The Contribution of Foreign Remittances on Investment sectors in Bangladesh

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1. INTRODUCTION

Remittance inflows in the economy of Bangladesh are getting larger every passing year, matching with the increasing external demand for its manpower. The ensuing development impacts of remittances, as a means of transfer of wealth, on socioeconomic factors are increasingly viewed with importance. Remittances have helped improve the social and economic indicators like nutrition, housing, education, health care, poverty reduction, social security, investment activities of the recipient households, and on the over all living condition of the people in Bangladesh. The relative weight of remittances has also increased against most of the macroeconomic variables alongside the contribution to GDP.

Foreign remittances are defined as the money or goods send by expatriates both skilled and unskilled, to their home countries from abroad. Incomes earned abroad by them are partly spent and partly saved or send to their home country through different official and unofficial channels. Remittance forms a major source of foreign currency to the developing nations and has become a substantial component of making current account surplus in the balance of payments.

Bangladeshi workers are mainly engaged in 143 countries of the world but about 90% of the migration takes place in the Middle East and Malaysia. Currently two types of international migration occur from Bangladesh. One takes place mostly to the industrialized west and the other to the Middle Eastern and South East Asian countries. Voluntary migration to the industrialized west includes permanent residents, immigrants, work permit holders and professionals. Bangladesh has classified temporary migrant population into four categories.

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These are professional, skilled, semi-skilled, and unskilled. Doctors, engineers, nurses and teachers are considered as professionals. Manufacturing or garments workers are considered as skilled; while tailor, mason, etc. as semi-skilled workers, housemaid, cleaner, laborers are classified as less-skilled.

Remittances now form an important part of household income contributing to the livelihood strategies of both the rural and urban Bangladesh. The remittances sent by the migrant workers have grown over time considerably. In the last 25 years more than 7.6 million people have sent their valuable foreign currency to Bangladesh.Since longin Bangladesh, many migrants have been transferring their income through the unofficial channels known as "*hundi*". Today due to the establishment of different agencies like Western Union,Money Gram, International Money Express (IME) etc. in several district headquarters of the country, the remittance flows has become popular for transferring cash or money in time to the recipients through these banking channels. However, it is difficult to calculate the exact size of remittance flows in Bangladesh due to the use of unofficial channels. In this regard, it is estimated that unrecorded flows through informal channels are believed to be more than 50 percent of the recorded flows in developing countries.

Basically, remittances are private funds that should be treated like other sources of household's income. In terms of asset formation, larger number of remittance receivers uses their funds to purchase land or buildings or consumption in town areas. In short, it could be asserted that the productive use of remittance income is yet to be sought though it forms a significant part of GNP. So, in this situation it has become an important issue to consider, where these remitted money are used. But it is not easy to determine the exact impact of this flow at the household and community levels. One school of thought maintains that remittances are merely used to satisfy the consumption needs of the family at home and are not used for productive investment. So, it has become very pressing issue to determine whether the remitted money has more impact on consumption or on investment.

1.1 Objective of the Study

Theobjective of this study is to find out the impact of remittances on gross domestic investment in Bangladesh, so as to determine if remittances along with other variables significantly affect GDI in Bangladesh.

2. LITERATURE REVIEW

Majed,BandAhmad,M. I. (2010), found that real interest rate has a negative impact on investment. They found that an increase in the real interest rate by 1% reduces the investment level by 44% in the Jordanian economy. The results also show that the influence of the real interest rate on investment is higher than the influence of the income.

Eregha P.B. (2010*),*revealed that variation in interest rate plays a significant role on investment decision in the economy. It has negative impact on investment decision both in the short run and long run. The other determinant being income played a positive role and it is highly significant in the short run and long run on investment decisions. Lastly, it was inferred that exchange rate played a positive but not significant role in investment decision in the short run and long run.

Tom,B.D. and Umbareen,K. (2005), found that remittances have both positive and negative impact at household and community levels. Allowing families to meet basic needs, opening up ofopportunities for investing in children's education, health care, etc. These are all positive impact of remittances and the negative impact of remittances are dependency on remittances and neglect of local productive activies by families.

Charles,W.S. and Habib, A (1989), claimed that by the early 1983, official remittances from migrant workers abroad amounted to 84 percent of merchandise exports for Bangladesh. The report also provides abundant evidence that only a very small portion of remittances are directed into productive investment.There are some sectors where these remittances are spent significantly like rice growing and processing (9.7%), sugar refining (10.4%), eligible oil and vegetable ghee (11.1%) and rural house building (6.3%). This analysis indicates that although it is true that only a small fraction of remittances are directly spent on investment goods, it cannot be concluded that their potential contribution toward economic development is minimal.

Pichittra,P (2009), the effect of exchange rate could have both positive and negative impact on investment, so to use exchange rate policy to boost investment may not be appropriate. Though On theone hand, it stimulates investment in export-oriented industry,on the other hand, it might reduce investment in domestic-oriented one. Since there is always situation where a winner or loser occur from movement in exchange rate, exchange rate policy should be neutral.Tasneem,S. (2005),argues that if the cost of import of raw material is adjusted, then the net earning from migrant workers' remittances is higher than that of the garments sector.

BaldéYéro (2011),found that both remittances and foreign aid promote savings and investment in Sub-Saharan Africa, but remittances are strongly more effective. The coefficients of remittances are 6 to 7 times higher than those of foreign aid. A 10% increase in remittances increases savings by 7% and investment by 6.5%, while the same 10% increase in foreign aid increases savings and investment by respectively 1.6 % and 1%. According to these results, remittances, although less important in volume and in percentage of GDP, are more effective in boosting savings and investment in SSA than foreign aid.

To summarize the literature review, it can be concluded that most of the previous studies did not either include remittance as determinant of investment or found insignificant relationship between them. Most of the model did not include remittance as a determinants as because there has been little migration, and thus remittance, to these economies.Therefore, it is important that we analyze the impacts of remittance on investment in Bangladesh, as the country contributes among the top ten supplies of migrant workers abroad.

3. METHODOLOGY

3.1 The Concept

There are several definitions of remittances. In its narrower sense, remittance refers to cash transferred from one place to another. There are different types of remittances can be distinguished: international or international, individual or collective, formal or informal, in cash or only kind. In this paper, researchers often used a narrower definition of remittances. In thepresent paper, remittances refer to *financial international* transfers from abroad to the home

country. In practice this means money sent back to Bangladesh by nationals or emigrants, including the diasporas, from the country where they are living or working.

A theoretical distinction is made between migrant workers and Diasporas. According to the UN International Convention on the protection of migrant workers' Rights, the term migrant workers refers to persons who are engaged in remunerative activities in a state of which he or she is not a national (UN General Assembly, 1990). Siddiqui (2004) defines Diasporas as "transnational groups of immigrants living abroad but maintaining economic, political, social and emotional ties with their homeland and with other Diasporas communities of the same origin". In general, the migrant worker's relationship with the destination country is of a (perceived) temporary nature, while that of the Diasporas is of a more permanent or long-term in nature. However for the present paper no such distinction is made as it was felt unnecessary for the present research.

Regarding the types of remittance, this report will only consider the amount of money transmitted through the proper channels and for which the data are available for the reports of Bangladesh Bank. The remittances come through unofficial channels and in kinds though very significant in amount, are not considered for the present study as it is quite impossible to estimate them at the macro level, though, at micro level some attempts have been made.

3.2 The Model

This paper, therefore, has developed a model to analyze the impacts (if any) of remittances on GDI at the macro level. The model, therefore, is proposed as follows:

Therefore, the general format of our investment function becomes;

$$\text{GDI} = \int (IR, LR, SR, GDS, GDP, ER, R)$$

Where, GDI = Gross Domestic Investment, IR = Inflation Rate, LR = Interest Rate on Loan, SR = Interest Rate on Savings, GDS = Gross Domestic Savings, GDP = Gross Domestic Product, ER = Exchange Rate between Tk and US$ (Tk. Per US$), and R = Remittances.

Specifically, We will consider a simple linear model for OLS regression to estimate the impacts of each of the variables on Investment. Particularly, this paper is very much interested to determine if there is any impact of remittance and other selected variables on investment in Bangladesh.

$$GDI = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e$$

Where, X_1=GDP, X_2=ER, X_3=IR, X_4=LR, X_5=SR, X_6=R, and X_7=GDS; and α is constant and β_i's are coefficients to estimate and e is the error term.

3.3 Sample Selection and Data Collection

This paper uses 25 years of data from 1987 to 2011 for all the selected variables. For the present study the data on remittances refers to the international transfer of funds by the migrants to mother country, from the country where they work or live. As there has been discrepancy in the data provided by Bangladesh Bank, BMET (…….) and IMF, this paper uses the data provided by BMET. Study of the literature suggests that most of the previous researchers have also used these data for their researches. One of the most important reasons of using the data provided by BMET is that it has used the estimated unofficial transfer for their data, as significant amount of the remitted money flows to Bangladesh through *'hundi'* or by hand through person-to-person.

The data on GDP has been used according to 1984-1985 factor cost, GDS and GDI at the market prices, inflation rate considering 1995-1996 as the base year, and exchange rate taken as Taka per unit of US$. All the figures of GDP, GDS, GDI, and Remittances are provided in crores of Taka. The interest rates on deposit and lending have been collected from the report of IMF. The data on the rate of inflation was collected from the reports of Bangladesh Bank.

4.Findings

4.1 Descriptive Analysis

A descriptive analysis shown below portrays the trends of all the dependent and independent variables for selected time series data. At a glance all of them shows an upward trend, indicating a very vibrant and robust economy, specially during the 90's and onward.

Table1: GDP, GDS, GDI and Remittances (Figures in Crores of Taka)

Year	GDP*	GDS*	GDI*	Remittances**
1987	*35722.00*	*1833.00*	*6490*	*2313.94*
1988	*36777.00*	*2737.00*	*6944*	*2423.59*
1989	*37547.00*	*1424.00*	*6165*	*2446.00*
1990	*39739.74*	*2794.00*	*9283*	*2691.63*
1991	*41170.38*	*3445.60*	*9595.5*	*2818.65*
1992	*42776.02*	*5293.30*	*10985.1*	*3513.26*
1993	*44418.62*	*6588.90*	*13521.4*	*3986.97*
1994	*46204.25*	*7676.20*	*15892.7*	*4629.63*
1995	*48033.94*	*9069.50*	*19465.1*	*4838.31*
1996	*50603.75*	*9739.20*	*22120*	*5685.30*
1997	*53240.21*	*28738.30*	*37446.5*	*6709.15*
1998	*56083.23*	*34853.20*	*43303*	*7513.23*
1999	*58887.40*	*38901.60*	*48757.5*	*8882.74*
2000	*62503.08*	*42394.20*	*54586.5*	*10199.12*
2001	*65878.25*	*45337.00*	*58536.3*	*11590.79*
2002	*68776.89*	*49722.58*	*63109.431*	*16484.53*
2003	*72422.07*	*55890.21*	*70313.49*	*18485.12*
2004	*76984.66*	*64851.15*	*79816.8*	*21286.52*
2005	*81603.73*	*74432.96*	*90277.6*	*27304.34*
2006	*86989.58*	*84393.19*	*103932.5*	*38366.56*
2007	*92643.90*	*96385.92*	*115757.6*	*45337.35*
2008	*98387.83*	*110801.46*	*132088.44*	*61587.83*
2009	*103995.93*	*123574.80*	*150011.2*	*73981.46*
2010	*110339.68*	*139558.32*	*169414.08*	*76639.97*
2011	*117732.44*	*154350.00*	*194512.5*	*90240.05*

Source: *- Bangladesh Bank, **- Bureau of Manpower, Employment and Training (BMET).

Gross Domestic Investment (GDI)

From FY-1987 to FY-2011 there was no negative trend of GDI except FY-1989. In the very next FY it increased about 50.58 percent. In FY-1997 GDI increased almost 1.7 times than FY-1996. As a percentage of GDP (at market price) private investment was quite higher than public investment.

Gross Domestic Product (GDP)

For the last two decades Bangladesh economy has been growing at around 5% on average. As the robust private sector, primarily the garments industry has contributed to the growth of the manufacturing sector in the country, the GDP growth has always been positive for the selected period.

Remittances

Remittance is a very crucial factor for a country to develop especially for third world country like Bangladesh. This chart shows that every year it has been increasing particularly in FY-2002 it increased a lot. According to BMET that year more than two hundred thousand expatriates send their valuable money in Bangladesh. But during FY-2010, Bangladesh achieved comparatively low remittances because in that year number of expatriates were getting down than the immediate previous year.

Gross Domestic Saving (GDS)

Available data indicates that gross domestic savings at current market price had an upward trend during these 25 fiscal years except in FY-1989. In FY-1997 GDS increased almost 3 times than the preceding FY and reached into five digits for the first time. From FY-2000 to FY-2003 this upward trend was comparatively slow. But it appears that in recent years (FY03-11) private savings was higher than private investment, which indicates that some private savings is channeled to government sector induced by comparatively high rates of savings certificate. On the other hand the public sector component of savings increased very slowly for the said period.

Table 2: Lending Interest Rate, Savings Interest Rate, Inflation Rate and Exchange Rate

Year	LR*	SR*	IR**	ER (Taka/$)**
1987	16.00%	12.00%	10.35%	30.63
1988	16.00%	12.00%	11.42%	31.25
1989	16.00%	12.00%	8.00%	32.14
1990	16.00%	12.04%	9.30%	32.92
1991	15.92%	12.05%	8.94%	35.68
1992	15.00%	10.47%	5.09%	38.15
1993	15.00%	8.18%	1.33%	39.14
1994	14.50%	6.40%	1.83%	40.00
1995	14.00%	6.04%	5.20%	40.20
1996	14.00%	7.28%	4.07%	40.84
1997	14.00%	8.11%	3.96%	42.70
1998	14.00%	8.42%	8.66%	45.46
1999	14.13%	8.74%	7.06%	48.06
2000	15.50%	8.56%	2.79%	50.31
2001	15.83%	8.50%	1.94%	53.96
2002	16.00%	8.17%	2.79%	57.43
2003	16.00%	7.82%	4.38%	57.90
2004	14.75%	7.11%	5.83%	58.94
2005	14.00%	8.09%	6.48%	61.39
2006	15.33%	9.11%	7.16%	67.08
2007	16.00%	9.18%	7.20%	69.03
2008	16.38%	9.65%	9.94%	68.60
2009	14.60%	8.21%	6.66%	68.80
2010	13.00%	7.14%	7.31%	69.18
2011	13.25%	10.02%	8.80%	71.17

Sources:*- International Monetary Fund, **- Bangladesh Bank

Exchange Rate

From FY-1987 to FY-2011 the value of home currency depreciated continuously except in FY-2008. In FY-2008 taka appreciated against US dollar due to greater inflows of foreign exchange as remittances and export receipts outperformed the imports. The trend continued till the end of FY-2008. Despite hefty growth in exports (41.5%) and a moderate growth in wage earners remittances (6.0%), Bangladesh Taka witnessed 6.34 percent depreciation against US dollar in FY-2011 mainly because of higher import demand.

Inflation Rate

Controlling inflation has always been a big challenge for Bangladesh. In FY-1987 the inflation rate was 10.35 percent. The highest inflation rate in these 25 years was 11.42 percent in FY-1988. From FY-1991 to FY-1993 inflation rates primarily shows a negative trend. In FY-1996 and 1997 it happened again but during FY-1998 suddenly inflation rate increased about 3.96 times than FY-1997. During the last decade (FY00-FY09) the inflation rate ranged between 1.94%-7.20% (except 9.94% in FY08 due to pre-crisis price boom in the international market). In July 2008, international price of petroleum showed nosedive fall to near USD 40 per barrel in FY09 which contributed to relieve pressure on inflation.

Interest Rate on Lending

The lending interest rate in Bangladesh was 13.25% as of 2011. Over the past 25 years this indicator reached a maximum value of 16.38% in 2008 and a minimum value of 13.00% in 2010. It further indicates that interest rates on lending were between 14-16 percent from 1987-2007. From FY-1995 to FY-1998 the rates of lending remain unchanged but increased during the FY-1999 to FY-2002. In FY-2004 it declined to 14.75 percent. But the rate moved upward during FY-2005 to FY-2007 but continued to fall during FY-2008 to FY-2010 and reached 13.25 in FY-2011.

Interest Rate on Savings

The deposit interest rate in Bangladesh was 10.015% as of 2011. Over the past 25 years this indicator reached a maximum value of 12.05% in 1991 and a minimum value of 6.04% in 1995.

The rates of deposit declined during FY-2000 to FY-2004 because of some steps taken by Bangladesh Bank to stabilize it. It is evident from the figure that the interest rates on deposit were increasing throughout FY05-FY08 and thereafter declined to 8.21% in FY-2009 and 7.14% in FY-2010.

4.2 Regression Results and Discussion

Table-3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000[a]	.999	.999	1597.24719

a. Predictors: (Constant), GDS, IR, LR, SR, Remittances, ER, GDP

Table-2: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.396E10	7	1.057E10	4.142E3	.000[a]
	Residual	4.337E7	17	2551198.594		
	Total	7.401E10	24			

a. Predictors: (Constant), GDS, IR, LR, SR, Remittances, ER, GDP

b. Dependent Variable: GDI

According to the table-1 and table-2, both the high R^2 value and the significant F statistics indicate that the model used in explaining the changes in the dependent variables are considered as satisfactory.

Table-3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-12386.932	10866.010		-1.140	.270
	GDP	1.283	.350	.575	3.664***	.002
	ER	-795.945	290.433	-.200	-2.741**	.014
	IR	-381.708	185.768	-.020	-2.055*	.056

LR	-641.817	639.292	-.012	-1.004	.329
SR	755.278	424.031	.025	1.781	.093
Remittances	.009	.091	.004	.094	.926
GDS	.730	.110	.619	6.651***	.000

a. Dependent Variable: GDI

Note: *, **, and *** denote significant at 90%, 95% and 99% respectively.

As far as table 3 is concerned the coefficients significantly (at 10%) affecting investment differs from each other. Here we can see that five variables which have impact on investment, these are GDP, ER, IR, SR, GDS. But the contribution of remittances on investment in Bangladesh is not significant. The coefficients carry their expected signs, indicating positive relationship between investment with GDP, savings interest rate (SR), and GDS; whereas, negative relationship with exchange rate (ER), inflation rate (IR), lending interest rate (LR, insignificant)and remittances (insignificant). This indicates, though positive, the relationship between investment and remittance is highly insignificant.

5.1 CONCLUSION

The Government of Bangladesh with 160 million people is faced with a challenge to use the human resource effectively. The GOB has recognized labor migration as a potential tool for the socio-economic development of the country. Efforts to manage migration have been strengthened and introduced digitized migration management system in order to maximize benefits from migration and minimize the harmful effects.

The aim of the paper was to investigate whether the remittances have impact on investments or not. Now the result seems to conclude that macroeconomic factors of home country have significant impact on investments. Inflation rates, interest rates of savings, gross domestic product, and gross domestic savings of Bangladesh have positive relationship with investments. Exchange rates have also a positive relationship on investments in Bangladesh. But the most surprising thing is that remittances have no impact on investments in Bangladesh. As there are two options to use these remitted money, one is investment and another one is consumption, so it is clear that the most of remitted money is used for consumption. Since the most of people in

Bangladesh are living under poverty line that is why people use these remitted money for consumption instead of investments.

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