples of individuals. Remittances, as part of the coping strategies in alleviating food insecurity, operate through providing stable incomes for families and affiliates left behind in countries of origin. However, it warrants further analysis treating this relationship in the context of selectivity of migration especially at the bottom of the income scalar.

References

Adams Jr, R. H., & Cuecuecha, A. (2010a). Remittances, household expenditure and investment in Guatemala. *World Development*, 38(11), 1626-1641.

Adams Jr, R., & Cuecuecha, A. (2010b). The Economic Impact of International Remittances on Poverty and Household Consumption and Investment in

Indonesia (September 1, 2010). World Bank Policy Research Working Paper No. 5433. Available at SSRN: https://ssrn.com/abstract=1683904

Anghel, R., Piracha, M., & Randazzo, T. (2015). 11. Migrants' remittances: channelling globalization *Handbook of the International Political Economy of Migration* (pp. 234).

Birkenmaier, J., Huang, J., & Kim, Y. (2016). Food insecurity and financial access during an economic recession: Evidence from the 2008 SIPP. *Journal of Poverty, 20*(2), 194-213.

Bruening, M., MacLehose, R., Loth, K., Story, M., & Neumark-Sztainer, D. (2012). Feeding a family in a recession: food insecurity among Minnesota parents. *American journal of public health, 102*(3), 520-526.

Chami, R., Hakura, D., & Montiel, P. (2009). *Remittances: an automatic output stabilizer?* : International Monetary Fund.

Chile, S. (2016). Climate change threatens the basis of food security in Latin America and the Caribbean: Agriculture. Retrieved from: http://www.fao.org/americas/noticias/ver/en/c/428177/.

Combes, J.-L., & Ebeke, C. (2011). Remittances and household consumption instability in developing countries. *World Development, 39*(7), 1076-1089.

Combes, J.-L., Ebeke, C., Etoundi, M. N., & Yogo, T. (2012). Are foreign aid and remittance inflows a hedge against food price shocks?

Combes, J.-L., Ebeke, C. H., Etoundi, S. M. N., & Yogo, T. U. (2014). Are remittances and foreign aid a hedge against food price shocks in developing countries? *World Development, 54*, 81-98.

de Moraes Sá, J. C., Lal, R., Cerri, C. C., Lorenz, K., Hungria, M., & de Faccio Carvalho, P. C. (2017). Low-carbon agriculture in South America to mitigate global climate change and advance food security. *Environment international, 98*, 102-112.

Dhungana, A., & Pandit, D. (2016). Socio-Economic Impact of Remittance on Households in Lekhnath Municipality, Kaski, Nepal. *Economic Literature, 12*, 39-49.

Du, Y., Park, A., & Wang, S. (2005). Migration and rural poverty in China. *Journal of Comparative Economics*, 33(4), 688-709.

Durand, J., Parrado, E. A., & Massey, D. S. (1996). Migradollars and development: A reconsideration of the Mexican case. *International Migration Review, 30*, 423-444.

FAO. (2017). The future Trends of food and and challenges. Retrieved from: http://www.fao.org/3/a-i6583e.pdf.

Gonzalez-Konig, G., & Wodon, Q. (2005). *Remittances and inequality*. Washington, DC, United States: World Bank. Mimeographed document.

Mendum, R., & Njenga, M. (2018). Integrating wood fuels into agriculture and food security agendas and research in sub-Saharan Africa. *FACETS, 3*(1), 1-11.

Nord, M., Coleman-Jensen, A., & Gregory, C. A. (2014). Prevalence of US food insecurity is related to changes in unemployment, inflation, and the price of food: United States Department of Agriculture, Economic Research Service.

Perakis, S. M. (2011). *The short and long run effects of migration and remittances: Some evidence from Northern Mali.* Paper presented at the Selected Paper prepared for presentation at the Agricultural & Applied Economics Association's 2011 AAEA & NAREA Joint Annual Meeting. Pittsburgh, Pennsylvania.

Quisumbing, A., & McNiven, S. (2010). Moving forward, looking back: The impact of migration and remittances on assets, consumption, and credit constraints in the rural Philippines. *The Journal of Development Studies, 46*(1), 91-113.

Ratha, D., De, S., Plaza, S., Schuettler, K., Shaw, W., Wyss, H., & Yi, S. (2016). *Migration and Development Brief April 2016: Migration and Remittances-Recent Developments and Outlook* (Vol. 26): World Bank Publications.

Regmi, M., & Paudel, K. P. (2016). Impact of remittance on food security in Bangladesh *Food Security in a Food Abundant World: An Individual Country Perspective* (pp. 145-158): Emerald Group Publishing Limited.

Reliefweb.(2018). Global Report on Food Crises 2018. Retrieved from: https://reliefweb.int/report/world/global-report-food-crises-2018.

Sahn, D. E., & Stifel, D. C. (2003). Urban–rural inequality in living standards in Africa. *Journal of African Economies*, 12(4), 564-597.

Sirkeci, I. (2009). Transnational mobility and conflict. *Migration Letters*, 6(1), 3-14.

Sirkeci, I. (2017). Editorial. *Remittances Review*, 2(2), 61-62. Retrieved from http://journals.tplondon.com/index/rem/article/view/428/421

Sirkeci, I., & Cohen, J. H. (2016). Cultures of migration and conflict in contemporary human mobility in Turkey. *European Review*, *24*(3), 381-396.

Sirkeci, I., Cohen, J. H., & Ratha, D. (Eds.). (2012). *Migration and remittances during the global financial crisis and beyond*. Washington, DC.: The World Bank.

Sirkeci, I., Cohen, J. H., & Yazgan, P. (2012). Turkish culture of migration: Flows between Turkey and Germany, socio-economic development and conflict. *Migration Letters*, 9(1), 33.

Smith, M. D., Kassa, W., & Winters, P. (2017). Assessing food insecurity in Latin America and the Caribbean using FAO's food insecurity experience scale. *Food policy, 71*, 48-61.

Stark, O., & Yitzhaki, S. (1988). Labour migration as a response to relative deprivation. *Journal of Population Economics*, 1(1), 57-70.

Szabo, S., Adger, W. N., & Matthews, Z. (2018). Home is where the money goes: migration-related urban-rural integration in delta regions. *Migration and Development, 7*(2), 163-179.

Tarasuk, V., Mitchell, A., & Dachner, N. (2016). *Household food insecurity in Canada, 2012*: Research to identify policy options to reduce food insecurity.

Thu Le, H., & Booth, A. L. (2014). Inequality in Vietnamese Urban–Rural Living Standards, 1993–2006. *Review of Income and Wealth*, 60(4), 862-886.

Tumushabe, J. T. (2018). Climate Change, Food Security and Sustainable Development in Africa *The Palgrave Handbook of African Politics, Governance and Development* (pp. 853-868): Springer.

UN (2015). Trends in international migration. Retrieved from: http://www.un.org/en/development/desa/population/migration/publications/populationfacts/docs/MigrationPopFacts20154.pdf.

WB. (2018). *Record high remittances to low- and middle-income countries in 2017. Retrieved from: http://www.worldbank.org/en/news/press-release/2018/ 04/ 23/ record-high-remittances-to-low-and-middle-income-countries-in-2017*.

White, M. J., & Johnson, C. (2016). Perspectives on Migration Theory–Sociology and Political Science *International Handbook of Migration and Population Distribution* (pp. 69-89): Springer.

Zarate-Hoyos, G. A. (2004). Consumption and remittances in migrant households: toward a productive use of remittances. *Contemporary Economic Policy*, 22(4), 555-565.