Global Journal for Management and Administrative Sciences
ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2021

THE SOCIO-ECONOMIC EFFECTS OF REMITTANCE ON POVERTY REDUCTION IN PAKISTAN
(Empirical Analysis to inform Policy Decisions)

Sajid Ali
Department of Business Administration,
Iqra University Karachi
sajidalikk@live.com

Sobia Anwer
Department of Business Administration
Iqra University Karachi
binteshaheen@gmail.com)\

Tasneem Shoaib
Ph.D. Scholar Department of Business Administration
Iqra University Karachi
tasneem.shoaib321@gmail.com

Abstract

The purpose of this study to contribute to the existing literature by investigating at the impact of remittances on Pakistan's poverty, both in the long run and over the short run over the period from 1980 to 2018. Poverty is the dependent variable, and independent variables are inflation, education, trade openness, domestic growth product per capita, and remittance. For this purpose, ARDL bound testing technique is used to examine the effect of remittances on Pakistan's poverty in multidimensional form. To confirm the results' robustness, this study used two proxies of poverty. For Model 1, consumption of household (HHC) used as poverty's proxy. For 2nd model, the rate of infant mortality (IMR) is taken as a proxy of poverty. Unit roots' outcomes indicate appropriateness to apply the ARDL bond testing to conclude on co-integration and (ARDL) regression analysis. Co-integration test results indicate that relationships of long run are present among the study variables of models 1 and 2 because both models' the value of F-statistics is greater than the serious value. In model 1 (long-run and short-run), results represent the impact of remittance (REM) is negative on poverty (HHC). From previous studies, remittance has an adverse influence on poverty. In model 2 (long-run), results represent the impact of remittance (REM) is negative on poverty (IMR). However, short-run results represent that remittance (REM) is positive on poverty (IMR). The negative relationship between remittances and poverty implies that remittance increases can decrease the poverty level in Pakistan. The results show that remittances have an important role in reducing poverty in the country.

Keywords: Poverty, Education, Remittance, ARDL, Pakistan

This work is licensed under a Creative Commons Attribution 4.0 International License.

Introduction

The Migration Policy Institute (2019) reported that global transient tax trade amounted to $ 689 billion in the period of 2018, with an influx of settlements to low- and middle-wage countries, accounting for 77% of global trade. According to (Migration Policy Institute 2019), Money-related trade with low-wage and low-wage countries is expected to grow by twenty-one billion dollars in 2019 and is expected to get up to $ 550 billion. The settlement become a significant wellspring of outside salary other than remote direct speculation and authority advancement help (ODA) (Ratha et al., 2018).

Botswana was to sign the Sustainable Development Goals for 2030 at the 2015 UN Sustainable Development Summit, the successor to the Millennium Development Goals (United Nations 2019), which closed in September 2015. Botswana's decision showed the duty to work with different nations to achieve the 17 Sustainable Development Goals. Section number 10.c.1 provides the settlement a unique consideration and highlights reducing the cost of resettlement exchange by 3 % (UN - 2019). Despite the Sustainable Development Goals, Botswana is to sign the International Labor Organization Emigrant Workers Convention, the 1990 United Nations Emigrant Workers Convention, and the 2002 Emigrant Trafficking Protocol (UNICEF 2019). According to (Migration Policy Institute 2004), The ability of the government of Botswana to equip assets with jewels and channel them towards improvement has left most Batswana struggling to work and stay in their home nation. Given the influx of establishments in low-wage and center salary nations, one more examination of the link between the establishment and need due to Botswana will reveal more insight into the idea of the relationship.

During the 1980s, African countries recorded the highest settlement inflows of 8% recorded. (UNCTAD- 2019). In this time period, many residents moved to South Africa from Botswana in search of green fields in gold and precious mines of stones (Migration Policy Institute 2004). From that point, a progressive decline in total population arrivals in the 1990s and 2000s. A normal settlement influx of 1.4 percent was enlisted somewhere in 1990 and 2000, which is 1 percent greater than a normal 0.4 percent somewhere between 2000 and 2017. The discouraged settlement influx contrasts with the general increases in all-inclusive registered settlement inflows (United Nations Conference on Trade and Development UNCTAD 2019).

According to the World Bank report 2019, there has been a continuous decrease in destitution on the needs front when estimated by measures, like destitution headcount, improvement of human records (HDI), the wage held by at least 20 % of the population in need. In 1985, the number of poor people at the US$3.20 poverty line was 63.8%, while the number of poor people at the US$1.90 poverty line was 42.6%. The number of people in need decreased to 38.5% and 16.1% in 2015 for $ 3.20 and $ 1.90 of deprivation lines, individually. The same pattern is shown in the destitution profundity (World Bank 2019). Ideas suggest that the spread of wages in Botswana is inconsistent, as confirmed by the differentiation of wages held by the top 20% of the population who registered at 58.9% in 1985 before dropping to 64.9% in 1993 and to drop to 58.5% in 2015. The destitution line of US$3.20 in 2015 was 13.8%, which was a decrease from 32.6% in the period of 1985. Because of the $1.9 destitution line, there occurred a fall in neediness profundity from

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

17.9% to 4.3% during 1985. In 2015, a slight improvement of 0.9% was recorded to contribute 3.9 percent (World Bank 2019). The betterment in neediness has also shown in the comprehensive file — Human advancement file (HDI) noted by 0.58 in 1990 and better in 2017 to 0.72 (United Nations Advancement Program 'UNDP,' 2019).

This study is helpful for the policymakers, economists, and other researchers concerned in Pakistan's economy. This research explains the factors that affects poverty in Pakistan. Before making policies and significant steps for the betterment and development of the economy, this study will be useful to identify the key variables that will help reduce poverty.

Literature Review

Azam, Haseeb, and Samsudin (2016), identifies the effects of foreign remittances and other variables on population growth. This is an empirical study. This research's variables are foreign Aid and remittances, income, debt, and human capital inflation. The main purpose of this research is to identify the effect of these variables on population development. Researchers examine the population growth of 39 countries belongs to upper and lower-middle, and high-revenue countries. Data collected for the analysis are from 1990 to 2014. The data is collected from 15- Upper middle-income countries of China, Thailand, Bulgaria, Brazil, Belarus, Dominican Republic, Costa Rica, Colombia, Ecuador, Turkey, Romania, Panama, Paraguay, Mexico and Peru, 9 High-income countries of Uruguay, Argentina, Lithuania, Chile, Latvia, Russian, Estonia, Federation, Venezuela and Poland, and lower-middle countries are 13. Data from only these countries are available. The statistical test used for this research is FMOLS Panel fully modified OLS. The results interpret those foreign remittances are positively significant to population growth reduction. Aid and debt are positively significant to population growth means that with the increase in foreign Aid and debt population growth, that county will increase. Income has an adverse effect on population growth; with the increase in income, growth in population will decrease. This research recommends that policymakers make policies that will decrease foreign Aid and Debt in the country and increase the inflow of foreign remittances.

Apergis, Dincer, and Payne (2010), examine income inequality and population growth. This main purpose of this research is to examine the connection between income inequality and population growth in the long and short run. They also pointed out the nature of the relationship between the two that if there is a relationship, it is unidirectional or bidirectional. To analyze this sample of 50 states of the United States, they are considered, ranging from 1980 to 2004. The data is taken from the population of those whose income levels are below $1 per day. The variables used for this analysis are population growth, income inequality, unemployment rate, education, corruption, and real personal income per capita. Panel causality test is used for the analysis of data. In the Long run and short run both, the outcomes predict that the relation between income inequality and population growth is bidirectional. During short run, employment and income inequality positively impact, and education and real per capita personal income negatively impact population growth, and corruption shows an insignificant impact. This research

recommends that policymakers make policies for the growth of both income and employment rate, leading to decreased population growth.

Rahman and Moni (2019) examined the household's size, human capital status, overseas work experience, and other income that significantly impact remittances to Bangladesh using sample data from the data set used for this research is the Survey of Household Income Expenditures 2010. By the Bangladesh Bureau of Statistics, 12,239 households' representative samples were received and gathered. They used Consumption, International Remittance, Population growth; Correspondence of propensity Scores, and applied propensity scores from the probit estimation of regression. The mean effect of treatment on the treatment group was predicted using the closest neighbor matching and the Kernel estimator. Both methods confirm that the receipt of funds has the opposite impact on the propensity of households to be poor. The results of the study show that the monthly per capita income of remittance recipients is much higher than non-recipient households. Remittance income helps to increase household income level. There are a few exceptions where individuals use the money in unproductive rather than effective activities. The study recommends that rural areas have more ability in terms of the production of exportable human resources. Suitable policies should be put in place to create a conducive environment in both the domestic and destination countries, specially to facilitate the migration of women.

Misati, Kamau, and Nassir (2019) examine the paper to analyze the relation between financial growth and remittances by using Kenyan quartic data from 2006 to 2016. In this research, five indicators of financial growth are used: credit to the private sector as a percentage of Gross Domestic Product, the total numeral of mobile transactions, the worth of these mobile dealings, the number of bank accounts and the number of mobile representatives by using sample data, received from Kenya Bureau of Statistics and State Bank of Kenya. This data was collected based on its accessibility in our estimate frequency and quality variables recognized in the literature. They used real Gross Domestic Product, trade openness the interest and exchange rates, and inflation applied Co-integration tests, Co-integration tests, etc. The study results suggest that the ARDL technique demonstrates a positive, strong connection between financial expansion and remittances in the long-run. The outcomes also verify the potential benefit of adopting advanced and modern technology to ease international mobile transfers. Using global money transfers via mobile technology cuts costs by removing the requirement for physical branches and staff to service walk-in clients. The research suggests that the régime consider increasing the exploitation of sovereign bonds and sovereign cooperative savings and credit societies while learning from previous attempts in other countries.

Guanghua et al. (2019) Natural issues, particularly on water and air contamination, are the destructive consequence of non-renewable energy sources' overconsumption, just as different types of modern sewage water release. As of late, developing ecologically well-disposed buyers' buying conduct has turned out to be a viable technique for lightening such natural issues. Because of concerns concerning the common habitat, customers have progressively started to display positive frames of mind towards naturally agreeable items, and therefore, are bound to buy "green" items. Be that as it may, the green obtaining conduct of shoppers fluctuates crosswise over various

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

countries and societies. This examination expects to uncover how Chinese social qualities (explicitly, the Doctrine of the Mean) impact the green buying aim of Chinese shoppers. Five hundred questionnaires were collected for the survey. As their social qualities will profoundly influence shoppers' ways of life, this examination looks at the intervening impacts of the four components of the Chinese way of life have on buyers. In the meantime, ecological information is considered a directing variable to research the connection between the Doctrine of the Mean and green acquiring expectation. The examination's information was gathered from Chinese purchasers. Observational outcomes uncover that such Chinese social qualities are definitely connected with the green acquiring goal and that three components of shopper way of life (in the particular initiative, cost cognizance, and advancement awareness), are altogether found to assume intervening jobs in the connection between the Doctrine of the Mean and green obtaining expectation in Chinese buyers. The directing impacts of ecological information are displayed in the impact of initiative just as advancement cognizance on green buying expectation. The examination's discoveries have hypothetical ramifications for understanding green acquiring aim just as Chinese buyers conduct further. The examination's discoveries likewise present viable ramifications for advancing green buying aim in Chinese purchasers better.

Wang et al. (2018) Most past investigations of the green buy frame of mind conduct hole of buyers have been established in either the concerned activity of hypothesis (TRA), giving frequently uncertain or even dubious results. For the most part, it is uncommon that analysts have concentrated on shoppers' green buy conduct towards the green inn industry. The reason for this examination is to reevaluate the connection between shoppers' green buy frames of mind, the emotional standard saw conduct controls, and green buy social goal concerning the green lodging industry. This paper proposes a hypothetical research model dependent on the TRA and the TPB. Two hundred and sixty-one questionnaires were gathered to test the speculations utilizing the SPSS programming bundle and Structural Equation Modeling. The outcomes recommended that green buy disposition and saw conduct control emphatically and fundamentally impact green buy expectation. The emotional standard was appeared to impact green buy expectation adversely and essentially. The green buy frame of mind was appeared to intervene somewhat in the connection between abstract standards and green buy aim. The reasonable and hypothetical ramifications of these outcomes are discussed before a blueprint of this investigation's constraints.

Ali et al. (2019) In the most recent decades, brief financial development and the subsequent overconsumption, have weakened nature in a quickened manner. This natural crumbling has incited academicians and specialists to ponder environmental utilization conduct. E-waste and vitality utilization have a noteworthy impact in this natural disintegration, making buyers aware of their utilization design. In such a manner, the rise of green Information Technology (IT) empowers people to end up associated with ecological assurance and manageability projects to diminish IT items' antagonistic effect on nature. This examination intends to research singular expectations to embrace green IT items in Pakistan by the hypothetical establishment of the hypothesis of utilization esteems (useful worth, social worth, epistemic worth, passionate worth, and contingent worth). An extra worth, i.e., the spiritual worth, incorporated in the model because of its huge effect

on people's green utilization conduct. The cross-sectional information is used to obtain a total of Five hundred and thirty-six legitimate polls to examine the theory. The PLS Modeling methodology is utilized to examine the suggested model (SEM based on fluctuations). The outcomes show that utilitarian value, societal worth, epidemic worth, enthusiastic worth, restrictive worth, and religious worth have a noteworthy positive effect on the buyer goal to receive green IT items.

Musakwa et al. (2019) The developing weight on régimes to diminish neediness between other Sustainable Development Goals by saddling household, outside resources have roused thoughts about the connection among poverty distinctive financial factors in many creating nations. This examination researches the settlement's effect on Botswana's poverty, utilizing time-arrangement information from 1980 to 2017. The examination utilizes two destitution intermediaries—family unit utilization consumption and baby death rate to catch neediness in its multidimensional frame and improve the outcomes' power. Utilizing the autoregressive appropriated slack (ARDL) method, the study examines that settlement influxes decrease destitution in Botswana, short run and over long haul together, the baby death rate is utilized as an intermediary. Nevertheless, when poverty is estimated by household unit consumption, it is found that settlements will not affect poverty in the short and long term. Investigation, along these lines, reasons that settlement inflows assume a significant job in diminishing neediness. Botswana can profit enormously from the flood in settlement inflows by setting up approaches and structures that help settlement inflow.

Research Methodology

The philosophical approach of this study is positivism. This study’s purpose is to check the effect of remittance inflows on destitution. We collected data from the World Bank. We took the data from 1980 to 2019 to get meaningful results from the research that can contribute to society and future researchers as reference.

For this research, examining the effect of remittance influxes on destitution in Pakistan's empirical and estimation tests is performed, respectively. Each variable, unit root test is performed, descriptive statistics are summarized in table 1. After that, co-integration, ARDL test, residual diagnostics tests normality test, heteroscedasticity test, serial correlation, diagnostic stability assessment, including the stability test.

For estimation results, this study used Dickey-Fuller generalized least square test (DF-GLS) and the Philips-Perron (PP) test, unit root test to check each variable at a time series. Test of the unit root was run at level with the trend and without trend and at the first difference with the trend. Cointegration test is used to analyze the long-term relationship among variables. For empirical results, (ARDL) test results of Model 1 and 2 are performed to determine the effect of remittance on poverty. The long-run results of both models are named Panel A, and the short-run results of models 1 and 2 are named Panel B. In model 1, household consumption (HHC) is used as a proxy of poverty, and in model 2, the rate of infant mortality (IMR) is used as a measure of poverty.

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

Descriptive Statistics

The descriptive statistics of variables are summarized in table 1.1. The average of Household consumption (HHC) is 1.43. The mean Infant mortality rate (IMR) is 90.10 percent. The mean of remittance (REM) is 5.140 percent. The standard deviation of the infant mortality rate (IMR) is 20.24 percent. The standard deviation of (IMR) is highly volatile, indicating that (IMR) is high volatile during the sample period. The standard deviation of household consumption (HHC) and remittance (REM) is less volatile than (IMR), which indicates that household consumption (HHC) and remittance is less volatile during the sample period.

	HHC	O	REM	EDU	GDPC	INF	MR
Mean	1.437	0.899	5.1405	26.758	2.175	8.084	0.105
Median	0.651	0.137	5.0143	25.289	2.151	7.692	9.700
Max	9.906	6.976	10.247	42.781	6.695	20.286	23.60
Minimum	-4.11	0.450	1.4536	16.992	-1.843	2.529	7.200
Std. Dev.	3.504	0.431	2.2388	7.4817	1.893	3.865	0.240
Skewness	0.705	0.580	0.1809	0.5870	0.030	0.745	0.027
Kurtosis	2.669	0.732	2.1865	2.1768	2.695	3.68	0.760
Jarque-Be	3.413	40.44	1.2879	3.3414	0.156	4.386	0.501
Probabili	0.181	0.000	0.5251	0.1881	0.924	0.111	0.286
Sum	56.05	46.98	200.48	1043.5	84.855	315.314	514.10
SumSq.D.	466.760	571.8	190.46	2127.0	136.20	567.765	5567.3
Obs	39	9	39	39	39	39	9

Table 1: Descriptive; house hold consumption (HHC), Remittance (REM), Trade openness (TO), Inflation (INF), infant mortality rate (IMR), education (EDU) and gross domestic product per capita (GDPC).

Estimation and Data Analysis

Stationary Analysis

Unit root tests are performed to confirm as model variables are cointegrated of order 0 [1 (0)] or 1 [1(1)]. The result of dickey-fuller generalized least square test (DF-GLS) test and Philips-Perron (PP) test results show in table 2. The outcomes indicate that at level variables includes infant mortality rate (IMR), remittance (REM), gross domestic product per capita (GDPC) are non-stationery and household consumption (HHC), trade openness (TO), education (EDU), and inflation (INF) are stationary. At first, difference each variable's properties are stationary. Unit roots' results indicate appropriateness to

apply the ARDL bond testing to conclude on co-integration and (ARDL) regression analysis.

	DF-GLS and PP tests							
Test	Dickey-Fuller Generalized Least Square				Phillips-Perron Test			
ariable	Levels		First Difference		Levels		First Difference	
HC	5.932	6.525	10.60	11.24	5.902	6.373	30.39	31.11
MR	1.512	1.894	3.446	3.569	1.029	1.427	3.542	3.341
EM	2.125	2.327	10.01	10.20	7.880	8.808	26.77	26.45
O	4.179	4.571	6.644	7.013	4.568	4.499	16.18	20.78
DU	4.867	4.932	8.816	8.825	4.868	4.824	14.74	14.52
DPC	2.434	3.309	6.298	7.55	4.030	3.815	10.83	14.71
NF	2.548	2.713	7.493	7.502	2.911	2.873	7.366	7.260

Table 2: Unit Root Test; household consumption (HHC), Remittance (REM), Trade openness (TO), Inflation (INF), the infant mortality rate (IMR), education (EDU), and gross domestic product per capita (GDPC). 1 (without trend) & 2 (with trend)

Co-integration

Results of co-integration test of model 1 and model 2 are summarized in table 3. The F-statistics value of model 1 is 4.722, and the F-statistics value of model 2 is 8.207. Both models' the value of F-statistics is greater than critical value or upper and lower bound (Pesaran et al., 2001) shows that a long-term relationship is exist between the study variables of models 1 and 2. To continue the study analysis and determine the effect of remittance on poverty, a favorable lag length is used for models 1 and 2. In table 4 there is shown long-run and short association for model 1 and 2.

Model	Dependent	Independent Variables	F-Statis	Cointeg. status
1	HHC	REM, TO, EDU, GDPC, & INF	4.72262	Co-integrated
2	IMR	REM, TO, EDU, GDPC, & INF	8.20798	Co-integrated
Signi.	I (0) Bound	1(1) Bound		
10%	2.26	3.35		
5%	2.62	3.79		
2.50%	2.96	4.18		
1%	3.41	4.68		

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

Table 3: Cointegration house hold consumption (HHC), Remittance (REM), Trade openness (TO), Inflation (INF), infant mortality rate (IMR), education (EDU) and Gross domestic product per capita (GDPC).

Empirical Results of Model 1 and Model 2

ARDL) test outcomes of Model 1 and 2 are shown in table 4 to determine the effect of remittance on poverty. The long-run results of both models named Panel A, and the short-run outcomes of model 1 and 2 are named Panel B. In model 1, household consumption (HHC) is used as a proxy of poverty, and in model 2, the rate of infant mortality (IMR) is used as a proxy of poverty.

Model 1

In Panel-A (long-run), results represent that remittance (REM) has a negative impact on destitution (HHC). By previous studies, remittance has shown an adverse influence on poverty. (Page and Adam, 2005; Anyanwu and Erhijakpan, 2010; Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018). However, other variables include trade openness (TO), growth of domestic product per capita (GDPC), inflation (INF) and education (EDU) have a positive influence on poverty (HHC). The results suggest that increases in the value of those variables will increase poverty.

In Panel-B (short-run), results represent as the influence of remittance (REM) is negative on poverty (HHC) (Anyanwu and Erhijakpan, 2010; Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018). Similarly, other variables include inflation (INF), and domestic growth product per capita (GDPC), have a positive influence on poverty (HHC) and education (EDU), and trade openness (TO) has a negative influence on poverty (HHC).

Model	Model 1 (dependent var. is Pov1)		Model 2 (dependent var. is Pov2)	
	ARDL (3, 4, 2, 4, 4, 2)		ARDL (3, 0, 4, 0, 3, 4)	
Regressor	Coefficient	Prob.	Coefficient	Prob.
Panel A: long-run results				
INF	0.074	0.049	-2.032	0.041
GDPC	1.813	0.000	-1.071	0.887
EDU	0.196	0.000	-4.161	0.000
REM	-0.398	0.000	-6.497	0.026
TO	0.197	0.001	2.131	0.448
C	-7.301	0.000	9.068	0.002

Panel B: short-run results				
INF	0.407	0.001	0.008	0.005
INF(1)	0.156	0.146	-	-
INF(2)	-0.117	0.241	-	-
GDPC	1.755	0.000	0.001	0.939
GDPC(1)	-1.314	0.088	-0.006	0.455
EDU	-0.708	0.000	0.001	0.915
EDU(1)	0.581	0.093	0.030	0.003
EDU(2)	-0.990	0.005	0.017	0.000
EDU(3)	-0.195	0.344	0.052	0.001
REM	-0.540	0.225	0.026	0.155
REM(1)	1.285	0.019	0.035	0.028
REM(2)	-1.009	0.050	-0.002	0.508
REM(3)	-0.652	0.113	0.001	0.671
TO	0.048	0.544	0.000	0.958
TO(1)	-0.254	0.004	0.006	0.006
ECM (-1)	-3.112	0.000	0.004	0.014

	Model 1	Model 2
R-squared	0.935	92.018
Adjusted R-squared	0.825	91.548
F-statistic	8.529	492.000
Prob(F-statistic)	0.000	0.000
Durbin-Watson stat	2.214	2.142

Table 4: Emperical Results for Model 1 and 2, Remittance (REM), Trade openness (TO), house hold consumption (HHC) Inflation (INF), infant mortality rate (IMR), gross domestic product per capita (GDPC) and education (EDU).

R-Squared value is (0.93) indicates that 93% of the variation in poverty (HHC) explained by independent variables (REM, TO, INF, EDU, and GDPC). The Durbin-Watson value is 2.2 shows that there is no autocorrelation issue. Overall outcomes provide proof that there is a strong link between remittance and poverty (IMR), which supports the previous studies (Tsaurai, 2018; Vacaflores, 2018; N.M. Odhiambo and Mercy. T. Musakwa, 2019).

Model 2

In Panel-A (long-run), results represent that remittance (REM) has a negative influence on poverty (IMR). From previous studies, remittance has also shown a negative or adverse influence on poverty. (Page and Adam, 2005; Anyanwu and Erhijakpan, 2010;

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018). Moreover, other variables include education (EDU), inflation (INF), and growth of domestic product per capita (GDPC) have a negative influence on poverty (IMR). The results suggest that increases the value of those variables will decrease poverty. At the same time, trade openness has shown a positive influence on poverty (IMR).

Panel-B (short-run), results represent the influence of remittance (REM) is positive on poverty (IMR); other variables include inflation (INF), education (EDU), and trade openness (TO) have a positive influence on poverty (HHC).

R-Squared value is (0.92) indicates that 92% of the variation in poverty (IMR) explained by independent variables (REM, TO, INF, EDU, and GDPC). The Durbin-Watson value is 2.14 indicate that there is no autocorrelation issue. Overall results provide evidence that there is a strong link between remittance and poverty (IMR), which supports the previous studies (Tsaurai, 2018; Vacaflores, 2018; N.M. Odhiambo and Mercy. T. Musakwa, 2019).

Robustness of Model 1 and 2

Diagnostics test outcomes of Model 1 and 2 are summarizes in table 5, including serial correlation test, normality test, and heteroscedasticity test. According to the result of normality test, both model's probability value is higher than 0.05, this mean that both models' data are normally distributed.

In the serial correlation test, the probability of Model 1 and 2 is greater than 0.05, indicating no correlation between residuals. In heteroscedasticity test results, both models' probability is greater than 0.05, indicating that the data does not have heteroscedastic problems. The results suggest that the residual variance is constant. A stability test is performed to determine the data is stable or not. Figure 1 shows Impulse CUSUMQ and CUSUM results for models 1 and 2. The straight lines indicate critical bounds at 0.05 significance levels. The results of all graphs are stable as the blue line is within the red line. The results imply that the parameters are desirable (stable).

Table 5: Diagnostic Outcomes for Model 1 and Model 2

LM test statistics	Results (probability)	
	Model 1	Model 2
Serial Correlational	0.3279	0.5211
Normality CHSQ	0.5456	0.9662
Heteroscedasticity CHSQ	0.6092	0.5075

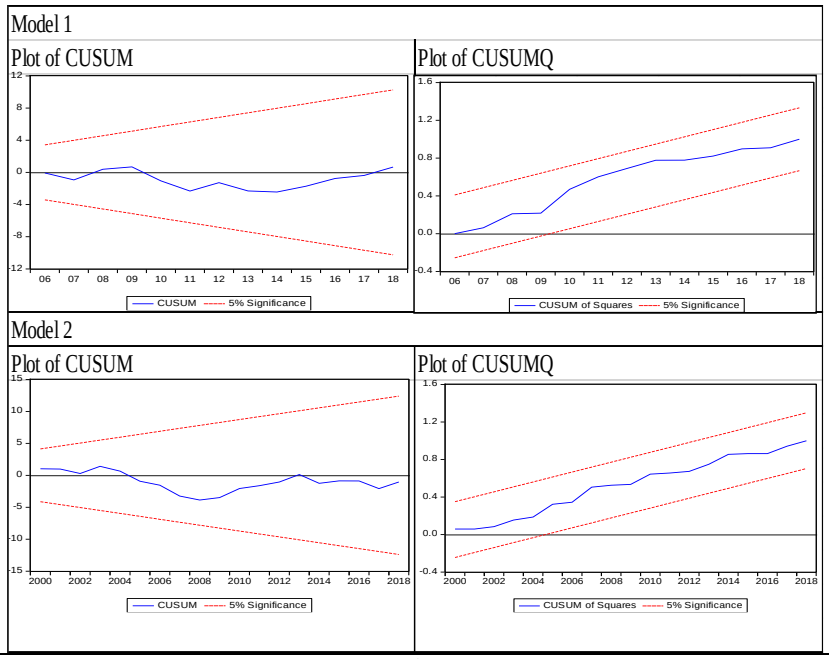


Fig 1: CUSUM and CUSUMQ Outcomes for Model 1 and 2.

The straight lines show critical bounds at 5% level of significance

Discussion

Descriptive statistics shows, standard deviation of (IMR) is highly volatile which means that (IMR) is highly unstable during the sample period. On the other side, household consumption (HHC) and remittance (REM) standard deviation is less volatile than (IMR), which indicates that household consumption (HHC) and remittance is less unstable during the sample period. After that, unit root test is used to check the stationary properties of variables, different results suggested each variable of time series properties is stationary. Unit roots' results indicate appropriateness to apply the ARDL bond testing to conclude on co-integration and (ARDL) regression analysis. Both models' F-statistics value is greater than lower and upper bound or critical value (Pesaran et al., 2001) represents that a long-run relation is exist between the variables of both models. In model 1, results represent the impact of remittance (REM) is negative on poverty (HHC). From previous studies, remittance has a negative influence on poverty (Long- run and Short-run). (Page and Adam, 2005; Anyanwu & Erhijakpan, 2010; Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018; Gupta et al., 2009).

In model 2 (long-run), results represent that remittance (REM) has a negative impact on Poverty (IMR). The results support previous studies results (Anyanwu and Erhijakpan, 2010; Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018). However, short-run results represent that remittance (REM) is positive on poverty (IMR). The adverse relationship among remittances and poverty implies that remittance increases can

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

decrease the poverty level in Pakistan. The results suggest that as the increases, remittance influxes play a vital role in decreasing the country's destitution (Ratha, 2007). Increases in real estate investment can improve any country's fiscal position through additional benefits such as Balance of Payment (BOP) and benefits for small business development (De Vries, 2011).

The addition of remittances such as a fixed household income has a contrary nature (Kapur, 2004). The long-term results of Model 1 and Model 2 and the short-term results of Model 1, have a positive effect on remittances. However, in the short-run results of model 2, there is an insignificant impact of remittances on model 1. Azam et al. (2016) There was no correlation found between remittances and poverty in high-income countries globally.

Conclusion

This research examines the influence of remittances on poverty in Pakistan. For this research, annual 39 years of time series data is used from 1980 to 2018 for Pakistan. The research applied (Auto Regressive Distributed Lag) bounds testing to examine the influence of remittances on poverty in the multidimensional form (Makun KK, 2018). To confirm the results' robustness, this study used two proxies of poverty. For Model 1, household consumption (HHC) is used as a proxy of poverty. For model 2, the rate of infant mortality (IMR) is used as a measure of poverty; household consumption is considered income [poverty and infant mortality rate is considered healthiness poverty.

For this research, following tests were applied to inspect the impact of remittances on poverty such as descriptive statistics, unit root test, co-integration, ARDL test (long run and short run), residual diagnostics tests include normality, heteroscedasticity test, serial correlation and diagnostic stability test include stability test are performed. From the unit root test results, suggesting each variable's properties are stationary at first difference. Unit roots' results indicate appropriateness to apply the ARDL bond testing to conclude on co-integration and (ARDL) regression analysis. Co-integration test results indicate that long-run relationships are present among the variables of models 1 and 2 because both models' F-statistics value is greater than the critical value.

In (long-run and short-run) model 1, results represent remittance (REM) has a negative impact on poverty (HHC). From previous studies, remittance has also shown a negative influence on poverty. (Anyanwu and Erhijakpan, 2010; Page and Adam 2005; Nahar and Arshad, 2017; Tsaurai, 2018; Vacaflores, 2018). In model 2 (long-run), results represent as the impact of remittance (REM) is negative on poverty (IMR). However, short-run results represent that remittance (REM) is positive on poverty (IMR).

The negative relationship between remittances and poverty implies that remittance increases can decrease the poverty level in Pakistan. The results suggest that remittance increases in remittance play a vital role in reducing destitution in the country (Ratha, 2007). Increases in real estate investment can improve any country's fiscal position through additional benefits such as Balance of Payment (BOP) and benefits for small

business development (De Vries, 2011). The addition of remittances such as a fixed household income has a contrary nature (Kapur, 2004).

Overall results provide evidence that there is a strong link between remittance and poverty (IMR), which supports the previous studies (Tsaurai, 2018; Vacaflores, 2018; N.M. Odhiambo and Mercy. T. Musakwa, 2019).

Implication

This research will help policymakers to understand the impact of remittances on poverty in order to maintain the country's stability. Policymakers should make good policies to consider remittance inflows more as poverty has a low income, bad health, or unemployment. Before making policies and significant steps for the betterment and development of the economy, this study will help to identify those variables that will help reduce poverty. This research will also help the régime to verify the reason for poverty and reduce poverty in Pakistan. This research is helpful for the scholars, economist and other researches concerned in Pakistan's economy.

Future Recommendations

This research investigates the influence of remittances on poverty in Pakistan. Due to the shortage of time and resources, this study is limited and not conducted on a huge scale. Future researchers can use these variables with some new variables on other countries such as Asian countries because in most Asian countries poverty rate can be high. In the existing research, data availability is limited as it is from 1980 to 2019. So, future researchers can include an increase range of data, and other years can be taken into consideration too. This research analyzed the impact of inflation, Infant mortality rate, income, GDP, Household consumption expenditure, Poverty, and remittances on population growth; more variables can also be used for this research to examine the relationship between poverty and remittances. Many people in Pakistan are not working yet. The unemployment variable can use as the proxy of poverty because in Pakistan, unemployment is increasing day by day.

ISSN (Print): 2788-4821 ISSN (Online): 2788-483X
Volume 2, Issue 1, Page 101-116, June 30, 2022

References

Adams Jr, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World development*, 33(10), 1645-1669.

Ali, S., Danish, M., Khuwaja, F. M., Sajjad, M. S., & Zahid, H. (2019). The intention to adopt green IT products in Pakistan: Driven by the modified theory of consumption values. *Environments*, 6(5), 53.

Aliakbarlou, S., Wilkinson, S., & Costello, S. B. (2017). Exploring construction client values and qualities: are these two distinct concepts in construction studies? *Built Environment Project and Asset Management*.

Anyanwu, J. C., & Erhijakpor, A. E. (2010). Do international remittances affect poverty in Africa? *African Development Review*, 22(1), 51-91.

Apergis, N., Dincer, O. C., & Payne, J. E. (2010). The relationship between corruption and income inequality in US states: evidence from a panel cointegration and error correction model. *Public choice*, 145(1), 125-135.

Azam M, Haseeb M, Samsudin S (2016)," The impact of foreign remittances on poverty alleviation: global evidence. Inter- disc Approach, *Economics Sociology*". 9(1):264–281

De Vries, S. (2011, February). Mobilizing the use of remittances towards poverty reduction and economic and social development through government initiatives: The Philippine experience. In *UNCTAD Single-Year Expert Meeting On Maximizing the Development Impact of Remittances. Geneva* (pp. 14-15).

Gupta, S., Pattillo, C. A., & Wagh, S. (2009). Effect of remittances on poverty and financial development in Sub-Saharan Africa. *World development*, 37(1), 104-115.

Kapur, D. (2004). Remittances: the new development mantra? G-24 discussion paper. series, (29).

Larson, R. B., & Kinsey, J. (2019). Culture and sampling issues with "Green" attitude research. Social Marketing Quarterly, 25(2), 91-106.

Pressley, J. (2022). Nigerian Emigration to the United States: A Historical Analysis of Post-Colonial Nigeria. *MUNDI*, *2*(1).

Misati, R. N., Kamau, A., & Nassir, H. (2019). Do migrant remittances matter for financial development in Kenya? *Financial Innovation*, 5(1), 1-25.

Musakwa, M. T., & Odhiambo, N. M. (2019). FDI and poverty reduction in Botswana: A multivariate causality test. *Economics & Sociology*, 12(3), 54-66.

Musakwa, M. T., & Odhiambo, N. M. (2019). THE impact of remittance inflows on poverty in Botswana: an ARDL approach. *Journal of Economic Structures*, 8(1), 1-13.

Nahar, F. H., & Arshad, M. N. M. (2017). Effects of Remittances on Poverty Reduction: The Case of Indonesia. *Journal of Indonesian Economy & Business*, 32(3).

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 16(3), 289-326.

Portal, G. M. D. (2019). Migration data portal. Migration Data Portal) https://migrationdataportal.org.

Rahman, R., & Moni, N. N. (2019). Impact of International Remittances on Poverty in Bangladesh: Evidence from the Household Data. *Remittances Review*, 4(1), 41-66.

Ratha, D. (2007). Leveraging remittances for development. *Policy Brief*, 3(11), 1-16.

Ratha, D., De, S., Yameogo, N. D., Plaza, S., & Ju Kim, E. (2018). *Migration and Remittances Brief*, 30.

Sheng, G., Xie, F., Gong, S., & Pan, H. (2019). The role of cultural values in green purchasing intention: Empirical evidence from Chinese consumers. International *Journal of consumer studies*, 43(3), 315-326.

Tsaurai, K. (2018). The impact of remittances on poverty alleviation in selected emerging markets. Comparative Economic Research. *Central and Eastern Europe*, 21(2), 51-68.

Tu, J. C., Tu, Y. W., & Wang, T. R. (2018). An investigation of the effects of infographics and green messages on the environmental attitudes of Taiwanese online shoppers. *Sustainability*, 10(11), 3993.

Vacaflores, D. E. (2018). Are remittances helping lower poverty and inequality levels in Latin America? The Quarterly Review of Economics and Finance, 68, 254-265.

World Bank (2019) World Bank Development indicators. https://databank.worldbank.org.