

The Impact of Foreign Remittances and Financial Development on Poverty and Income Inequality in Pakistan: Evidence from ARDL - Bounds Testing Approach

Rizwana Kousar¹, Syed Imran Rais², Abdul Mansoor³, Khalid Zaman⁴,
Syed Tahir Hussain Shah⁵, Shakira Ejaz⁶

Received: December 1, 2018 Revised: January 2, 2019 Accepted: January 10, 2019

Abstract

The objective of the study is to examine the impact of financial development and foreign remittances on poverty and income inequality in the context of Pakistan. The study used ARDL-Bounds testing approach for robust inferences. The results show that in the short-run, remittances increases poverty and income inequality, which further translated into its long-run impact. The result confirmed the inverted U-shaped relationship between per capita income and income inequality, while the second order coefficient of per capita income substantially decline poverty incidence in a country. In the long-run, the results disappeared and it's turned into U-shaped relationship between income inequality and country's per capita income. Education largely decreases income inequality both in the short and long-run, however, it increases poverty in the long-run. Unemployment rate substantially damaged the pro-poor growth scenario, as high unemployment rate increases both the poverty rates and income inequality, which suffered poor more than non-poor in a country. Financial development has a positive impact on poverty reduction and income inequality in the short-run. The impact of income inequality on poverty incidence is positive both in the short- and long-run, which need pro-poor growth policies and rationale income distribution in a country.

Keywords: Foreign Remittances, Financial Development, Poverty, Income Inequality, Pakistan

JEL Classification Code: C32, F24, I32.

1. Introduction

It is a recognized fact that well-structured and well-organized financial institutions are the prerequisite for financial development and hence economic growth. A strong

and vigorous financial structure is very essential for sustained economic growth for economies all over the world (Popov, 2018). In Pakistan, banking sector developed tremendously and remained very effective and elastic over the past few years. Consistent, efficient and sound financial sector ensures the long live economic development of an economy. It facilitates and encourages the economic system of an economy to use the financial resources up to the maximum level and encourage the enormous investment in the economy. An increase in the investments leads to raise the productivity and ultimately the economic growth of an economy (Rashid, Yousaf, & Khaleeqzaman, 2017). The broad money supply (M2) is the useful measure to determine the financial efficiency in the economy. Generally these ratios indicate the developed and proficient financial sector. Unfortunately these ratios are very low and are dormant for the period of last few years in Pakistan (Economic Survey, 2016). In the fiscal year 2008-09 and 2009-10, monetary assets remained the same. Monetary assets, which were 38.9 percent of GDP in fiscal year 2008-

1 First Author. MS Scholar, Department of Economics, University of Wah, Pakistan, E-mail: rizwanaabbasi89@gmail.com

2 Chairperson, Department of Economics, University of Wah, Pakistan, E-mail: imran.rais@uow.edu.pk

3 Lecturer, Department of Economics, University of Wah, Pakistan, E-mail: abdul.mansoor@uow.edu.pk

4 Corresponding Author. Assistant Professor, Department of Economics, University of Wah, Pakistan [Postal Address: Quaid Avenue, Wah Cantt, 47040, Pakistan] Tel: +92-334-8982744, Fax: +92-51-9314311, E-mail: Khalid_zaman786@yahoo.com

5 Lecturer, Department of Economics, University of Wah, Pakistan, E-mail: syed.tahir@uow.edu.pk

6 Lecturer, Department of Economics, University of Wah, Pakistan, E-mail: shakira.ejaz@uow.edu.pk

09 has slightly decreased and reached to the lowest position of 36.6 percent in fiscal year 2010-11. In 2011-12 and 2012-13 it again raised and reached to 39.6 percent. Afterward an increasing trend has been found and the latest figured recorded as 42.6 percent in fiscal year 2016-17. According to latest Economic Survey (2018), over all remittances in Pakistan could not maintain its rising growth rate during the period from July-March of fiscal year 2017. In this period, remittances remained US\$ 14.058 billion as compared to 14.388 billion during this period previous year. The economy of Pakistan face decreasing trends in remittances year on year basis slightly by only 1 percent, however, on month on month basis, i.e., March-February of fiscal year 2016-2017 a reasonable increase of about twenty percent has been recorded.

Income inequality and economic growth both are essential for economic development. But unfortunately after 1990, an increase in poverty entire focus was shifted towards the policies that are helpful in reducing the proportion of poor people instead of taking appropriate measures to improve the distribution of income. In the initial stages of economic growth, distribution of income become worsens followed by improvement in distribution of income this phenomenon is known as Kuznets curve. This situation arises due to different reasons but shifting of labor from agriculture sector to industrial sector where few peoples exploited the high income opportunities. Hence changes in income inequality with this scenario can be seen in number of countries around the world (Ravallion, 2017). Migration and remittances report of World Bank for the fiscal year 2017 stated that foreign remittances streams towards the developing economies have decreased by 2.4 percent in fiscal year 2016. This situation is the first time in the history that the foreign remittances flow towards the developing countries has declined from the last two consecutive years. Basic reason behind this particular declined of foreign remittances was slow economic growth in Europe, Federation of Russia and other gulf cooperation council economies along with control of exchange, troublesome rules and regulations and wrong migration policies in many countries of the developed world (Economic Survey, 2017). Since last many years poverty level in Pakistan has declined both at regional and national levels as well as rural and urban basis. According to Economic Survey (2018), people of Pakistan living under the poverty line has decrease from 50.4 percent in 2005-06 to 24.3 percent in fiscal year 2015-16. However decline in poverty figures are more prominent in urban areas as compared to rural areas.

Foreign remittances flow towards the region of South Asia has witnessed to decline by 6.4 percent in fiscal year 2016 because of decrease in oil prices and gulf cooperation countries. World Bank report witnessed that economy of

Pakistan is the top fifth foreign remittances receiving economy of the world. In 2016 foreign remittances decline by 8.9 percent in India and 11.1 percent in Bangladesh while in the same period foreign remittances has increased by 6.39 percent in Pakistan (Economic Survey, 2017). Foreign remittances have positively contributed in improving the external balances for the fiscal year 2017. The main countries contributing into the foreign remittances to Pakistan includes Saudi Arabia 29 percent, United Arab Emirate 22.2 percent, United State of America 12.4 percent, other Gulf Cooperation Countries 12.1 percent, United Kingdom 11.8 percent, European Union 2.4 percent and other countries contributing 10.1 percent in this regard. Foreign remittances inflow to Pakistan has declined due to severe decline in oil prices, slowdown of development projects in Middle East, problems of facing stoppage of bank accounts by money services businesses in UK and Australia, and sharp devaluation of British Pound. Furthermore Pakistan remittances initiatives jointly launched by Ministry of Finance, ministry of overseas Pakistanis and State Bank of Pakistan in order to improve the foreign remittances by introducing the new formal channels and by arranging awareness programs at Territory of Emigrant offices across Pakistan (Economic Survey, 2018).

The number of studies provoked the effectiveness of foreign remittance and financial development in poverty alleviation, i.e., Gupta, Pattillo, and Wagh (2009) confirmed the strong linkages between foreign remittances, poverty and financial development between them. Yang (2011) concluded that foreign remittances are the base line and a healthy tool as a backup of unseen, economic bad and unexpected economic conditions. Gubert (2002) and Clarke and Wallsten (2004) agreed that foreign remittances filled the economic gaps and repair the damages taken placed by the disasters in Jamaica in 1992. Ilahi and Jafary (1999) concluded that foreign remittances has played role in settlements of financial debts in developing countries of the world. Yang (2008) explained that the usage of foreign remittances for the health, and other development sector could create the difference. Jalil and Feridun (2014) scrutinized the effects of financial development on economic growth of Pakistan for the period of 1975 to 2008. They have confirmed the positive affiliations among the financial development and economic growth. According to them, an economy with a rich financial system guarantees the provision of liquidity in the financial system and assists to decrease the danger by raising the provision of different other opportunities.

Safdar (2014) analyzed the relationship of development in financial and economic growth in Pakistan and concluded that financial development of a country ensured to enhance the economic conditions and sustain the competitive

capabilities among the financial and capital markets. Javid, Arif, and Qayyum (2012) studied the impact of foreign remittances on economic development and poverty for the Pakistan's economy. The positive and significant relationship among the foreign remittances and economic growth of Pakistan has been found in their study. It was found that foreign remittances have positive impacts on reduction of poverty in Pakistan. Like other major countries of South Asia, India, Bangladesh, Sri Lanka, Maldives and Nepal, the reduction in poverty led to an increase in dietary diversity for every quintile of Pakistan economy. The reduction in poverty is evident in several forms of datasets such as poverty criterion of dollar a day estimations employing independent database of Pakistan Institute of Development Economics (PIDE) and from PIDE own household survey.

On the basis of significant discussion on the study topic, the study examines the role of foreign remittances and financial development in income distribution and poverty alleviation in a given country. As this study investigated the factors, i.e., income distribution, poverty, level of education attained, foreign remittances, and other development in the monetary sector and their impacts upon the economic stability of the country like Pakistan. Therefore, the following hypothesis has been tested for sound inferences:

- H₁:** There is likelihood that foreign remittances largely decreases poverty incidence and create judicious income distribution in a country.
- H₂:** It is expected that sound financial infrastructure support to reduce poverty and brings harmony in a country, and
- H₃:** It is assumed that there will be an inverted U-shaped relationship between per capita income and poverty (and income inequality) in a country.

The remaining structure of the study is organized as follows. Chapter 2 encircles the literature of the previous studies. In chapter 3 the methodology is discussed and the literature regarding the empirical work of the study. In chapter 4 we discussed the outcome of the empirical model of the study while chapter 5 summarizes the conclusion of the study.

2. Review of Literature

2.1. Remittances, Poverty and Financial Development Nexus

A suitable understanding of relationships among remittances, poverty and financial development could help

the policy makers in order to establish and design the suitable economic policy. According to Lucas (2004), the socio economic results of foreign remittances have become wide ranging, although it is hard to be generalized, therefore need for the empirical estimations has been desired. Remittances have the power to directly affect the prevailing poverty in the positive sense by increasing the revenues or income of the receiver or beneficiary, which as a result contribute into the poverty mitigation and helps to smooth the consumption patterns of the society. Foreign remittances also provide the assistance on overcoming the restrictions of working capital requirements; hence provide the possibility to receiver of the remittances to invest into the human and physical capital.

Khan, Khattak, and Hussain (2008) analyzed the relationships among poverty unemployment, economic growth and budget deficit for the period of 1960-2005 by using vector auto regression (VAR) error correction and Granger causality and ADF test. They found that effectiveness of the policy is mixed i.e. it takes seven years to effect the output growth and economic and budget deficit while the phase of effectiveness is bit more slow for employment i.e. eight years and more than ten years for poverty eradication. They found that either the policies are not according to the plane or the time of impact is very more than to impact. They suggested that policies should be made accordingly for shorter period of time and their time of impact should be made possible. Pradhan and Mahesh (2016) analyzed the impacts of foreign remittances on poverty for the twenty five developing economies of the world. Further it was tried to examine the effects of total remittances receives on poverty reduction in these developing economies. Result explained the negative or inverse relationships among the foreign remittances and poverty, hence foreign remittances has negative impacts on poverty because a higher GDP per capital suggests minor or lower poverty head count ratio. Finally it was concluded that foreign remittances for a country could consider a blessing in order to catch the bird of poverty in the lower developing countries.

Banga and Sahu (2010) studied the relationship among the foreign remittances and poverty for the developing countries. Study examined the relationship in two separate phases, first the impact of foreign remittances has been examined for the seventy seven developing countries and the second phase comprises of twenty nine developing countries. Result explains that remittances have played the crucial role in reducing the poverty level. Yoshino (2017) investigated the casual relationships among the foreign remittances and mitigation of poverty for ten Asian developing countries over the period of 1981 to 2014. It was explained the poverty in three different kind, poverty head

count ratio, poverty gap ratio and poverty severity ratios. Result explained that foreign remittances having positive and empirically significant impacts on poverty gap ratios and poverty severity ratios. Furthermore it was found that per capital GDP and openness of trade played a critical role in diminishing the poverty with respect to all measures. Pekovic (2017) worked to search the effects of foreign remittances for the rural and regional level poverty for Serbia state. It was found that the contribution and receiving of foreign remittances has reduced the poverty. It was stated that the reduction of foreign remittances would result the in increasing the poverty in the rural area of Serbia state. Result explained the impacts of foreign remittances are higher in order to decrease to depth and severity of poverty instead of poverty index.

2.2. Relationship between Remittances and Financial Development

Giuliano and Arranz (2009) highlighted the cross sectional inter relationships among the remittances, financial development and economic growth for the hundred developing nations for the period of 1975 to 2002. It was found that the remittances being play a major and very critical role in promoting economic growth and development activities in the developing countries. It was suggested that remittances can contribute the economic growth in the efficient way. It was further suggested that financial sector itself unable to support and satisfied the financial needs of the people in the developing countries. Mubeen, Nazam, Batool, Akram, and Ishtiaq (2016) analyzed the impacts of foreign remittances, on financial development of Pakistan for the period of 1980 to 2011. The basic objective of the study was to analyze the interrelationships between the exchange rate and financial enhancements for the Pakistan economy. Multiple regression using OLS has been employed in order to explore the relationship among the dependent and independent variables included in the study. It was found that foreign remittances have very significant and positive relationship with economic growth of Pakistan while on the other way foreign direct investment (FDI) has positive but insignificant impacts on financial development for the Pakistan economy.

Bada (2016) investigated the collective relationship among the foreign remittances and economic development for the rural Mexico. The research discussed the fluctuations agendas for the United States based home town associations specifically in the rural Mexico. it was analyzed the that either these fluctuations have any impacts on the decisions of local government in order to strengthen and develop the decisions of local government. It was found that

government of both local and provisional level was seeking interested for the attachment of economic immigrant in the shape of foreign remittances either for sub-national states levels, municipal corporation levels or even at village level. Karikari, Kwasi, and Simon (2016) scrutinized either the foreign remittances work for the promotion of financial development of the fifty developing countries of Africa for the period of 1990 to 2011. Further it was tried to investigate and establish the functional relationship among foreign remittances and their effects on financial and credit availabilities to the public, private, banking and other financial institutions for the contribution of economic growth and development projects in the economy. Panel fixed effect and random effect models under Vector error correction mechanism has been employed for empirical estimations. It was found that the foreign remittances have encouraged the financial improvement and development in the short run. Mwangi and Mwenda (2015) investigated the effects of foreign remittances on economic growth of Kenya for the period of 1993 to 2013. For empirical estimations an ordinary least square method and granger causality test has been conducted in the research in order to check the casual relationships among foreign remittances and economic growth. It was concluded that foreign remittances has contributed into the economic growth of Kenya.

Chowdhury (2016) examined the relationship among the financial development, foreign remittances and economic growth of the economies of thirty three highest remittances receiving countries of the world for the period of 1979 to 2011 using the panel dynamic estimations. It was found through the empirical investigations that financial-development could not be considered as a complement or substitutes of foreign remittances for the connection of economic growth and remittance connection. Further with the help of growth equations the research suggested the positive and significant relationship among the remittances and economic growth of the economies of highest remittances receding countries of the world. Burgess and Haksar (2005) examined the major alternative stages and channels from which the foreign remittances contributed into the economic growth and affect economic growth related activities. Fayissa and Nsiah (2010) explained that foreign remittances worked for economic growth especially in the countries where financial sector is relatively poor by providing the incentive of another way to finance the financial development and help to overcome the prevailing poverty situation. Iqbal and Sattar (2005) searched for the Pakistan economy having the time series data from 1972 to 2003 and showed that real gross domestic product have positive correlation to the worker's foreign remittances for the Pakistan economy.

Fowowe and Taofik (2016) analyzed the associations among the remittances and economic development for the Lesotho in order to answer the question that whether the development in the financial sector matter or not? The empirical research was conducted for examine the traditional effects of foreign remittances on economic growth and development in Lesotho while keeping the higher attention specifically for the crucial role of financial development. Fully modified ordinary least square method (FMOLS) has been employed for statistical or empirical estimations. It was found that there are significant and positive relationships among foreign remittances and economic development for the sample economy. Further it was explained that foreign remittances performs buffers and creates the cushion for promoting the financial or credit constraints for households and also perform as an instrument for the improvement of financial inefficiencies of poor house holders. Motelle (2011) examined the role of foreign remittances in the financial development of Lesotho evidence taken from the alternative measures of financial development. It was found that foreign remittances have only long run relationships with financial development while in short run foreign remittances are unable to effect the financial development. Sobiech (2015) scrutinized the casual relationship among the foreign remittances, finance and economic growth that whether the financial development fosters the foreign remittances and their impact on economic growth of Germany. It was found that more the increase in financial development more negative effects of foreign remittances on economic growth of Germany.

2.3. Impact of Foreign Remittances on Poverty Reduction

Pradhan and Mahesh (2016) analyzed the impacts of foreign remittances on poverty for the twenty five developing economies of the world. Further it was tried to examine the effects of total remittances receives on poverty reduction in these developing economies. Result explained the negative or inverse relationships among the foreign remittances and poverty, hence foreign remittances has negative impacts on poverty because a higher GDP per capital suggests minor or lower poverty head count ratio. Finally it was concluded that foreign remittances for a country could consider a blessing in order to catch the bird of poverty in the lower developing countries. Duarte, Kedong, and Xuemei (2017) deliberated the relationship among foreign direct investment, economic growth and financial development for the Cabo Verde for the period of 1987 to 2014. For empirical estimations well known econometric model auto regressive

distributed lag model (ARDL) along with error correction mechanism (ECM) granger casualty analysis has been employed. Result explained the positive long run relationship among gross domestic product and foreign direct investment, hence foreign direct investment has positive relationship with economic growth of Cabo Verde. It was concluded that higher the level of foreign direct investment inflows, higher the level of economic growth and vice versa for the Cabo Verde economy.

Reeves (2017) worked for the crypto currency foreign remittances being transferred for advancement of technology and mitigation of poverty for the eighteen African countries named Angola, Cabo Verde, Ethiopia, The Gambia, Ghana, Guinea-Bissau, Kenya, Lesotho, Mali, Mauritania, Mozambique, Nigeria, Rwanda, Senegal, Sudan, Togo, Uganda, and Zambia for the period of 1993 to 2012. The selection of these specific eighteen countries was because of their similar economic characteristics. It was concluded that employing the crypto currency such as bit coin throughout transaction of remittance could severely alter the poverty. It was recommended for the developing countries to adopt the methodologies of crypto currency mechanism for the remittances transfers. Kick (2017) explored the understanding and effects of foreign remittances on the outcomes of economic development. The ultimate objectives of the study were to highlight the influences of regional differences in the light of foreign remittances and to see how the implemented policy of development works for these differences when considering the foreign remittances as a tool for economic development. It was critically analyzed that although the foreign remittances has been considered the main tool for economic development on any but there is still much more to be analyzed and studied regarding the suitable economic conditions under which they can be connected and suitable specially the geographically removing zones or parts and the countries where indorsed remittances inflow normally remain exceptionally low.

Donou-Adonsou and Sylwester (2016) searched the relationship among the financial development and reduction of level of poverty in the developing countries of the world. A panel study has been conducted for the seventy one developing countries and evidence form the banking sectors over the period of 2002 to 2011. For empirical estimations panel fixed effect model using 2SLS methodology has been employed. Result explains that banking sector while employing the head count ratio has reduced poverty in the sample developing countries. Ogunwole (2016) tested whether the foreign remittances and output growth improve the common households of Nigeria. Secondary data have been collected for the period of 1981 to 2012. It was found that foreign remittances played a stabilizing role in the

economy which causes increase in capital formation, level of employment and level of national income.

For empirical estimations Augmented Dickey Fuller (ADF) test for stationary, Johansson test of co-integration, granger causality and two stage ordinary least square methods has been employed in the research. Result confirms that foreign remittances have positive significant impacts on consumptions of common households and economic growth of Nigeria. It was concluded that foreign remittances has been considered an important complement for the enhancement of developmental projects and has the contradictory effects while analyzing the role for reduction of poverty and contributing for economic growth. The relationship of foreign remittances, poverty and financial development has been conferred comprehensively both by the academicians or the policy makers and explored this area with grave concerned but yet there is much to do further as well. It need to focused more and required more research in order to get a clear picture regarding the, requirements of foreign remittances that whether the remittance contribute the reduction of poverty and enhancement of financial development. These studies confined that the impact of remittances and financial development on poverty reduction and income inequality is quite visible in different economic settings that need fair policies to combat poverty and income inequality through long-term sustained policies across countries.

3. Data Source and Methodological Framework

The basic objective of the study was to find the relationship among the foreign remittances, poverty and financial development for the Pakistan economy over the period of 1980 to 2016. Time series data have been collected from world economic data base and several economic surveys of Pakistan. To achieve the studied objectives, the study used descriptive statistics, correlation matrix, Unit root test and ARDL-Bounds testing approach.

3.1. Study Design

A variety of methodologies and procedures have been appraised from previous studies and researches which were carried out to examine the relationships between foreign remittances, poverty and financial development. The present research is the hypothetical in nature on the basis of quantitative breakdown and thus secondary based research. Applied research has been carried out to analyze the

relationships among foreign remittances, poverty and financial development

3.2. Statistical Estimation

Start of the statistical estimation carried from matrix correlation coefficients. Descriptive statistical analysis using mean, median, standard deviation etc. incorporated followed by diagrammatic explanations. In order to check the unit root ADF unit root test statistic has been employed in this study. Further on the direction of results of ADF unit root test ARDL model has been employed for further statistical estimations. ARDL model is based on the assumption that all the included variables are I(0) or I(1) and non is I(2). As the existence of I(2) variables F-statistics provided by Pesaran, Shin, and Smith (2001), regarding all the included variables becomes invalid and lead towards misleading interpretations. The standard ARDL technique contained several steps. The selection of optimum number of lag period in the bond test statistic has greater importance. So firstly the absence or presence of long run association ship among the variables is tested by selecting the optimum number of lags in an error correction mechanism using standard criteria such as Akaike Information Criterion (AIC) and Schwartz Information Criteria (SIC).

3.3 Econometric Model

Following the two equations has been used and estimated separately in this research in order to achieve the objectives of the study, i.e.,

$$POV = \beta_0 + \beta_1 REM + \beta_2 REM^2 + \beta_3 GDPpc + \beta_4 GDPpc^2 + \beta_5 EDU + \beta_6 UNEMP + \beta_7 CPI + \beta_8 FD + \beta_9 GINI + \beta_{10} GINI^2 + \varepsilon \quad (1)$$

$$GINI = \beta_0 + \beta_1 REM + \beta_2 GDPpc + \beta_3 GDPpc^2 + \beta_4 EDU + \beta_5 UNEMP + \beta_6 FD + \varepsilon \quad (2)$$

Where, POV shows poverty, REM show foreign remittances, GDPpc shows per capita GDP, EDU shows education expenditures, UNEMP shows unemployment, CPI shows consumer price index, FD shows financial development, GINI shows Gini coefficient, ε shows error term.

3.4. Research Tools

To obtain reasonable results, quantitative analysis and to find out the functional relationship of different variables, it is

necessary to employ relevant social software in any kind of research work. A variety of social and statistical software available and after implementing vigilant techniques of data collection, sufficient in quantity and quality may produce consistent, valid and reliable results. Hence to carry out all the operations and empirical analysis, statistical software EViews and applications of Microsoft office has been used in this research. In this study we use the Auto regressive Distributive Lag (ARDL) model. This technique will provide us the robust results as this model has a built in criteria that it overcome the problem of stationary in the data. Secondly, ARDL technique provides the long-run co integration among the variables without losing the short-run information in the data set. Furthermore, the error correction term documents the significant convergence of the equilibrium point of the economy.

4. Results and Discussions

Table 1 shows the descriptive statistics of the candidate variables for ready reference.

The correlation range among the variables could be of five kinds, i.e., correlation among .00 to .19 very weak, from .20 to .39 weak, from .40 to .59 moderate, from .60 to .79 strong and from .80 to 1.00 very strong. In the light of this criterion, correlation analysis of all the variables included in this study has been discussed in Table 2. Weak relationship has been found among the BM and EDU for Pakistan economy with the figure of 0.37, while a very strong correlation has been found among FD and GDPpc. Similarly there is negative correlation between FD and GINI, EDU and GINI. Hence GINI has negative correlation among all the variables except REM. Highest correlation has been found among the GDPpc & FD i.e. 0.83 while weakest positive correlation has been found among POV and REM i.e. 0.12.

Table 1: Descriptive Statistics

Variables	FD	EDU	GDPpc	GINI	INF	POV	REM	UNEMP
Mean	46.17762	2.406638	853.3400	32.74000	8.274341	26.04860	5.057032	5.155676
Maximum	58.86769	3.022550	1181.598	41.10000	20.28612	36.80000	10.24763	8.270000
Minimum	38.59470	1.836800	556.3106	28.67000	2.539516	17.32000	1.453638	1.970000
Std. Dev.	5.687646	0.332872	173.3992	3.147809	3.878008	4.692777	2.268866	1.607843
Skewness	0.443394	-0.202984	0.126319	1.308446	0.675524	0.474247	0.276450	0.033342
Kurtosis	2.183603	1.969995	1.966778	3.786191	3.657956	2.727884	2.209718	2.329045
Jarque-Bera	2.239885	1.889652	1.744201	11.51042	3.481452	1.501102	1.434127	0.700883
Probability	0.326299	0.388747	0.418073	0.003166	0.175393	0.472106	0.488184	0.704377

Note: FD shows financial development, i.e., broad money supply, EDU shows education expenditures, GDPpc shows per capita GDP, GINI shows Gini coefficient, INF shows inflation, POV shows poverty, REM shows remittances, and UNEMP shows unemployment.

Table 2: Summary Results of Correlation Coefficients

Variables	FD	EDU	GDPpc	GINI	INF	POV	REM	UNEMP
FD	1							
EDU	0.379	1						
GDPpc	0.835	0.209	1					
GINI	-0.474	-0.365	-0.722	1				
INF	0.166	0.256	0.082	-0.125	1			
POV	0.158	-0.533	0.363	-0.109	-0.059	1		
REM	-0.029	-0.214	-0.224	0.664	-0.140	0.128	1	
UNEMP	0.325	-0.297	0.545	-0.512	-0.202	0.483	-0.453	1

Note: FD shows financial development, i.e., broad money supply, EDU shows education expenditures, GDPpc shows per capita GDP, GINI shows Gini coefficient, INF shows inflation, POV shows poverty, REM shows remittances, and UNEMP shows unemployment.

Time series data can have an abundant of issues in it which may produce misleading, problematical statistical estimations, under or over prediction and biased results. Issue of stationary or unit root has been considered the most common issue of time series data. There are number of statistical tests and techniques to confirm the existence of stationary in time series data but in this research Augmented Dickey Fuller (ADF) unit root test has been employed for each variable individually. Table 3 shows the estimates of ADF unit root test and has been summarized both for at level and first difference in order to test the absence or presence of stationary for all the included variables. The result confirms that MB, EDU, GDP, INF, REM and UNEMP are non-stationary at level and stationary at 1st difference. Because all the absolute ADF values are

less than t-values on one side, while on the other side all the probability values of these variables are more than 5 percent. Where GINI and POV are stationary at level because ADF values of these variables are more than t-values and probability values of all these variables are less than 5 percent.

When some of the variables are stationary at level I (0), some are stationary at 1st difference I(1) but none are I(2) we use the ARDL model as this is the precondition of ARDL model. In order to compare the Akaike Information Criteria (AIC) and Schwarz Information Criteria (SIC) values, firstly we have taken three lag three, two and one respectively and estimated ARDL results that are given in Table 4 for ready reference.

Table 3: Summary Results of ADF Unit Root Test

Variables	At-Level (Test critical value at 5%)			At-first difference (Test critical value at 5%)			Conclusion
	ADF Value	t-value	Probability Value	ADF Value	t-value	Probability Value	
FD	1.181	2.946	0.671	5.018	2.948	0.002	I(1)
EDU	2.204	2.945	0.208	5.429	2.948	0.001	I(1)
GDPpc	0.433	2.948	0.981	3.289	2.948	0.023	I(1)
GINI	3.592	2.948	0.011	-	-	-	I(0)
INF	2.700	2.945	0.083	7.221	2.948	0.000	I(1)
POV	3.274	2.948	0.023	-	-	-	I(0)
REM	1.629	2.945	0.457	5.695	2.948	0.000	I(1)
UNEMP	2.012	2.945	0.280	7.697	2.948	0.000	I(1)

Table 4: Summary Results of ARDL Model

Variables	POV	GINI
D(REM)	0.432	0.58*
D(REM(-1))	-0.713	-0.613
D(SQREM)	0.131*	-----
D(SQREM(-1))	-0.05	-----
D(GDPPC)	-0.091	0.362**
D(GDPPC(-1))	-0.042	-0.306
D(SQGDPPC)	-0.043***	-0.025*
D(SQGDPPC(-1))	-0.031**	-0.030*
D(EDU)	-2.149	-2.741***
D(EDU(-1))	-3.20**	2.950***
D(UNEMP)	0.599***	0.301*
D(UNEMP(-1))	-0.969**	0.235**
D(CPI)	-0.021	-----
D(CPI(-1))	0.174	-----
D(FD)	-0.565**	-10.241*
D(FD(-1))	-----	12.340
D(GINI)	2.122*	-----
D(GINI(-1))	36.365	-----
D(SQGINI)	-0.017	-----
D(SQGINI(-1))	-0.526	-----
CointEq(-1)	-1.263*	-0.382*

Variables	POV	GINI
Long-run Results		
REM	1.363***	0.704*
SQREM	0.215*	-----
GDPPC	0.0083	-0.0822*
SQGDPPC	0.010**	0.021**
EDU	11.56*	-1.47*
UNEMP	2.14***	1.84*
CPI	0.320*	-----
FD	-0.103	2.876
GINI	10.73**	-----
SQGINI	0.113***	-----
Constant	29.72*	70.43*

Note: FD shows financial development, EDU shows education expenditures, GDPpc shows per capita GDP, GINI shows Gini coefficient, INF shows inflation, POV shows poverty, REM shows remittances, and UNEMP shows unemployment. *, **, and *** shows the significance at 1%, 5%, and 10% respectively.

The above table shows the results of the ARDL model. The table is divided in to two parts. First part shows the estimates of the short-run while second part is explaining the long run estimates of the model. The tables show that there is a significant positive impact of income inequality

over the remittances in the short run. Whereas there are no noticeable level relationship between poverty and remittances in Pakistan, while it do effect the square term of remittances in the short run. The table further shows that with Increase in the GINI coefficient by 0.36% cause the GDP per capita to increase in the short run. It shows that as the gap between the rich and poor class increases, the standard of living may be affected but overall earnings of the population may show a rise in the overall figure of per capita income (see Messias, 2003; Choi, 2006).

Income inequality reduces the literacy statistics of Pakistan, this result is also supported by the study of Cingano (2014) that an even distribution of money will make able the people to earn education that in turn make them able to confront with the improved technological skills and hence improved their earnings. This can be inferring that the rich class is exposed to the education while the poor class always struggles to earn just the livelihood. So the poor class on average engaged in the jobs rather to earn higher education, whereas in the long run improvement in the education will reduce the income differences among the people, (see Sylwester, 2000).

The table also suggests that the lag value of education is significantly negatively linked with poverty alleviation as it was also confirmed by the study of Ogundele, Akingbade, and Akinlabi (2012) and Morley and Coady (2003). The results regarding the unemployment according to the scenario of developing countries i.e. unequal distribution of income among the people will cause unemployment to rise in the short as well as in the long run. In the long run foreign remittances significantly raises the income disparity by 0.7%. The reason might be that those specific families whose family members are employed internationally will be sending high income as compared to the domestic earners across the country. These results are backed by some earlier literatures like the one which is carried out by Aaberge, Wennemo, Bjorklund, Jantti, Pedersen, and Smith (2000) and Xue and Xhong (2003). The tabulated value also depicts that 1 % significant rise will be observed in the financial development of the country caused due the reduction of poverty by 0.5%. Reduction in the income disparity across the country will improve the monetary prosperity by 10.24% in Pakistan.

Poverty in Pakistan significantly accelerates the income equality in the country while this statistic approaches to 1 % change in the income inequality by an increase of 10.73 % in poverty. There is no significant foot print of inflation associated with income equality and poverty while poverty play a vital role in increasing inflation by 0.32% in Pakistani economy. This outcome of our study is supported by the results of Dessus, Herrera, and De Hoyos (2008). According to them poverty deficit is majorly because of the negative

real income effect of those households who were poor before the price shock (inflation).

According to the results of the table above, Education in the long run increases level of poverty in the country; these results does not seems sound but it might because of sort of structural reforms in the country of it might because of an extraordinary incidents like changing of the ruling party or any other economic or natural disaster in the region. This problem in the data shall be rectified by applying some hardcore econometric procedures.

5. Conclusions and Recommendations

The growth in the economy along with the sustainability is the notion of each county across the world. Gross domestic production is an indicator towards a prosperous economy. There are a range of factors that plays a vital role in the growth and development of any country. But some of the many factors are critical in this regard. This study highlights some of the critical factors of economic growth and we have tried to find out the extent of their role in affecting the economic growth. This study investigates the factors like income distribution, poverty, level of education attained, foreign remittances, and other development in the monetary sector and their impacts upon the economic stability of the country like Pakistan. Pakistan is a country where this issue of economic stability is needed to be investigated and on the basis of that some fruitful policy recommendation should be presented to the governing bodies so that Pakistan start move towards prosperity. This study adopts the ARDL methodology to estimate the extent of the impact of the said variables upon the GDP growth of Pakistan. ARDL is an efficient estimator of the data as it captures both the long run and short run whether the variables are I(1) or I(0).

The results confirmed the significant impact of foreign remittances and financial development on poverty reduction and income inequality in a given country context, which is considered one of the paramount concern of the global economy. Pakistan needs to reform its fiscal and monetary policy in such a way that there comes stability in the price level so that inflation is controlled. Price stability will improve the consumption pattern of the people over here that ultimately will boost up the production and hence GDP. According to the findings of this study, income inequality must be taken in priority basis by the governing political parties. Income disparity enhances the gap between the people in the form of rich and poor. To earn the livelihood the poor members wish to find the jobs outside the country that bring about the reduction of a potential labor force in the domestic country. If there is plenty number of jobs available then not only the productive work force will remain in the

border but also they will play a vital role in the upsurge of economic growth. It is recommended that government must take care of the literacy of the country because this study finds a significant inverse relationship with the Gini coefficient of Pakistan, which shows that income inequality can be controlled by increasing the literacy in Pakistan. Improvement in education will increase the productivity of labor and hence will improve the per capita income of the person

References

- Aaberge, R., Wennemo, T., Bjorklund, A., Jantti, M., Pedersen, P. J., & Smith, N. (2000). Unemployment shocks and income distribution: how did the Nordic countries fare during their crises? *Scandinavian Journal of Economics*, 102(1), 77-99.
- Bada, X. (2016). Collective remittances and development in rural Mexico: A View from Chicago's Mexican hometown associations. *Population, Space and Place*, 22(4), 343-355.
- Banga, R., & Sahu, P. K. (2010). *Impact of remittances on poverty in developing countries*. UNCTAD, United Nations, Switzerland.
- Burgess, M. R., & Haksar, M. V. (2005). Migration and foreign remittances in the Philippines. *IMF Working paper* (No. 5-111), 1-18.
- Choi, C. (2006). Does foreign direct investment affect domestic income inequality? *Applied Economics Letters*, 13(12), 811-814.
- Chowdhury, M. (2016). Financial development, remittances and economic growth: Evidence using dynamic panel estimation. *The Journal of Applied Economic Research*, 10(1), 35-54.
- Cingano, F. (2014). *Trends in income inequality and its impact on economic growth*. Retrieved December 1, 2018 from: <https://www.oecd-ilibrary.org/content/paper/5jxrjncwxv6j-en>
- Clarke, G., & Wallsten, S. (2004). *Do remittances protect household in developing countries against shocks? Evidence from a natural disaster in Jamaica*. Mimeo, World Bank, Washington, DC.
- Dessus, S., Herrera, S., & De Hoyos, R. (2008). The impact of food inflation on urban poverty and its monetary cost: some back-of-the-envelope calculations. *Agricultural Economics*, 39(s1), 417-429.
- Donou-Adonsou, F., & Sylwester, K. (2016). Financial development and poverty reduction in developing countries: New evidence from banks and microfinance institutions. *Review of Development Finance*, 6(1), 82-90.
- Duarte, L. D. R. V., Kedong, Y., & Xuemei, L., (2017). The Relationship between FDI, Economic Growth and Financial Development in Cabo Verde. *International Journal of Economics and Finance*, 9(5), 132-142.
- Economic Survey (2016). Economic Survey of Pakistan (2015-2016). *Planning commissions, Pakistan statistical bureau, Policy Wing, Islamabad, Pakistan*.
- Economic Survey (2017). Economic Survey of Pakistan (2016-2017). *Planning commissions, Pakistan statistical bureau, Policy Wing, Islamabad, Pakistan*.
- Economic Survey (2018). Economic Survey of Pakistan (2017-2018). *Planning commissions, Pakistan statistical bureau, Policy Wing, Islamabad, Pakistan*.
- Fayissa, B., & Nsiah, C. (2010). The impact of remittances on economic growth and development in Africa. *The American Economist*, 55(2), 92-103.
- Fowowe, B., & Taofik, M. I. (2016). Remittances and economic development in Lesotho: does financial sector development matter? *Economics Bulletin*, 36(4), 2209-2224.
- Giuliano, P., & Arranz, M. R. (2009). Remittances, financial development and economic growth. *Journal of Development Economics*, 90(1), 144-152.
- Gubert, F. (2002). Do migrants insure those who stay behind? Evidence from the Kayes area (Western Mali). *Oxford Development Studies*, 30(3), 267-287.
- 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.
- Ilahi, N., & Jafarey, S. (1999). Guestworker migration, remittances and the extended family: evidence from Pakistan. *Journal of Development Economics*, 58(2), 485-512.
- Iqbal, Z., & Sattar, A. (2010). The contribution of workers' remittances to economic growth in Pakistan. *Working Papers & Research Reports* (RR-No.187). Islamabad, Pakistan.
- Jalil, A. & Feridun, M. (2014). Impact of Financial Development on Economic Growth: Empirical Evidence from Pakistan. *Journal of the Asia Pacific Economy*, 16(1), 71-80.
- Javid, M., Arif, U., & Qayyum, A. (2012). Impact of remittances on economic growth and poverty. *Academic Research International*, 2(1), 433-447.
- Karikari, N. K., Kwasi, S. M., & Simon, K. (2016). Do remittances promote financial development in Africa? *Springer Plus*, 5(1), 1-21.
- Khan, A. Q. K., Khattak, N. U. R. K., & Hussain, A. H. (2008). Inter-Relationship of Gross Domestic Product (GDP) Growth and Unemployment in Pakistan (1960-2005). *Journal of Law and Society*, XXXVII(51), 77-84.

- Kick, H. (2017). *Understanding cross-regional variation in the effect of remittances on development outcomes*, Diss. Columbus, OH: The Ohio State University.
- Lucas, R. E. (2004). *International migration regimes and economic development*. Report for the expert group on development issues (EGDI), Swedish Ministry of Foreign Affairs.
- Messias, E. (2003). Income inequality, illiteracy rate, and life expectancy in Brazil. *American Journal of Public Health*, 93(8), 1294-1296.
- Mubeen, R., Nazam, M., Batool, A., Akram, S., & Ishtiaq, M., (2006). Impact of Foreign Remittances on Financial Development of Pakistan. *American Scientific Research Journal for Engineering, Technology, and Sciences*, 26(4), 54-65.
- Morley, S., & Coady, D. (2003). *From social assistance to social development: Targeted education subsidies in developing countries*. Washington, DC: Peterson Institute for International Economics
- Motelle, S. I. (2011). Role of foreign remittances in financial development in Lesotho: Evidence from alternative measures of financial development. *Journal of Development and Agricultural Economics*, 3(6), 241-255.
- Mwangi, B. N., & Mwenda, N. S. (2015). The effects of international remittances on economic growth of Kenya. *Microeconomics and Macroeconomics*, 3(1), 15-24.
- Ogundele, O. J. K., Akingbade, W. A., & Akinlabi, H. B. (2012). Entrepreneurship training and education as strategic tools for poverty alleviation in Nigeria. *American International Journal of Contemporary Research*, 2(1), 148-156.
- Ogunwale, O. O. (2016). Does remittances and output growth improve household welfare in Nigeria. *Journal of Economics and Sustainable Development*, 7(3), 44-55.
- Pekovic, D. (2017). Effects of Remittances on Rural and Regional Poverty in the Republic of Serbia. *Economic Themes*, 55(1), 105-120.
- 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.
- Popov, A. (2018). Evidence on finance and economic growth. In *Handbook of Finance and Development*. Cheltenham, England: Edward Elgar Publishing.
- Pradhan, B. K., & Mahesh, M. (2016). Impact of remittances on poverty: an analysis of data from a set of developing countries. *Economics Bulletin*, 36(1), 108-117.
- Rashid, A., Yousaf, S., & Khaleequzzaman, M. (2017). Does Islamic banking really strengthen financial stability? Empirical evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management*, 10(2), 130-148.
- Ravallion, M. (2017). *Poverty comparisons*. Abingdon-on-Thames, England: Routledge.
- Reeves, M. (2017). Crypto currency-Remittance Transfers Futuristic Technologies & Poverty Alleviation. *Economics Student Theses and Capstone*, 56, 1-45.
- Safdar, L. (2014). Financial Deepening and Economic Growth in Pakistan: An application of Co integration and VECM Approach. *Interdisciplinary Journal of Contemporary Research in Business*, 5(12), 368-382.
- Sobiech, I. (2015). Remittances, finance and economic growth: does financial develop foster remittances and their impact on economic growth. *Interdisciplinary Journal of Contemporary Research in Business*, 5(12), 368-382.
- Sylwester, K. (2000). Income inequality, education expenditures, and growth. *Journal of Development Economics*, 63(2), 379-398.
- Xue, J., & Zhong, W. (2003). Unemployment, poverty and income disparity in urban China. *Asian Economic Journal*, 17(4), 383-405.
- Yang, D. (2008). International migration, remittances and household investment: Evidence from Philippine migrants' exchange rate shocks. *The Economic Journal*, 118(528), 591-630.
- Yang, D. (2011). Migrant remittances. *Journal of Economic Perspectives*, 25(3), 129-52.
- Yoshino, N. (2017). *International remittances and poverty reduction: Evidence from Asian developing countries*. Asian Development Bank, Retrieved December 1, 2018 from <https://www.adb.org/publications/international-remittances-and-poverty-reductionrisks>. *Journal of Monetary Economics*, 53(1), 1-30.