MIGRATION, REMITTANCE AND ECONOMIC GROWTH IN INDIA

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ABSTRACT

Foreign Remittances have a great role in the development of Indian economy especially since the early 1970's and after economic reformation of 1991. India has the second largest diaspora in the world with around 25 million people living in 110 countries and India is the top recipient of officially recorded remittances over the year 2014 with $70 billion Remittances have impact on both the household as well as the economy. This study examines the trends of remittance to Indian economy. It also checks the causal relationship between remittances and economic growth in India using annual data over the period 1971-72 to 2013-14. Secondary data which are collected from World Bank indicators are used to analyze the trends of NRI remittance and casual relation between economic growth and NRI remittance. Unit root test, Co integration and Granger causality tests have been applied in this study. This study found that remittances to India have increased from US$ 0.42 billion in 1974-75 to US$ 70 billion in 2013-14 at a compounded annual growth rate of around13.59%. Co integration test found that there is long run relationship between Per Capita Income and remittances and Granger Causality results reveal that there exists bidirectional causality between remittances and growth.

1. INTRODUCTION

Migration of labors across national boundaries is a universal phenomenon, it has the history as the history of mankind. The volume of international migration has increased as the result of globalization around the world, the labour movement from one labour market to another is become very simple and it leads to spreading of the labors of one country all over the world. India had contact with the other countries especially Arabian for the last several centuries due to its geographical features. The migration of Indian workers on a significant scale has begun within the colonial era and then in independent

era. Migration from India has had three distinct phases: (a) early migration of unskilled labor to work on mines and plantations in British colonies, (b) the late- 20th-century migration of unskilled and semiskilled workers to Gulf countries, and (c) the recent migration of high-skilled professional workers to industrial countries (Gabi G. Afram, 2012).

Middle-East countries are the major destination of Indian migrants, migration to these countries has begun since early 1970's after the oil price hike and increased continuously and peaked in early 1980s as the result of massive investment programs by these countries. This

massive investment results in creation of employment opportunities in various sectors and these countries permitted the immigration from other country to solve the scarcity of labour. The migration to the Middle East countries is temporary in nature and migrated labour are mainly unskilled and semiskilled labors and some professionals. The migration of high-skilled professional workers to industrial countries such as USA, UK, Canada etc., is mainly due to Information Technology (IT) revolution and the economic reform of 1990s in the Indian Economy. The migration to the Industrial country is permanent in nature and migrated labour are mainly highly skilled labors and professionals.

Remittances are generally defined as the part of the migrants earnings sent to his home country. According to IMF (2009), remittances denote "household income from foreign economies arising mainly from the temporary or permanent movement of people to those economies. Remittances include cash and noncash items that flow through formal channels, such as via electronic wire, or through informal channels, such as money or goods carried across borders". Remittances provide benefit to both sending and receiving countries; it has a key role in Indian economy by contributing to the lively hood of the people and to the economic growth and it has become a major source of external development finance. India receives considerable amount from other countries especially from Industrial developed countries and Middle East. As per the report of World Bank, India has received around 70 billion US$ in 2013-14.

The study conducted by Singh & Hari (2011) indicates that remittances to India have accounted a large and sustained increase over the year as the result of increase in the volume of international migration. Remittances have impact on both the household as well as the economy and have emerged as one of the most fruitful panacea to get rid of such economic problems. The report of UNCTAD on Impact of remittances on poverty in developing countries (2011) has analysed the impact of remittances on reducing poverty in India and found the indication of two-way relationship between remittances and poverty. Empirical evidence on Kerala state revealed the significant role of remittances in Kerala's economy by increasing per capita income and investments and the possibility of contribution of remittance in reducing poverty levels. Mallick (2008) has found in his study that the remittances affect adversely private investment and could not find effect of the growth rate of remittances on the growth rate of output in the economy and he emphasised the importance of levelling up the rate of growth through suitable measures by government to divert from the unproductive uses of remittances to its productive investment. Otherwise significant a proportion of remittances would result in increases in private consumption without any contributory impact on the economy

This study examines the trends of NRI remittance to India also checks the causal relationship between Information NRI remittance and economic growth in India. The remaining part of this paper is categorized as follows. Section 2 explains the data and methodology which are used in this study. The trend NRI remittance to India is being analyzed in section 3. While Section 4 checks the causality between remittances and economic growth and the findings of the study are presented in section 5 in the form of conclusion

2. DATA AND METHODOLOGY

Secondary data which are collected from World Bank data are used to analyze the trends of NRI remittance. This study examines empirically the relationship between NRI remittance and economic growth in India using annual data over the period 1971-72 to 2013-14. The data for Remittance in Billion US Dollars and PCI in US dollar has been extracted from world Development indicators of World Bank. Unit root test, Co integration and Granger causality tests have been applied in this study. Co integration approach was suggested by Engle and Granger (1987) to determine co integration among a group of non – stationary series. Co integration of two or more time series reveals that there is a long run equilibrium among the variables which shows stable relationship among the variables. Two tests of co integration such as trace test statistics and the maximum eigen value test statistics have been derived by Johansen and Juselius (1990) to determine the existence of a co integration equation. The null hypothesis of no co integration among the variables is being tested against the alternative hypothesis of the existence of co integration by applying these statistics. The number of co-integrated vectors for any given number of non-stationary variables of the same order can be determined through both tests. If the trace statistic is higher than the critical value (generally 5% level); the null hypothesis of no co integration will be rejected. Similarly, if the maximum eigen value test statistic is also higher than the critical value, the null hypothesis of no co integration will be rejected. Granger causality test is a technique formulized by Granger (1969) to determine the direction of causality. This technique has being employed to determine whether past values of a variable(x) helps to predict changes in

another variable(y). If one variable(x) is Granger cause of another variable(y), present value of x is significant in forecasting the future value of y. The definition states that in the conditional distribution, lagged values of Yt add no information to explanation of movements of Xt beyond that provided by lagged values of Xt itself (Green, 2003).

3. TRENDS IN REMITTANCE

India receives considerable amount from other countries especially from Industrial developed countries and Middle East. India has the second largest diaspora in the world with around 25 million people living in 110 countries, contributes to the remittance of $70 billion over the year 2014. India is the top recipient of officially recorded remittances in the world and around 4.5 of % Indian household are the beneficiaries of remittances. Trend of NRI remittance to India has been shown in the following diagram

Figure No: 1 Trends of Remittance

Remittance in billion US$
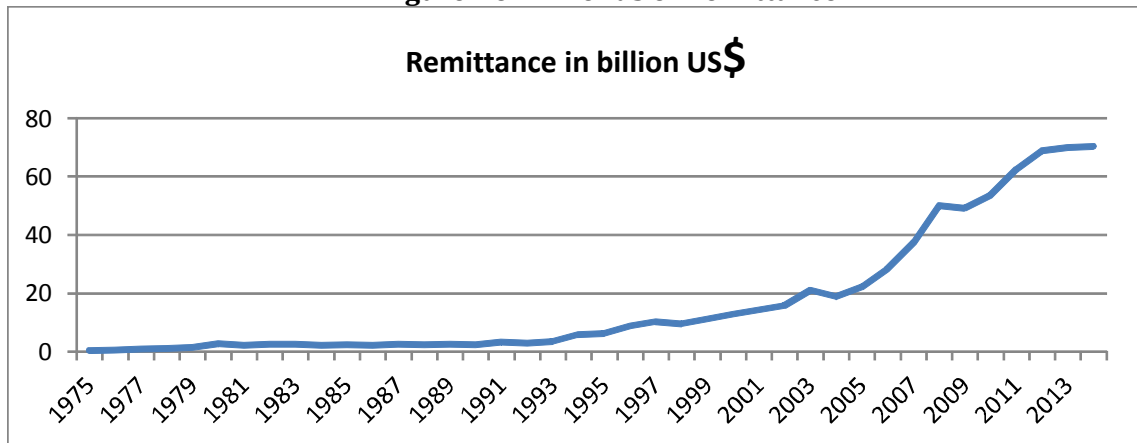
Source: world Bank data accessed on 10.09.2015

Total remittance has grown from US$ 0.42 billion in 1974-75 to US$ 70 billion in 2013-14 at a compounded annual growth rate of around13.59%. There has been a tremendous change in the remittance after the economic reformation of 1991. Remittances were accounted $ 3.8 billion in 1991 and increased to $14.27in 2001 billion and $62.4 billion in 2011 and remittances were less in the year of 2003-04 than its previous year.

4. RELATION BETWEEN REMITTANCE AND GROWTH

The relationship between Remittances and economic growth in India has been examined empirically by using annual data over the period 1973-74 to 2013-14. The data for Remittance in Billion US Dollars and PCI in US dollar has been extracted from world Development indicators of World Bank

PCI- Per Capita Income

REM- Remittances

Johansen co integration technique and Granger Causality have been employed in this study to test the long run and short run relationship and these techniques have been applied by using E views.

Table No: 1. Results of Augmented Dickey-Fuller test for Variables PCI & REM

PCI	Test Statistics	T-critical at 1%	T-critical at 5%	T-critical at 10%	P value	Result
At level	2.812593	-3.610453	-2.938987	-2.607932	1.0000	Do not reject
At first difference	4.483250	-3.615588	-2.941145	-2.609066	0.0010	Reject Null hypothesis
REM	**Test Statistics**	**T-critical at 1%**	**T-critical at 5%**	**T-critical at 10%**	**P value**	**Result**
At level	3.134408	-3.610453	-2.938987	-2.607932	1.0000	Do not reject
At first difference	-3.889542	-3.615588	-2.941145	-2.609066	0.0049	Reject Null hypothesis

Table 1 summarizes the results of the unit root test for the REM and PCI for their levels and in first differences. In ADF test the lag length is determined automatically based on the Akaike Information Criterion (AIC) form Maximum lags 9 with intercept. The result indicates the null hypothesis cannot be rejected for both variable in their level, it means both variables have unit root (no stationarity) at their level I(0) and null hypothesis can be rejected for both variable after first differencing, I(1) . It has been concluded that both variables are stationary in first differences and both series are integrated.

4.1. Co integration Tests (The Johansen approach):-

The ADF test of both variables revealed that REM and PCI are non-stationary at level and stationary in first differences, it means both series are integrated. The Johansen approach of Co integration Test has been applied to test null hypothesis of no co integration between two non-stationary variables REM and PCI. This approach is based on two test statistics, viz., the trace test statistic, and the maximum Eigen value test statistic.

Sample (adjusted): 1977 2014

Included observations: 38 after adjustments

Trend assumption: Linear deterministic trend

Series: PCI REM

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.375921	22.19383	15.49471	0.0042
At most 1 *	0.106465	4.277651	3.841466	0.0386

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

 * denotes rejection of the hypothesis at the 0.05 level

 **MacKinnon-Haug-Michelis (1999) p-values

Trace statistic result shows that null hypothesis of no co integration can be rejected because trace statistic value is greater than critical value at 5% level. So result reveals that there is long run relationship between PCI and Remittance.

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.375921	17.91618	14.26460	0.0127
At most 1 *	0.106465	4.277651	3.841466	0.0386

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Maximum Eigen statistic results also reveal the existence of long run relationship between remittances and economic growth. Null hypothesis of no co integration can be rejected because maximum Eigen statistic value is greater than critical value at 5% level.

4.2 The Granger Causality test:-

The presence and nature of direction of causality between two stationary variables, DREM and DPCI has been checked by applying Granger causality test.

Table No: 2. Granger Causality between DREM and DPCI

Direction of causality	Lag	F statistic	Probability	Decision regarding H0
REM ⟶ PCI	1	0.08502	0.7723	Not rejected
PCI ⟶ REM	1	46.5029	0.0000	Rejected
REM ⟶ PCI	2	5.49808	0.0089	Rejected
PCI ⟶ REM	2	22.7282	0.0000	Rejected
REM ⟶ PCI	3	2.35039	0.0930	Not rejected
PCI ⟶ REM	3	13.3532	0.00001	Rejected

The results of ganger causality test reveal the existence of bidirectional causality between remittances and growth in India in lag 2 and existence of unidirectional causality in lag 1 and 3. The direction of Causality is from economic growth to remittance, since the estimated F-statistics is significant in lag 1 and lag 3at the 5% level. On the other hand, there is no "reverse causation" from remittances to economic growth, since the F-statistics is statistically insignificant.

5 CONCLUSIONS

With the respect to above analysis under taken it is found that there is a Co integration test found that there is long run relationship between PCI and IT export and Granger and Causality results reveal that there exists only unidirectional causality between exports and growth, runs from economic growth to export growth in India.

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