Journal of the Research Society of Pakistan
Volume No. 56, Issue No. 2 (July – December, 2019)

Sher Ali [*]
Saleem Khan [**]
Saima Urooge [***]

Workers' Remittances And Economic Growth: Evidence From South Asian Countries Using Panel Ardl

Abstract

This analyzed the impact of remittances on growth in developing countries i.e. South Asian countries during 1981-2018. They are considered the major remittances recipients countries. The nature of the data is panel; therefore, Panel unit root tests and panel ARDL technique are employed. Unit root tests reported mixed order of stationarity. ARDL results revealed that remittances positively affect growth in both the short and long runs. Controlled variables are also used in the model which do not affect growth in the short while affect positively in the in the long run. The results of the short run for individual country case is a little different, we founded that remittances affect growth positively but the value of co-efficient and significance level are different for different countries which confirms the disparity in contribution to growth. Therefore, this study suggests that different inflows of remittances should be deal differently on the basis of its contribution to different economies.

Key words: Remittances, Economic Growth, Panel ARDL, South Asia.

1. INTRODUCTION

Literally the word remittances mean that amount of money which is sent by those peoples who are living abroad to their families in native country. It is cross boarder transfer of money by the migrants' from abroad to home country to support their family livelihood. A huge amount of this financial transfer is observed in both high and low and middle income countries. According to an estimate by the World Bank that the flows of remittances to low and middle income countries reached to $529 billion in 2018, with a growth rate of 9.6%. It was observed $483 billion in 2017. The flows of remittances to high-income countries were reached to $689 billion in 2018, while it was recorded $633 billion in 2017 (World Bank, 2018). In most of the developing countries remittances plays a vital role in the determination economic growth. It can be considered a key

[*] *Assistant Professor, Department of Economics, Islamia College, Peshawar.*
[**] *Assistant Professors, Department of Economics, Abdul Wali Khan University, Mardan.*
[***] *Assistant Professors, Department of Economics, Islamia College, Peshawar*

source of the financial capital inflow to most of the developing counties and consider is one of the contributing factors assisting stable economic growth and crucial to deficit financing. It also helps to combat the balance of payments crisis. Reportedly, after the export earning the second major source of capital inflow to developing countries is remittances (Ali *et al.*, 2019). Globally in total worker remittances the share of developing countries is around 70 percent. Remittances are counted more than 20% of the total GDP. Among the developing countries, the most receiving remittances region is South Asia. The developing countries from south Asia sent out a substantial number of migrant every year and the amount of remittances receive in return become a significant source of raising fund for economic development in these countries. The governments of these developing countries views worker migration as helping source to mitigate macroeconomic problems like poverty and unemployment rate, and earn high exchange earnings to reduce the balance of payments crisis. Remittances have great repercussions for both host and recipient countries. It affect the recipient on both micro and macro level.

In literature, since the birth of humanity the immigration has a historic past, in the early stages of human lives peoples had been migrated for life survival (food and shelter). In the end of 19^{th} and the early of 20^{th} century the propensity of migrations had continued, the large number of labor migrated to North America. In Asia, due to the Indo-Pak separation, millions of peoples got migrated and left their soil to avoid uncertainty (Hirst and Thompson, 2000). After 1950 the new period of globalization has started and different trade settlement have been done between different regions as well as different countries of the world, in these agreements the main focus was to facilitate the migration of labor from one region to another. However, Asia is the most important labor supplier region in the world. Among the countries, India has retained its position as the world top recipients of remittances with $79.5 billion, and in top 10 recipients Pakistan is stood at 7^{th} in line with receiving $20.9 billion (World Bank, 2018). According to World Bank report, in south Asia Bangladesh stand the third largest recipient while 11^{th} largest recipient globally. Reportedly, the Asian workers are helpful component in the growth of Asia by transferring remittances to their countries i.e. Philippines, India, China and Bangladesh received, $28billion, $70billion, $64billion, and $15billion respectively in 2014 (World Bank, 2015). South Asia is counted as the main source labors supplier to all over the world especially Bangladesh, India, Pakistan and Sri Lanka have been the mainstream of worker suppliers and migrants across the world. These migrants live in developed countries and became skillful also besides source of income to their families. Pakistan, Bangladesh and India have 7, 9 and 25 million migrants respectively of the total world migrants of 247 million. Shortly, in south Asia millions of migrants are transferring remittances to their

homelands and families to sustain standard of living and lessen the problem of poverty.

With its effective role, remittances have received greater attention of policymakers and researchers. Recent debate over financial development stress that remittances can play their role in achieving the millennium development goals (MDGs) by alleviating poverty in developing countries. Moreover, remittances positively contribute to both domestic and external sector of the economies. Such as in literature it has been shown that remittances contributes to domestic output, alleviate poverty and expand financial market which further reduce credit constraint on domestic market (see for instance, IMF, 2005; Chami, *et al.,* 2008; Aggarwal et al., 2006; Yoshino, *et al.,* 2017). According to Ratha (2013) and Guha (2013) remittances have influenced external sector via its impact on exchange rate by appreciation of real exchange rate and subsequent impact on the trade balance developing economies. Remittances considered the more stable source of foreign earnings for recipient countries after FDI due to less volatility (Gupta, 2006). The inflows of remittances cause to increase the foreign exchange reserve of many developing countries. Remittances is considered vibrant source of outer earnings during the economic downturn (Yang, 2006) while having no adverse effect (see Rajan and Subramanian, 2005). Strauhbaar (1985) and Swamy (1981) witnessed that remittances a sole factor of evolution in the balance of payment.

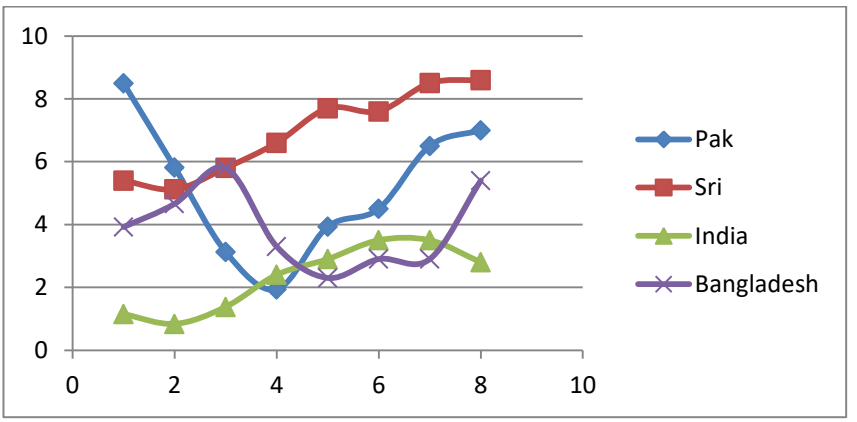
Apart from contributing positively, remittances have also been found with negative effects on growth and aggregate output because migration is the cause of drain brain of talented and skillful labors from the country (Chami, et al., 2003). Brain drain results in negative relationship with economic growth rather than positive. Such as Asia is overpopulated region, produces larger number of doctors and engineers, and for higher incomes they migrate to Europe and Western countries (Lucas, 2001). Huge number of peoples migrated from their native land to the rest of the world for the search of work. The HRD status (health and education) and skill of the migrants define the importance in abroad. I was recorded that more than 1.5 million peoples living in Canada and Australia who migrated from Asia. These migrants and their contribution in the form of capital inflow to their homeland is the major source of capital inflow to many of the developing countries.

Different studies have been conducted to examine the association of remittances and growth in developing countries. But panel data technique i.e. Panel ARDL is rare in literature. It is a very important technique which will help in comparison between the impacts of remittances on economic growth of the countries in panel. This technique is helpful to compare the difference in impact on each of the panel countries.

2. Trend in Remittances to South Asian Countries

The trend in remittances to south Asian countries is cleared from Figure-1. The inflows of remittances are presented as a percentage of GDP to selected south Asian countries.

Figure-1



In first five years of 1980s remittances inflow contribution to GDP are greater in the economies of Pakistan and Sri-Lanka with a percentage of 8.49 and 5.4 respectively. In case of Bangladesh it was 3.5 and least in the case of India. This trend was decreased in the next five years in the economies of Pakistan, India and Sri-Lanka and a little hick was observed in the same era. The economies of Pakistan and Bangladesh experienced further decrease in the whole decade of 1990s. After, a decrease in inflow over the last fifteen years, Pakistan faced a continuous increase inflow tell 2015. The economy of Bangladesh faced decrease in inflow in the last twenty years i.e. 1985-2005, a spell of recovery is observed tell 2015. The economies of India and Sri-Lanka got the opportunity of large amount capital inflow to flourish their economic wellbeing.

Remittance shows the export of human, by the country to the rest of the world. According to a report by Asian Development Bank (1973) that the economy of Pakistan attracted $136 million remittances, which was not larger in amount, because the country was exporting low skilled labour. Latter on the trend was changed and skilled and semi-skilled labour force exported due to which 1991 and 2002 the remittances got tremendous increase i.e. $1,848 million and $2389 respectively. The export of skilled labour reached to 9.2% of the total labour force in 2000 (Docquier & Marfouk, 2004; Docquier & Bhargava 2005). Remittances inflow to Pakistan averaged $2544.59 million from 2002 until 2016, reaching an all-time highest of $5529 million in 2016. According to an estimate made by the

World Bank (2013) that the inflow of remittances to Bangladesh was larger in amount than Pakistan and lowest to Sri Lanka in the study area. About 7 million Pakistanis have been moved to nearby 80 countries e.g. Middle East, Europe, and North America. Middle East countries have appeared as the desired migration direction for most of the Pakistanis, where more than 5 million blue workers were employed (Hamdani, 2013). The inflow remittances of Pakistan are mostly depending on the Gulf countries especially Saudi Arabia. In the year of 2015-2016 the total amount of remittances is 19.9 Billion dollars received by Pakistan, including 5.9 Billion dollars from Saudi Arabia, 4.3 Billion dollars from UAE, 2.4 Billion dollars from GCC, 2.5 Billion dollars from US and 2.5 Billion dollars from UK.

The remittances of Sri-Lanka are sharply increasing over the past several decades and due to these remittances the living standard of their families goes up. Labor migrations of Sri-Lanka are rising day by day. Sri-Lanka received the receipt of 1.3 Billion dollars of remittances, which is the largest nation after Caribbean countries and Latin America. Financial inflow; having direct as well as indirect impact on balance of payment, level of employment and consumption etc, while Remittances are the major source of Remittances. According to Ratha and Reidberg (2005) Sri-Lankan economies need to establish self-standing industry to attract Remittances exclude the banking sector. All the financial systems including banking system of the Sri-Lanka should be stimulated. This kind of promotion would make better challenges and will open the way for remittances supplier who's within Sri-Lanka and also in foreign countries.

Sri-Lanka is counted in the large labor migrated population country. In 2005, Sri-Lanka predicted about 1,918 million US dollar from labor remittances which is 8% of the total GDP. The major sources of these remittances are Middle East which is about 56.5%, 18.5% has taken from European Union while 6.5% from North America, 6.5% from other European Countries and 4.5% Far Eastern Countries. Sri Lanka counted in fast transferring worker remittances in all over the world, the total share of GDP of worker remittances was 1.0% in 1999 then increased to 1.2% in 2000 and 2001 after that it raised to 1.3% in 2002,2003 and 2004 (World Bank, 2007). In 2009, $241 million was recorded and reached to all times highest $708 million in 2014. This inflow is decreased to $571 million in 2017. 70% of the total trade deficit is compensated by labor remittances and current account deficit is reached to its minimum level.

India is the 2nd largest populated country in the world, which labor are engage in different other countries. India provide 30 million workers out of 250 million to all over the world (World Bank, 2016). According to MOIA (2009), India is counted 2nd largest worker's supplier in the world. It provides 30 million labor to 110 countries especially exported 5 million to Gulf countries. According the report of

Reserve Bank of India 2008 that India reached to attain its high level of remittances which was 46.6 billion US dollar in year 2008. UAE and Saudi Arabia are the two favorite countries for the Indian labors, working 2.9 million peoples in UAE while 1.8 million Indian workers in Saudi Arabia and approximately 2.1 million Indian peoples are engaged in USA (Azam 2103). India is the most remittances receiving country in world, in 2015 got more than 12% of the world remittances. Similarly, in 2015 India received remittances of 68.9 billion US dollar and counted 4% of the total GDP. According to the Ministry of Overseas Indian Affairs (MOIA), these remittances are received from the 25 million Indian workers.

3. MATERIAL AND METHODS

3.1 The Model

The model of the present is based on the past studies conducted by Holtz-Eakin et al,. (1988), Pradhan et al., (2017) Ali et al., (2019), Ali, (2019)

$$GDPG_{it} = \beta_1 RM_{it} + \beta_2 EX_{it} + \beta_3 FDI_t + \beta_4 ODA_{it} + \mu_{it} \quad (1)$$

Where

GDP= Gross Domestic Product growth

RM= Remittances

FDI= Foreign Direct Investment % of GDP

ODA= Official Development Assistant % of GDP

EX= Export Earnings % of GDP

Subscript '*i' and 't'* represent the nature of the data; *i* is stand for cross-section and t stands for time period. To investigate the required impact panel data are used for the period of 1981-2018. Panel unit root tests are used to identify the order of the unit root of the variables. These tests are Levin, Lin and Chu test and Im-Pesaran and Shin test.

3.2 Estimation Technique

Panel ARDL technique is employed to estimate the short run and long run parameters of the model. Representation of the panel ARDL is as:

$$\Delta GDPG_{it} = \alpha 1_i + \gamma 1_i GDPG_{it-1} + +\gamma_{2i} FDI_{it-1} + \gamma_{3i} RM_{it} + \gamma_4 ODA_{it-1} + \gamma_5 EX_{it-1} + \sum_{j=1}^{P} \delta_{1i} \Delta GDPG_{it-j} + \sum_{i=0}^{q} \delta_{2i} \Delta FDI_{it-j} + \sum_{i=0}^{q} \delta_3 \Delta RM_{it-j} + \sum_{i=0}^{q} \delta_4 ODA_{it-j} + \sum_{i=0}^{q} \delta_{5i} \Delta EX_{it-j+} \varepsilon_{1it}$$

The parameters with lag periods are the long run estimates and the parameters with difference operators are the short run estimate of the model.

4. RESULTAS AND DISCUSSIONS

4.1 Cross-Sectional Dependence Tests

In the first step cross-sectional dependence is tested to know that what type of unit root test will be suitable for the investigation of unit root presence. Results of the cross-sectional tests are given in the following table. It was observed that all the tests came highly significant which show the absence of cross-sectional non-dependence. Breusch-Pagan LM test, Pesaran-Scaled test and Pesaran CD test have T-static Value are 23.16, 7.30 and 7.38 respectively. It is clear from the values of T-statistic, are significant and 1% level of significance. Therefore, it is concluded that there is no cross-sectional dependency.

4.2 Unit Root Results

Panel unit root tests enable us decide about the selection of the proper technique for estimation among the panel co-integration approaches. The results the panel units root tests disclosed that there is mix-order of unit root (stationerity) in the model. On the bases of the results of the unit we selected that Panel ARDL is suitable technique for calculating the required impact. These tests are Levin, Lin and Chu (2002) and Im-Pesaran (2003). These tests reported that GDP growth and Official Development Assistance are stationary at level and the rest of the variables are become stationary after first difference.

Table- 1: Long Run and Short Run Results for the whole Region

Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
REM	0.392	0.061	6.426	0.000
ODA	0.551	0.14	3.95	0.002
EXP	0.394	0.052	7.56	0.000
FDI	0.380	0.065	5.86	0.000
Short Run Results				
∆ECT	0.76	0.125	6.08	0.000
∆REM	0.11	0.051	2.207	0.038
∆ODA	0.19	3.15	0.060	0.879
∆EXP	0.040	0.140	0.28	0.682
∆FDI	0.08	0.35	0.230	0.585
R2=0.78		**DW= 1.885**		

The above tables indicate the long run and short run estimation of the variables. The coefficient value of Remittances is statistically significant as well as shows the positive impact on economic growth in long run. Its coefficient value is 0.39, which express that 100% increase in Remittances is able to increase the economic growth by 39%. Similarly, the next variable Official Development Assistant is also statistically significant with the coefficient value of 0.55 and the positive sign shows the positive impact of Official Development Assistant on Economic growth. This value describes that 100% increase in Official Development Assistant is directed to increase GDP by 55%. However, the variable Export Earning is statistically significant with the coefficient value of 0.39 and having the positive impact on economic growth. Its shows if 100% increases occur in export earnings it will lead to increase economic growth by 39%. The last variable in the above table is Foreign Direct Investment which is statistically significant as well as shows the positive relationship between FDI and Economic Growth in long run. The coefficient value is 0.38, which express that 100% increase in FDI is able to increase the Economic Growth by 38%.

The next investigation is to find the short run relationship between the variables used Error Correction Model (ECM). The coefficient value of error correction term plays the important role in the short run co-integration analysis. The coefficient value of ECT is 0.76 which is statistically significant, which indicating that 76% of the disturbance will divert toward equilibrium. The variable Remittances is statistically significant with the coefficient value of 0.11, this result

representing that if 100% increases the remittances in short run leads to increase the economic growth by 11%. However, the remaining all variables are statistically insignificant which shows that these variables do not have any correlation with economic growth in short run

ARDL Results Country Specific

The results of the short run for each of the individual countries for which data are regressed are given in the following table.

Table-2: Remittances and Economic Growth (Individual Countries)

Variables	**PK**	**BNG**	**IND**	**SRI**
ETC	-0.149 (0.009)	-0.738 (0.019)	-0.869 (0.038)	-0.901 (0.000)
∆REM	0.17 (0.005)	0.427 (0.012)	0.20 (0.000)	0.39 (0.028)
∆ODA	0.08 (0.137)	0.25 (0.027)	0.129 (0.019)	0.183 (0.035)
∆EXPO	0.28 (0.14)	0.31 (0.017)	0.128 (0.012)	0.087 (0.47)
∆FDI	0.18 (0.52)	0.22 (0.016)	0.14 (0.000)	0.06 (0.13)
CONS	2.839 (0.004)	2.84 (0.000)	10.30 (0.000)	15.23 (0.000)

Values in parentheses () are probability estimates. Where Pk= Pakistan, BNG= Bangladesh, IND= India, and SRI= Sri-Lank

The results presented in table-2 show that the ETC term (the speed of conversion of adjustment) is negative and significant in case of all countries in the panel. The estimated parameter in Pakistan is -0.149, which means that 14.9 % of the disequilibrium occurred in the model will converge to long run equilibrium in one year. In case of Bangladesh it is -0.738, which means that 73.8% of the disequilibrium will converge to long-run equilibrium in a period of one year. India experienced the ETC term is -0.869, which means 86.9% of disequilibrium will converge to long-run equilibrium in a unit of time. In case of Sri-lanka it is estimated 0.901, which show that the speed of adjustment towards equilibrium is 90.1% per year. The speed of adjustment is lowest in case of Pakistan and highest in case of Sri-lanka and India. Short run parameters' estimates are shown in the above table. These variables are Remittances, Official Development Assistance, Exports and FDI. The variable Remittances is found significant (at 5 % level of

significance in case of all the countries) with positive sign means that it contributed positively to economic growth in the panel countries. The estimated value of remittances is 0.17, 0.427, 0.20 and 0.39 for Pakistan, India, Bangladesh and Sri-Lanka respectively. Remittances contributed largely in case of Bangladesh and Sri-Lanka and moderately in case of India and least in case of Pakistan.

The parameter of ODA shows that its impact is significant to economic growth in all countries except Pakistan. The estimated parameter value in Bangladesh is 0.25, which means that 100% increase in ODA leads to increase growth by 25%; while in case of India and Sri-lanka the parameter values are 0.129 and 0.183, which means that 100% change in ODA will leads to change economic growth by 12.9% and 18.3% respectively.

The term Export impact to economic growth is significant in India and Bangladesh and Insignificant in Pakistan and Sri-lanka. The estimated parameter value in Bangladesh and India is 0.31 and 0.128, which means the 100% change in Export will lead to 31% and 12.8% change in economic growth respectively.

The term FDI in panels is Positive and significant in India & Bangladesh, and insignificant in Pakistan & Sri-Lanka. In case of India & Bangladesh the values of estimated parameter are 0.14 and 0.22, which means 14% and 22% change will occur in one year respectively.

5. CONCLUSIONS

The prime objective of the study is to investigate the impact of remittances inflow to developing countries on economic growth. For this purpose four South Asian countries are selected, which are considered the major countries in respect of remittances countries inflow. Panel data are used for the period of 1981 to 2018. Panel ARDL technique is employed to estimate the required. Secondly, we used two kinds of CD (Cross section dependence) tests Levin, Lin and Chu (2002) and Im, Pesaran and Shin (2003) Test to check the cross section dependence and concluded that there is no cross section dependence among the entities under the study. Panel unit root tests reported that there is mixed order existed among the variables included to the model. We checked the long and short run relationship among the GDP, REM, ODA, FDI and EXPO by applying Panel ARDL. Results revealed that remittances positively affect growth in both the short and long runs. Other variables used in the model are not affecting growth in the short while the impact of controlled variables is positive and significant in the long run. The results of the short run for individual country case is a little different, it is founded that remittances affect growth positive but the value of co-efficient are significance level are different for different. Which confirm the disparity in contribution to growth in different economies? The results of the study confirm

that remittances affect different economies differently. On the basis of the results this study suggests that different remittances should be deal differently on the basis of its contribution to different economies.

6. POLICY SUGGESTIONS

We founded a significant association between remittances inflow and economic growth in selected South Asian Countries. Literature reported both the positive and negative association between remittances and macroeconomic environment of the developing countries. Out study supported the positive contribution of remittances to economic growth in developing countries. Therefore, this study suggests the following policies on the basis of results:

Government of the recipient countries may use remittances their strength to boost up their economic growth by magnifying the value and worth of remittances. Education could be used to increase the capacity of doing work which mat further increase the magnitude of remittances.

Government may increase the magnitude of remittances by facilitating the source of funds inflow to developing ad provide security to encourage migrants'. Informal channels are risky and peoples are not found their self-insecure which may cause decrease in remittances inflow. Tax should be imposing the least on funds inflow to developing countries. Suitable policies may help in migration, and ambassadors should be directed to provide the best possible facilities to encourage migrants outside the country. Because they the main supports of the countries.

References

Aggarwal, R., Demirguc-Kunt, A., & Martinez Peria, M. S. (2006). *Do workers' remittances promote financial development?*. The World Bank.

Aggarwal, R., Demirguc-Kunt, A., Peria, M., (2006). "*Do workers' remittances promote financial development?".* World Bank Policy Research Working Paper No.3957. World Bank, Washington.

Agresti, A. (1990). *Categorical Data Analysis*. New York: Wiley.

Ali, S. (2019). Socio–Economic Factors Affecting Foreign Direct Investment in Pakistan. *City University Research Journal*, *9*(2).

Ali. S, Wahid, F., & Ali. A (2019). Globalization And Macroeconomic-Instability: Analysis For Selected South Asian Countries Using Panel Data Techniques. *Journal of the Research Society of Pakistan*, *56*(1), 147.

Asongu, S. A. (2014). The impact of health worker migration on development dynamics: evidence of wealth effects from Africa. *The European Journal of Health Economics*, *15*(2), 187-201.

Azam, M., & Hassan, S. (2013). Corruption, Workers Remittances, Foreign Direct Investment and Economic Growth in five South and South East Asian countries: A panel data approach. *Middle-East Journal of Scientific Research*, *15*(2), 184-190.

Bai, J. and Ng, S. (2001). 'Determining the number of factors in approximate factor models',
Econometrica, Vol. 70, pp. 191–221.

Baltagi, B. H., & Kao, C. (2001). *Nonstationary panels, cointegration in panels and dynamic*
panels: A survey (Vol. 15, pp. 7-51). Emerald Group Publishing Limited.

Barajas, A., Gapen, M. T., Chami, R., Montiel, P., & Fullenkamp, C. (2009). *Do workers' remittances promote economic growth?* (No. 2009-2153). International Monetary Fund.

Barajas, M. A., Chami, M. R., Ebeke, M. C., & Tapsoba, M. S. J. A. (2012). *Workers' remittances: an overlooked channel of international business cycle transmission?* (No. 12-251). International Monetary Fund.

BREUSCH, T.S. and PAGAN, A.R. (1980). The Lagrange multiplier tests and its applications to model specification in econometrics. Review of Economic Studies XLVII 239-253.

Chami, R., Barajas, A., Cosimano, T., Fullenkamp, C., Gapen, M., & Montiel, P. (2008). *Macroeconomic consequences of remittances* (p. 259). Washington, DC: International Monetary Fund.

Docquier, F., & Marfouk, A. (2004). *Measuring the international mobility of skilled workers (1990–2000): release 1.0*. The World Bank.

El-Sakka, M. I., & McNabb, R. (1999). The macroeconomic determinants of emigrant remittances. *World Development*, *27*(8), 1493-1502.

Guha, P. (2013). Macroeconomic effects of international remittances: The case of developing economies. *Economic Modelling*, *33*, 292-305.

Gupta, P. (2006). Macroeconomic determinants of remittances: evidence from India. *Economic and Political Weekly*, 2769-2775.

Hamdani, R. (2013). Remittances from Middle East register exponential growth. *The News International, available at: www. thenews. com. pk/Todays-News-3-196968-Remittances-from-Middle-East-register-exponential-growth (accessed August 21, 2013)*.

Hirst, P., & Thompson, G. (2000). Globalization in one country? The peculiarities of the British. *Economy and Society*, *29*(3), 335-356.

Holtz- Eakin, D., Newey, W., and Rosen, H. S. (1988). Estimating Vector Auto Regressions with Panel Data. *Econometrica*, 56 (6): 1371-1395

Im, K.S., Peseran, M.H. and Shin, Y. (2003) Testing for Unit Roots in Heterogeneous Panels. Journal of Econometrics, 115, 53-74.

International Monetary Fund (IMF) (Ed.). (2005). *Annual Report on Exchange Arrangements and Exchange Restrictions, 2005* (Vol. 2005). International Monetary Fund.

Jahjah, M. S., Chami, M. R., & Fullenkamp, C. (2003). *Are immigrant remittance flows a source of capital for development* (No. 3-189). International Monetary Fund.

Kozel, V., & Alderman, H. (1990). Factors determining work participation and labour supply decisions in Pakistan's urban areas. *The Pakistan Development Review*, 1-17.

Levin, A., Lin, C.F. and Chu, C. (2002) Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties. Journal of Econometrics, 108, 1-24.

Lopez, J. H., Fajnzylber, P., & Acosta, P. (2007). *The impact of remittances on poverty and human capital: evidence from Latin American household surveys*. The World Bank.

Martin, S. F. (2001). *Remittance flows and impact*. Inter-American Development Bank.

Meyer, D., & Shera, A. (2015). *Remittances' impact on the labor supply and on the deficit of current account* (No. 97). BERG Working Paper Series.

O'Connell, P. (1998), The overvaluation of purchasing power parity, Journal of International
Economics 44, 1–19.

Pedroni, P., 1997. Panel Cointegration; Asymptotic and Finite Sample Properties of Pooled Time Series Tests, with an Application to the PPP Hypothesis: New Results, Working paper, Indiana University, April.

Pesaran, M. H., (2007). A simple panel unit root test in the presence of crosssection dependence, *Journal of Applied Econometrics*, 22: 265-312

Pesaran, M.H. (2004). General diagnostic tests for cross-sectional dependence in panels. Cambridge Working Paper 0435. University of Cambridge, Faculty of Economics. Cambridge

Phillips, P. C. B. and Moon, H. R. (2000). 'Nonstationary panel data analysis: an overview of
some recent development', Econometric Reviews, Vol. 19, pp. 263–286.

Pradhan, K. C. (2016). Does remittance drive economic growth in emerging economies: Evidence from FMOLS and Panel VECM. *Theoretical & Applied Economics*, *23*(4).

Rajan, Raghuram and Arvind Subramanian. 2005. "What Undermines Aid's Impact on Growth."
Working Paper 05/126. International Monetary Fund, Washington, DC.

Ratha, D. (2013). The impact of remittances on economic growth and poverty reduction. MPI Policy Breif, No.8, pp. 1-13

Ratha, D., & Riedberg, J. (2005). On reducing remittance costs. *Unpublished paper. Development Research Group, World Bank, Washington, DC*.

Stahl, C. (1982). Labor emigration and economic development. International Migration Review, 16, 868–899

Straubhaar, T. (1985). Migrants' remittances and economic activity. *Intereconomics*, *20*(2), 87-92.

Swamy, G. (1981). International migrant workers remittances: issues and prospects.

Yang, D., & Martinez, C. (2006). Remittances and poverty in migrants' home areas: Evidence from the Philippines. *International Migration, Remittances and the Brain Drain Washington DC: World Bank*, 81-121.

Yoshino, Naoyuki; Taghizadeh-Hesary, Farhad; Otsuka, Miyu (2017) : International remittances and poverty reduction: Evidence from Asian developing countries, ADBI Working Paper, No. 759, Asian Development Bank Institute (ADBI), Tokyo.