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Impact of Outflows Migration on Inflows Remittance of Different Countries in SAARC Region

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ABSTRACT

The main objective of the study is to determine the impact of migration on remittance for some different countries in SAARC region. Country wise yearly data of outflows migrations and inflows remittances from 1990 to 2017 are collected from 6 countries in SAARC region which are considered in the analysis. To complete this study, some statistical analysis like as multivariate analysis and panel analysis are computed. The highest number of average migrant is found in India with yearly average number of out migrant is 209992 and average inflow remittances is 33214.45 million US dollars which is also high among these six countries, whereas the lowest number of out migrated people are found in Maldives with a yearly average number of migrants is 437 and the amount of average inflows remittances is 3.08 million US dollars which is also lowest among in SARRC countries. India, Bangladesh and Pakistan are comparatively high out migrated countries as well as high remittance receiving countries. In MANOVA analysis, significant Hotelling T^2 test statistic indicates the population mean vector with migration and remittances for different countries in SAARC region are not equal. LM test statistic supported to run a panel regression model for analyzing the data. Furthermore significant Hausman test statistic suggests for analyzing fixed effect panel regression model. Outputs from panel regression model show that there have significant positive contributions of migration for all of these countries to the remittance. i.e. if the outflows migration of these region increases, the yearly average inflows remittance will be increased. Considering Bangladesh as a base country in dummy variable regression model in panel analysis, all others countries have significant contribution of migrations to remittances compared with that of Bangladesh. One can use simulation study for getting fruitful results. Also the researcher can apply discrimination analysis to get better results.

Key Words: Inflows Remittance, Outflows Migration, Fixed effect model, MANOVA, Hotelling T^2.

STATE OF ARTS

Internal migration refers to a change of residence within national boundaries, such as between states, provinces, cities, or municipalities or an internal migrant is someone who moves to a different administrative territory. International migration refers to change of residence over national boundaries or their classified as legal immigrants, illegal immigrants, and refugees which are a complex phenomenon that touches on a multiplicity of economic, social and

security aspects affecting our daily lives in an international migrant is someone who moves to a different country. International migrants are fur an increasingly interconnected world. Migration is intertwined with geopolitics, trade and cultural exchange, and provides opportunities for states, businesses and communities to benefit enormously. It has helped improve people's lives in both origin and destination countries and has offered opportunities for millions of people worldwide to forge safe and meaningful lives abroad. Not all migration occurs in positive circumstances, in recent years it is seen an increase in migration and displacement occurring due to conflict, persecution, environmental degradation and change. People move for a variety of reasons as they consider the advantages and disadvantages of staying versus moving, as well as factors such as distance, travel costs, travel time, modes of transportation, and cultural barriers. International migration generates significant economic gains for migrants of their countries of origin, and their countries of destination. Remittances through a counter movement of skills and knowledge are beneficial to national development of both sending and receiving destinations. The benefits derive from this movement has tremendously impacts on the well-being of migrants and as it's alleviate poverty of their love ones left behind. This inflow of remittances to continents for some countries over the years has partially turned the 'brain drain' into brain gain as it plays important role in improving individual living conditions and poverty alleviation. Migration has contributed towards security and political stability by reducing poverty levels, curbing unemployment and expanding the experiences and opportunities to the population.

A remittance is a transfer of money by a foreign worker to an individual in their home country. Money sent home by migrants competes with international aid as one of the largest financial inflows to developing countries. Remittances, usually understood as the money or goods that migrants send back to families and friends in origin countries, are often the most direct and well-known link between migration and development. Global estimates of financial transfers by migrants include transactions beyond what are commonly assumed to be remittances, as the statistical definition used for the collection of data on remittances is broader (see IMF, 2009) but do not cover informal transfers. Remittances can also be of a social nature, such as the ideas, behavior, identities, social capital and knowledge that migrants acquire during their residence in another part of the country or abroad, that can be transferred to communities of origin (Lopez 2007 and Singer 2010).Remittances are not a new phenomenon in the world, being a normal concomitant to migration which has always been a part of human history. Several European countries, for example Spain, Italy and Ireland were heavily dependent on remittances received from their emigrants during the 19th and 20th centuries. In the case of Spain, remittances amounted to the 21% of all of its account income in 1946. Italy was the first country in the world to enact a law to protect remittances in 1901 while Spain was the first country to sign an international treaty with Argentina in 1960 to lower the cost of the remittances received.

The south Asian Association for Regional Cooperation is the regional intergovernmental organization and geopolitical union of states in South Asia. Since South Asia is a remittance economy, in every year, South Asian countries send out a significant number of migrant workers and remittances sent by migrant workers become an important source of funds for economic development of those countries. Over the last decade, migrant workers going abroad from South Asia has been continuously on the rise and reached nearly 1.5 million in 2010. The high dependence on informal remittances by South Asian migrant workers is a concern for the

governments and regulators because informal remittances are not only ineffective to promote productive financial intermediations, but also can be sources for smuggling, money laundering, and other illegal activities. Concerted efforts by the governments, regulators and financial sectors are required in addressing legal and policy constraints, improving formal financial systems, and enhancing customer education to significantly expand formal remittance markets and achieve financial inclusion. Haas (2007) shows the relationship between remittances and various dimension of social development within a broader conceptual framework of migration and development theory. Migration and remittances also have the potential to improve well-being, stimulate economic growth and reduce poverty directly and indirectly, while their effects on inequality are much more ambiguous. Here they discussed the level of remittances, both formal and informal, and their geographical distribution. It also discerns types and personal characteristics of migrants as remitters. The World Bank (2006) explores the gains and losses from international migration from the perspective of developing countries, with special attention to the money that migrants send home. Another goal was to consider policy initiatives that could improve the developmental impact of migration, again with particular attention to remittances. The report focuses on policies to improve the developmental impact of remittances. Katsushi (2012) in their work on Remittances growth and poverty, new evidence from Asian countries generally confirmed that remittance has positive impact on economic growth, the work also found a positive impact of remittance on poverty alleviation. Fayissa (2010) found a positive impact of remittance on economic growth of countries where the financial systems are underdeveloped. According to them, with less developed financial system funds from remittance offer an alternative to finance investments and help overcome liquidity constraints. A study by IMF(2005) for the time period 1970-2003, finds no significant relationship between remittances sent by migrants and growth as well as between remittances and education and investment rates.

A summary insight from the review is that the relationship between migration and remittances not clear cut. A number of factors come together to influence the cause-effect relationship between International outflows migration and Inflow remittances. Thus the impact of international migration to remittance for SARRC countries is to investigate with the following objectives:

- To examine the status of outflows migration and inflows remittances of six countries
- To evaluate the relationship between international migration and remittances.
- To examine the impact of international migration to remittances of six countries

On the basis of these objectives, the study has been organized into some distinct and well-structured sections for understanding the present scenario of outflows migration and inflows remittances in SAARC countries. Data and methodology is discussed in next section, then discuss about findings and in the final section, conclusion of the study is discussed.

DATA AND METHODOLOGY

Data are the essential part for all the scientific research. The demand for good quality of statistical data is being continuous to increase. In this study, yearly inflows remittance and outflow migrations data from 1970 to 2017 of Bangladesh, India, Maldives, Nepal, Pakistan, SriLanka were collected from world bank data bank are considered in this analysis. Due to unavailability of data Afghanistan and Bhutan are excluded from this analysis. Descriptive statistics and line graph are shown to get general scenario. MANOVA is used in this analysis for

checking the equality of mean vectors and finally panel regression analysis is used the effect of migration on remittances. SPSS, STATA and MS Excel software's are used for analyzing the data in this analysis.

RESULTS AND DISCUSSION

In this study, line graphs and descriptive statistics are used to compare the general scenarios of migration and remittances. MANOVA is used to test the Line graphs are used to check the general trend of migrations and remittance for every country. Figure 1 shows the line graph of out migrations of different countries. The outflows migration for every county has an increasing trend except Maldives. Among these countries, India has a sharply increasing trend follows by Bangladesh and Pakistan. Similar interpretations can be drawn for the remittance which is shown in Figure2.

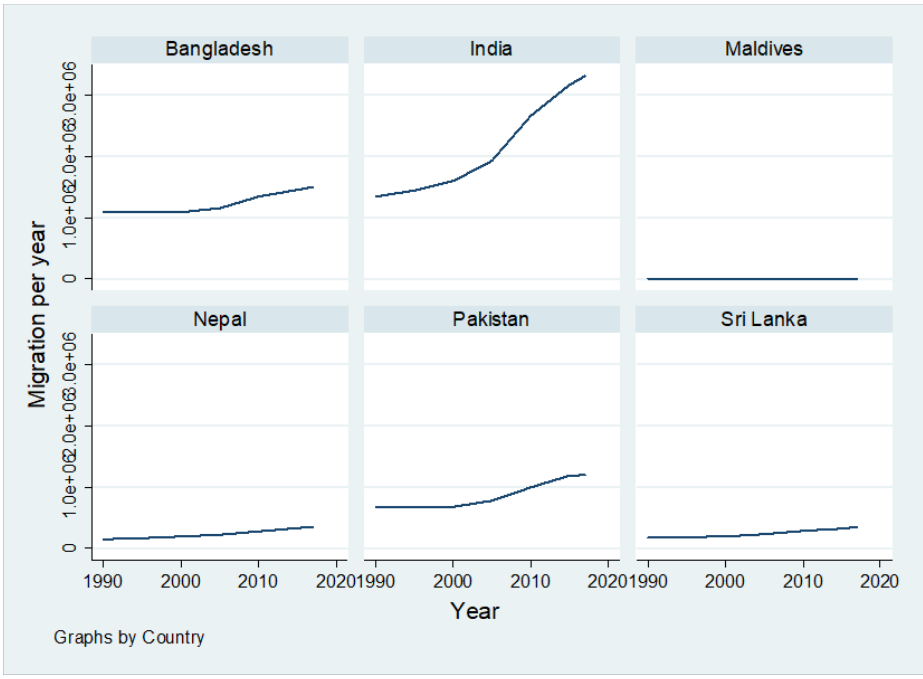


Figure 1: Line Graphs of Migration Outflows of different countries in SAARC Region

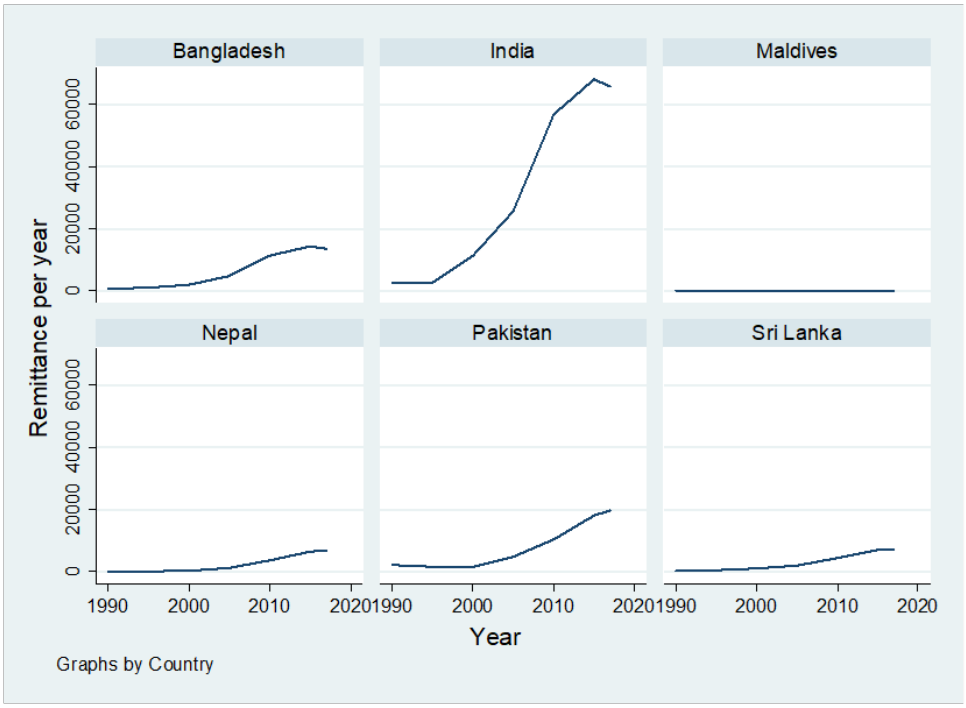


Figure 2: Line Graphs of Remittances Inflows of different countries in SAARC Region

Table 1: Country wise average outflows migration and inflows remittances of different countries with its standard error

Country	Average outflow migration per year (Number)		Average inflow remittances per year (In million USD)	
	Average	SE	Average	SE
Bangladesh	2178310	69084.39	6769.61	2284.79
India	2209993	314234.05	33214.44	11212.19
Maldives	437	50.46	3.08	0.36
Nepal	242362	29588.68	2596.09	1132.29
Pakistan	882506	90866.96	8306.79	2977.41
Sri Lanka	248972	26274.15	3183.36	1130.42

The descriptive statistics of migrations per year and remittances per year and its SE are shown on the Table 1. In SAARC region the highest average migrant country is India is 2209992 and remittances 33214.45 million US dollar followed by Bangladesh, whereas the lowest migrated country is Maldives is 437.26 also the remittances is 3.08 followed by Nepal. In SAARC region India Bangladesh and Pakistan are highly migrated and remitted country. Now to test the following null hypothesis .i.e. the equality of mean vector for different countries, by using MANOVA analysis, the output is given in the Table 2, shows that the significant Wilks' lambda , Lawley-Hotelling trace, Pillai's trace and Roy's largest root test statistic indicates the rejection of the following null hypothesis.

$$H_0: \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Ban} = \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Ind} = \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Mal} = \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Nep} = \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Pak} = \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Sri}$$

$$H_1: \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Ban} \neq \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Ind} \neq \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Mal} \neq \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Nep} \neq \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Pak} \neq \begin{pmatrix}\mu_{mi}\\ \mu_{re}\end{pmatrix}_{Sri}$$

Table 2: MANOVA outputs by using STATA software for SAARC Countries

```
Number of observations =       42
W = Wilks' lambda     L = Lawley-Hotelling trace
P = Pillai's trace    R = Roy's largest root

  Source | Statistic      df    F(df1,    df2) =   F   Prob>F
-----------+---------------------------------------------------------
 country1 |W   0.0086       5     10.0     70.0    68.61 0.0000 e
        |P   1.2195          10.0     72.0    11.25 0.0000 a
        |L  89.0550          10.0     68.0   302.79 0.0000 a
        |R  88.7553           5.0     36.0   639.04 0.0000 u
        |---------------------------------------------------
 Residual |              36
-----------+---------------------------------------------------------
    Total |              41
-------------------------------------------------------------------------
          e = exact, a = approximate, u = upper bound on F
```

In Table 2, rejection of null hypothesis implies that the mean vectors of migration and remittance of different countries are not equal which is confers by Hotelling T^2 = 39.08 with p-value 0.000. To ensure the effect of migration on remittance, first try to check the data is suitable to use the normal OLS or panel regression model. LM test statistic (10.34) for the data of this study variable is highly significant indicates the data is suitable for the panel regression model. Further to fit fixed or random effect model, Hausman test is used and the value found 24.76 is highly significant. This significant Hausman test statistic suggested for using fixed effect model to analyze this data.

Table 3 : Estimated Parameters obtained from Fixed effect model by using STATA

```
    Source |       SS         df       MS     Number of obs   =       42
-------------+----------------------------------  F(6, 35)       =   461.66
     Model |  1.1072e+10        6  1.8454e+09   Prob > F        =   0.0000
  Residual |   139903506       35  3997243.02   R-squared       =   0.9875
-------------+----------------------------------  Adj R-squared   =   0.9854
     Total |  1.1212e+10       41   273466652   Root MSE        =   1999.3
------------------------------------------------------------------------------
    remittance |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------------+------------------------------------------------------------
     migration |   .0350237   .0009164    38.22   0.000     .0331634    .036884
      country1 |
       India |   -7361.59    1387.24    -5.31   0.000    -10177.84   -4545.35
     Maldives |   36813.86   1562.759    23.56   0.000     33641.29    39986.43
       Nepal |   30933.76   1409.185    21.95   0.000     28072.97    33794.56
     Pakistan |   14224.27   1119.043    12.71   0.000     11952.49    16496.05
    Sri Lanka |   31289.50   1405.244    22.27   0.000     28436.70    34142.30
        _cons |  -36826.09   1368.245   -26.91   0.000    -39603.78   -34048.40
------------------------------------------------------------------------------
```

Table 3 shows the STATA output of fixed effect models, i.e. Dummy variable regression model(DVRM). From the output the DVRM model can be written as ;

Remittance = -36826.09 + 0.035 (migration) -7361.59(India) + 36813.86(Maldives) + 30933.76(Nepal) + 14224.27(Pakistan) + 31289.50 (Srilanka)

From the Table 3 shows that there have significant positive contributions of migration for all of these countries to the remittance. The regression coefficient for migration is 0.03502 implies that the if the outflows migration for these region increases one thousand people then yearly average inflows remittance will be increased with 35 thousand US Dollar. Considering Bangladesh as base country in DVRM, all others countries have significant different contributions of migration to remittance compared with that of Bangladesh.

CONCLUSION

The main aim of the study titled with impact of outflows migration on inflows remittance of different countries in SAARC region is to analyze how migration effects on remittance of these study countries. To complete this study, descriptive statistics, important graphs, statistical tests, multivariate analysis, panel analysis are done which are summarize below;

i. Line graphs show the outflows migration for every country has an increasing trend except Maldives. Among these countries, India has a sharply increasing trend followed by Bangladesh and Pakistan. Similar interpretations can be drawn for the remittance.
ii. The highest out migrant country is India with an yearly average 2209992 and inflow remittances (33214.45 million US dollar) is also highest for same country followed by Bangladesh, whereas the lowest migrated country is Maldives with only an yearly average 437.26 also the inflow remittances (3.08 million US dollar) is also lowest followed by Nepal. In SAARC region India, Bangladesh and Pakistan are highly out migrated and as well as high inflows remittance receiving countries.
iii. MANOVA analysis, shows that the significant Wilks' lambda , Lawley-Hotelling trace, Pillai's trace and Roy's largest root test statistic which indicates the rejection of equality of mean vectors implies that migration and remittance of different countries are not equal which is also conferred by significant Hotelling T^2 .
iv. Significant LM test statistic indicates the data is suitable for the panel regression model and furthermore significant Hausman test statistic suggested for using fixed effect model to analyze this data.
v. STATA outputs of fixed effect panel regression model showed the significant positive contributions of migration on the remittance. i.e. if the outflows migration increases one thousand people then yearly average inflows remittance will be increased with 35 thousand US Dollar. Considering Bangladesh as base country in DVRM, all others countries have significant different level of contribution of migrations on remittances compared with that of Bangladesh.

References

De Luna Martinez, Jose (2005). "Workers' Remittances to Developing Countries: A Survey with Central Banks on Selected Public Policy Issues." Policy Research Working Paper 3638. World Bank.

Fayissa, B.,& C. Nsiah (2008). The impact of remittances on Economic Growth and development in Africa. The American Economists.55(2), 1-19.

Haas, De, Hein (2007). Remittances, Migration and Social development. A conceptual review of the literature. Paper Number 34, United Nations Research Institute for Social Development.

Haas, De, Hein (2007). International migration, remittances and development: Myths and facts. Third World Quarterly, 26 (8), 1269–1284.

IMF (International Monetary Fund). 2009. International Transactions in Remittances: Guide for Compilers and Users. Washington, DC: IMF.

Lopez, H., Molina, L., & Bussolo, M. (2007). Remittances and the real exchange rate.

Policy Research Working Paper Series, Working paper no. 4213.

Singer,D.A.(2010). Migrant Remittances and Exchange Rate Regimes in the Developing World. American Political Science Review, 104(2), 307– 323.

World Bank Policy Research, Working Paper 4213, 33.

World Bank. 2006. Global Economic Prospects: Economic Implications of Remittances and Migration. Washington, DC: World Bank.