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THE IMPACT OF REMITTANCES ON THE ECONOMIC GROWTH OF PAKISTAN AND INDIA

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Abstract

The international remittances sent back to the home country by migrant workers have a profound impact on the developing countries of Asia, Africa, Latin America, and the Middle East. Official international remittances sent home by migrant workers represent the second most significant source of external funding in the developing countries. Remittances by the international migrants to their countries of origin constitute the largest source of external finance for developing countries after foreign direct investment (FDI) (Adams Jr, 2004). Hence, worker remittances have increased the investment opportunities in the migrant home country. (McCormick & Wahba, 2000), that in turn have promoted growth in less financially developed countries by providing an alternative way to finance investment (Giuliano & Ruiz-Arranz, 2009). This research is carried out to determine the impact of remittances on the economic growth of Pakistan and India since economic growth of these countries impact economic stability as well as political stability in the region.

Keywords: *GDP, Remittances, Growth Rate, FDI, ODI, Migrant, Pakistan, India*

Introduction

Remittances accelerate the economic growth, and promote saving and investment opportunities in the domestic country. (Ahmed et al, 2011).

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Worker remittances establish an increasingly important mechanism for the transfer of resources from developed to developing countries. They also contribute as the second-largest source behind foreign direct investment of the external funding for developing countries. However, the literature on worker remittances has so far focused mainly on the impact of remittances on income distribution within countries, on the determinants of remittances at a micro-level, or on the effects of migration and remittances for specific countries or regions (Buch & Kuckulenz, 2004). With the help of remittances, it is easy to get a big chunk of financial flow in a country's economic system. The remittances have effects on income, employment and economic output That help the country to spend more on improving the living conditions, real estate and the acquisition of updated technology (Kalim & Shahbaz, 2009). Remittance has improved the macroeconomic factors of the country (Vargas-Silva & Huang, 2006). Private, unrequired transfers are estimated to be bigger and more stable than ODA (Outward Direct Investment) and FDI (Foreign Direct Investment) flows into Ghana since 1990. This is consistent with findings in the literature that in the developing world, remittances now surpass ODA (Outward Direct Investment). The international migration and remittances reduce poverty in developing countries. Adams & Page analyzed Panel data set including information on international migration, remittances, inequality, and poverty for 71 ‘‘low-income and middle-income’’ developing countries from 1980 onward. They derived that both international migration and remittances have a strong, statistically significant impact on reducing poverty in the developing world (2005). Remittances have a strong and statistically significant impact on poverty reduction; thus, suggesting that there are substantial benefits related with international migration for poor people in developing countries like Pakistan and India. So the importance of remittance inflows cannot be ignored in terms of growth enhancement and poverty reduction as they consequently improve the social and economic conditions of the recipient country (Qayyum et al., 2010). The effect of workers' remittances on economic growth of five South Asian countries, namely Pakistan, India, Bangladesh, Sri Lanka & Nepal by employing long time series data from 1975 to 2009. The co-integration results confirmed that there exists a significant, positive and long-run relationship between remittances and the economic growth in India, Bangladesh, Sri Lanka and Nepal; whereas, a significant negative relationship exist between remittances and economic growth in Pakistan and India. Interconnection analysis confirmed bidirectional causality between remittances and economic growth in Nepal and Sri Lanka. Further unidirectional causality exists, runs from remittances to economic growth in Pakistan, India and Bangladesh. Sensitivity analysis confirmed that the results are robust. It proposed that policy makers should make policies to reduce the transaction cost to welcome remittances in south Asian countries. In addition to this, countries especially Pakistan should more increased exports rather than workers' remittances as foreign exchange earnings for sustainable and long run growth in the country (Jawaid and Raza, 2012). The remittances can be used as an effective tool for reducing poverty. Different indicators of poverty: a poverty headcount index (measuring the level of poverty), a poverty gap index (measuring the depth of poverty), and a squared poverty gap index (measuring the severity of poverty) constructed by using data from 71 developing countries, that remittances reduce the level, depth, and severity of poverty (Adams and Page, 2005).

Objectives of the Study

- To investigate empirically the impact of foreign remittances on the economic growth of India and Pakistan.
- To analyze empirically the long run relationship between remittances and the economic growth of India and Pakistan.

Hypotheses

- H_{01}: Remittances have insignificant effects on economic growth of India and Pakistan.
- H_{11}: Remittances do not have significant effects on economic growth of India and Pakistan.
- H_{02}: There is a positive relationship between remittances and economic growth in the two countries.
- H_{12}: There is a negative relationship between remittances and economic growth in the two countries.

Research Methodology

Sample

Two countries, i.e. India and Pakistan were treated as sample of the study, and ten years' data was collected from 2003 to 2013 for both the countries.

Variables

Dependent

It was hard to examine the all aspects of economic growth. So for the convenience of the study, we selected GDP as a proxy for economic growth in India and Pakistan. In this study, the effects were examined on the economic growths of the respective countries. So the economic growth was treated as a dependent variable of the study.

Independent

In this study, we analyzed the effects of remittances on GDP. So the remittances were treated as an Independent variable of the study.

Statistical Model

Regression

The main objective of the study was to find out the effects of remittances on economic growth of India and Pakistan. The cause and effect model was needed to fulfill the objectives of the study. The linear regression was selected to know the effects of independent variables on dependent variable. The coefficient of determination (R^2) was calculated in the regression test. These helped to determine the effects of remittances on economic growth of the respective countries. F-statistics was calculated to know the model fitness of the regression model. The purpose of the F-statistics was to check that weather the model which was adopted is significant or not.

$$GDP = \beta_o + \beta_1 \, REM + \varepsilon \ldots\ldots\ldots\ldots\ldots i$$

Where,

GDP = Gross Domestic Product
REM =Remittances
β_o = Intercept
β_1 =Slope in the data
ε=Error term

GDP and Remittances of India and Pakistan

GDP: The gross domestic product (GDP) is one of the primary indicators used to gauge the health of a country's economy. It represents the total dollar value of all goods and services produced over a specific time period .GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates.

Table 1: GDP of India in USD Billion

Year	GDP in USD Billion
2003	618
2004	722
2005	834
2006	949
2007	1239
2008	1224
2009	1365
2010	1711
2011	1880
2012	1859
2013	1877

Sources include: World Bank. *Retrieved on 2015-09-12*

Fig.1a GDP of India in USD Billion

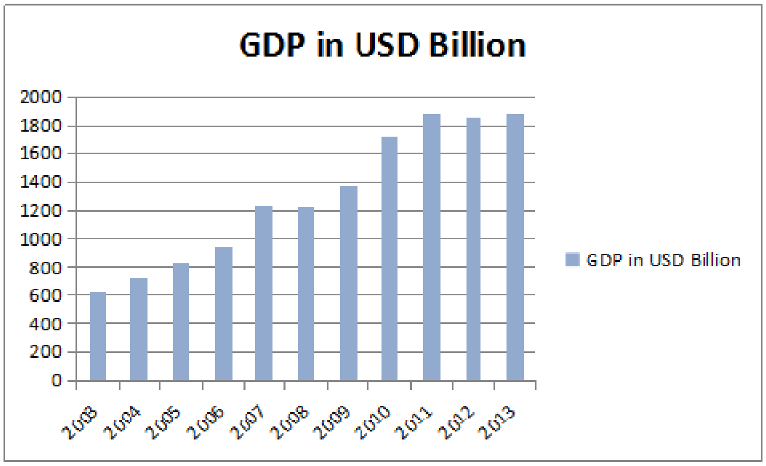
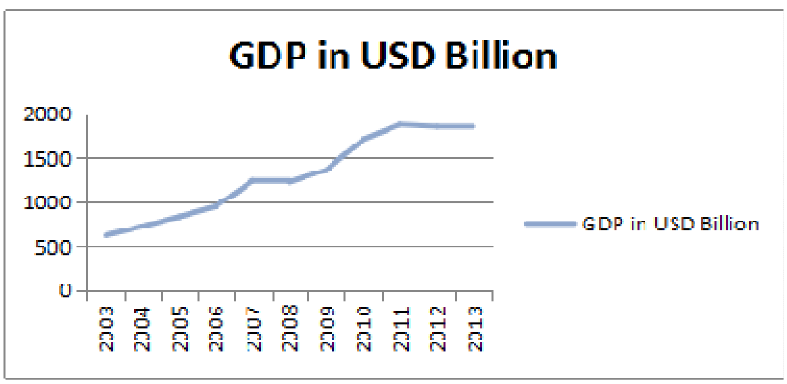


Fig.1.b



The table.1, fig.1a and fig.1b are representing the variation in the gross domestic product of India. In 2003 the GDP of India was 618 billion dollars then it rose to 722 in 2004. After that in 2005 the GDP slightly increased from 722 to 834 billion dollars. Whereas in 2006 the GDP increased to 949 billion dollars then in 2007 significant upturn of 1239 billion dollars occurred. In 2008 a minor decrease made the GDP to 1224 billion dollars. While in 2009 it increased slightly and rose to 1365 billion dollars and in 2010 it increased sharply to 1711. In 2011, it slightly increased and raised to 1880 billion dollars while in 2012 GDP was 1859 billion dollars that showed a comparatively low decrease. In 2013the GDP was 1877 billion dollars.

Table 2: GDP of Pakistan

Years	GDP USD Billion
2003	83
2004	98
2005	110
2006	137
2007	152
2008	170
2009	168
2010	177
2011	214
2012	225
2013	237

Sources include: World Bank. *Retrieved on 2015-09-15.*

Fig.2.a.GDP of Pakistan

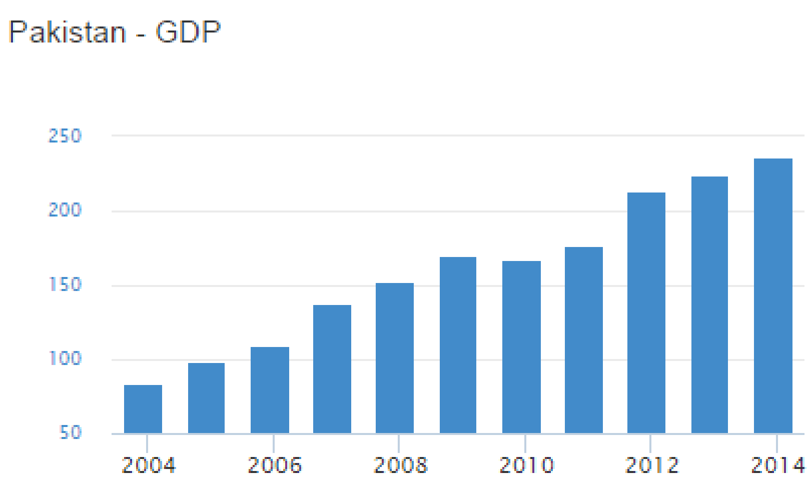
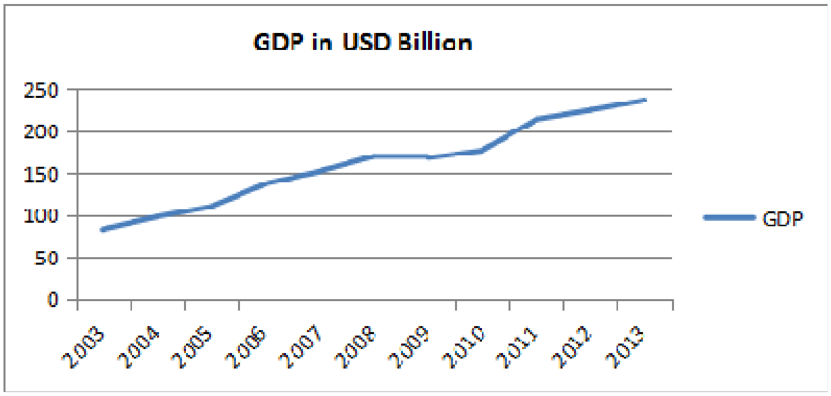


Fig.2.b.GDP of Pakistan



The table.2, fig.2a and fig.2 b are representing the variation in the gross domestic product of Pakistan. In 2003, the GDP of Pakistan was 83 Billion Dollars, and then it rose to 98 in 2004. After that in 2005, the GDP abruptly increased from 98 to 110 Billion Dollars; whereas, in 2006 the GDP increased to 137 Billion Dollars then in 2007 significant upturn of 157 Billion Dollars occurred. In 2008 slightly increased and raised to 170 Billion Dollars. In 2009, a minor decrease made the GDP to 168 Billion Dollars, while in 2010 it increased slightly and rose to 177 Billion Dollars, and then in 2011 it increased sharply to 214 Billion Dollars. In 2012, it slightly increased and rose to 225 Billion Dollars; while in 2013, the GDP was 237 Billion Dollars that showed a comparatively great increase.

Remittances

Remittances: Remittances refer to the transfer of money by a foreign worker to an individual in his or her home country. Money sent home by migrants competes with international aid as one of the largest financial inflows to developing countries. Workers' remittances are a significant part of international capital flows especially in the case of labor-exporting countries.

Table 3: Remittances of India in USD Billion

Year	Remittances of India in USD Billion
2003	16.39
2004	21.61
2005	20.25
2006	24.55
2007	29.1
2008	37.2
2009	51.6
2010	55.06
2011	66.1
2012	67.6
2013	70.39

Source:

1. Chishti, Muzaffar (February 2007). "The Rise in Remittances to India: A Closer Look". Migration Information Source. Archived from the original on 2010-12-04. Retrieved on 2015-09-12.
2. " Remittances to India, 1970 to 2008". Migration Information Source. Archived from the original on 2010-12-04d. Retrieved on 2015-09-12.

Fig 3a. Remittances of India in USD Billion

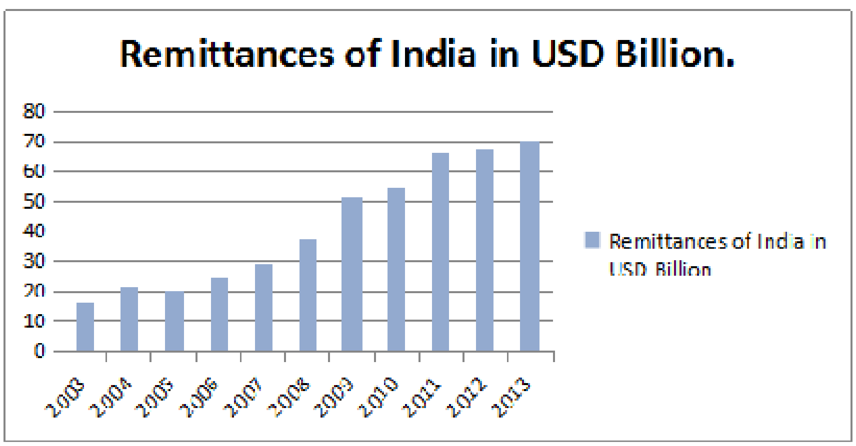
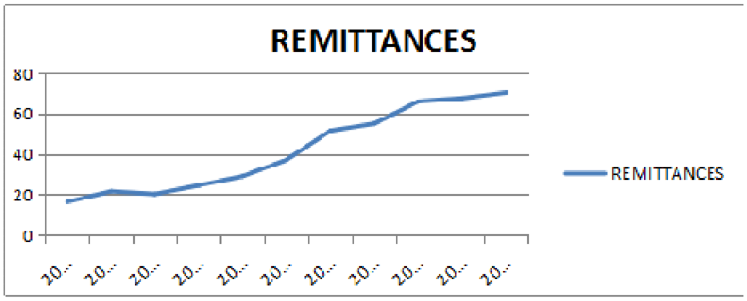


Fig.3b



The table.3, fig.3a and fig.3b show the remittances of India. In 2003, remittances were 16.39 and in 2004 the remittances slightly increased to 21.61 Billion Dollars; while in 2005, the remittances decrease to some extent i.e. 20.25. In 2006, the remittances sharply increased to 24.55 Billion Dollars while again in 2007 increased to 29.10. In 2008, tremendous increase has been observed and remittances rose to 37.2 Billion Dollars. Then a significant change in remittances in the year 2009 occurred that further increase the remittances to 51.6 Billion Dollars. In 2010 a continuing upward change raised the remittances to 55.06 Billion Dollars. In 2011, the remittances were 66.1 Billion Dollars then a gradual increase happened and remittances were 67.6 Billion Dollars in 2012. The decade 200 -2013 ended with 70.39 Billion Dollars in 2013.

Table 4. Remittances of Pakistan

Year	Remittances in Pakistan USD Billion
2003	4.23
2004	3.8
2005	4.6
2006	5.493
2007	6.00
2008	6.5
2009	8.72
2010	9.69
2011	12.26
2012	14.01
2013	14.63

Fig.4.a. Remittances of Pakistan in USD Billion

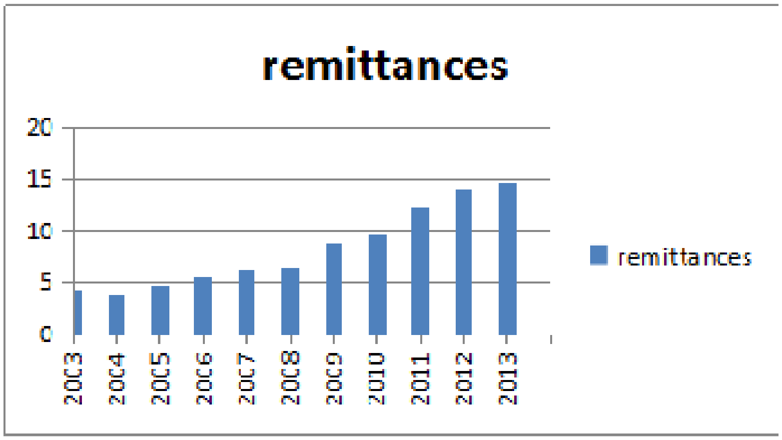
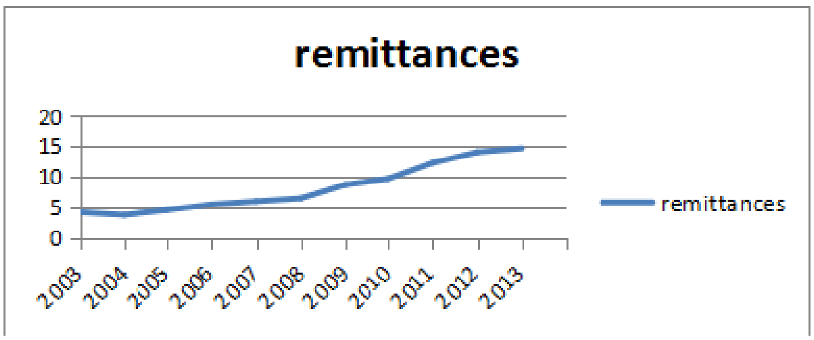


Fig.4b.Remittances of Pakistan in USD Billion



The table.4, fig.4a and fig.4b show the remittances of Pakistan. In 2003, the remittances were 4.23 and in 2004 the remittances slightly decreased to 3.8 Billion Dollars; while in 2005, the remittances increase to some extent i.e. 4.6. In 2006, the remittances sharply increased to 5.493 Billion Dollars while in 2007 increased to 6.00. Then a significant change in remittances in the year 2008 occurred that further increase the remittances to 6.5 Billion Dollars. In 2009, a tremendous increase has been observed and remittances rose to 8.72 Billion Dollars. In 2010, a continuing upward change raised the remittances to 9.69 Billion Dollars. In 2011 the remittances were 12.26 Billion Dollars then a gradual increase happened and remittances were14.01

Billion Dollars in 2012. The decade 200 -2013 ended with 14.63 Billion Dollars in 2013.

Results and Discussion

5.2.1 Relationship between remittances and GDP

$$GDP = \beta_o i + \beta_1 i\ REM + \mathcal{E}\ldots\ldots\ldots$$

As explained in the methodology that the econometric model shows the effect of remittances on economic growth in India and Pakistan

Where,

GDP = Economic Growth of the country

REM =Remittances of the country

β_o =Intercept

β_1 =Slope in the data

$\mathcal{E}$ = error term

Results for India

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.973[a]	.947	.941	117.00755

a. Predictors: (Constant), Remittances

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2180757.103	1	2180757.103	159.287	.000[a]
	Residual	123216.897	9	13690.766		
	Total	2303974.000	10			

a. Predictors: (Constant), Remittances

b. Dependent Variable: GDP

Co-efficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	361.243	82.181		4.396	.002
	VAR00001	22.408	1.775	.973	12.621	.000

a. Dependent Variable: GDP

Results for Pakistan

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Pak	.954[a]	.910	.901	16.19629

a. Predictors: (Constant), remittances

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24017.123	1	24017.123	91.557	.000[a]
	Residual	2360.877	9	262.320		
	Total	26378.000	10			

a. Predictors: (Constant), Remittances

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	59.947	11.635		5.152	.001
	Remittances	12.360	1.292	.954	9.569	.000

a. Dependent Variable: GDP

Explanation of the Model

The above results interpret the following points:

For India,

$$GDP=361.24+22.408Rem$$

In the model 361.24 is intercept, it is the value when remittance is equal to zero. This means that if remittances of India are zero then GDP of India will be 361.24. The slope is 22.408, which means that when there is increase of 1% in remittances it will lead to increase of 22.4% in GDP.

Whereas for Pakistan,

$$GDP=59.95+12.36Rem$$

In the model 59.95 is intercept, it is the value when remittances is equal to zero this mean that if remittances of Pakistan are zero then GDP of Pakistan will be 59.95. The slope is 12.36, which means that when there is increase of 1% in remittances, it will lead to increase of 12.4% in GDP.

It is to be mentioned here that remittances and GDP are positively co-related; if remittances increase, GDP will also increase, and vice versa.

T-statistics

The relationship between remittances and GDP is statistically significant, because the value of t-test is greater than 2.

F-statistic

F-statistics shows the overall significance of the model. The probability of F-statistics is 0.000 which is less than 5%, which shows the overall model is significant.

Co-efficient of Determination

The linear regression model shows that the regression line is good fit, because the value of R-Square is greater than 50%, i.e. 94% variation in GDP is due to remittances in India, whereas it is 91% for Pakistan, which is also greater than 50%.

Conclusion

The research was conducted to determine the Impact of remittances on GDP Growth of India and Pakistan from 2003 to 2013. Simple liner regression model was used. The results show that impact of remittances on GDP is more than 22% for India and 12% for Pakistan. India has 94% of variation in GDP due to remittances, while Pakistan has 91%. Both the hypotheses are accepted.

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