An Empirical Inquiry into Macroeconomic Determinants of Remittances inflow in Bangladesh

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Abstract   *Bangladesh is ranked 7th highest remittances receiving country of the world. Remittances have significant impacts on living standard of recipient households, easing national saving-investment and exports-imports gap, and building up of a better foreign exchange reserves. Reaping continuous benefits from remittances depend on addressing two issues, namely (i) increasing the number of remitters, particularly skilled and professionals; (ii) maintaining sustainability of remittances inflow. This paper analyzes macroeconomic determinants of remittances in Bangladesh and finds that home and host country income, exchange rate, financial sector development, and inflation rate have significantly affected remittance flows to Bangladesh. The paper also prescribes policies that would help promote remittance and contribute to achieving higher growth, generation of employment, and alleviation of poverty.*

JEL Classifications: *F16, F22, J61*

Key Words: *Remittances, Bangladesh.*

1.   Introduction

Workers' remittance has emerged as the a source of foreign exchange earnings in Bangladesh like many other developing countries. The growth of remittance flows has already surpassed private capital flows (FDI) and Official Development Assistance (ODA). For some developing countries, remittance accounts for between 10 to 31.1 percent of GDP. These countries are highly dependent on

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remittances as means of poverty alleviation and financing development activities. Thanks to their growing volume and development potentials, policy makers both in developed and developing countries are showing greater interest in remittance inflows, their determinants, costs and benefits, and policy challenges in the coming years.

Bangladesh has emerged as one of the top remittance recipient countries in the world securing 7th position. She experienced phenomenal growth in remittance inflows from $1.8 billion in 2001 to $4.8 billion in 2006 and $10.73 billion in 2010 (Annexure-1). Overseas employment and remittances contribute significantly to the economy of Bangladesh through promotion of living standard of recipient households, easing national saving-investment and export-import gap, and building up a better foreign exchange reserves. The amount of remittances in terms of proportion of GDP, exports and imports stood at 10.9, 66.1 and 46.2 in 2010 (Annexure-II1). Obviously, the stability of remittances inflow has become an important policy issue due to its growing development potential to affect both micro and macro economy via current account financing and influencing liquidity of the banking system. So, assessing the dynamics of remittances has been imperative for the smooth conduct of monetary and exchange rate policy. The present research paper investigates the role of macroeconomic variables on remittance inflows in Bangladesh based on the time series data for the period 1981-2010. The objectives of the paper are to find out macroeconomic determinants affecting remittance inflow in Bangladesh and suggest policy options in maintaining its sustainability and ensuring its developmental role in country's the economy.

The organization of the rest of the paper is as follows. Section 2 describes stylized facts of remittance inflow in Bangladesh to have a better understanding of the context within which the determinants of remittances are analyzed. Section 3 reviews foreign and domestic literature on the determinants of workers remittances. Section 4 is devoted to presenting the data and methodology used in the paper. The results of the estimation and policy options are analyzed in Section 5. Finally, conclusions are included in the Section 6.

2. Stylized Facts of Workers Remittance Inflows in Bangladesh

- Bangladesh started to export manpower abroad particularly in the Middle Eastern (ME) countries following the oil price boom in the early 1970s. Because of labor shortage ME countries had to import foreign labor to gear

up huge development activities financed by surplus oil revenues. Since inception, exports of manpower and remittance inflows were increasing every year with little exception (Annexure-I &1I).

- Most of the expatriates are working in Middle Eastern countries. As a result, major share of remittances came from Middle Eastern countries (Annexure-1). The Kingdom of Saudi Arabia (KSA) is the top destination country of Non-resident Bangladeshis (NRBs) followed by UAE (the United Arab Emirates) and Kuwait. The other Middle Eastern countries that import Bangladeshi workers include: Qatar, Oman, Bahrain, Libya, Iran and Iraq. Besides Middle Eastern countries, some South-East Asian countries, namely Malaysia and Singapore are also importing Bangladeshi workers at considerable numbers. The other South-East and East Asian countries that import Bangladeshi workers are Brunei and Japan. The OECD countries like USA, UK and Italy are also emerging as significant sources of remittances.

- About 5.5 million Bangladeshi workers got overseas employment. Now 0.45 million Bangladeshi (on average) migrate every year for jobs. Among all migrants, the female are only 1 percent. Out of them, 4.08 percent are professional workers, 33.42 percent are skilled workers, 15.49 percent are semi-skilled workers and 47.01 percent are unskilled workers.

- Initially Government organs BMET and BOESL played leading role in recruiting manpower but now most overseas job seekers go through private recruiting agents under government license and individuals working abroad.

- Officially recorded remittances are channeled through the banking network. In this case, the role of Nationalised Commercial Banks (NCBs) is gradually decreasing while private banks are emerging as major players in channeling remittances. A study[1] conducted by the International Labor Organisation (ILO) reveals that "In Bangladesh, 46 percent of the total volume of remittance has been channeled through the official sources, around 40 percent through hundi, 4.61 percent through friends and relatives and about 8 percent of the total was hand carried by migrant workers themselves when they visited home. If all amounts of remittances were made through the official banking channel, the Current Account Balance (CAB) in the Balance of Payments would be dramatically changed and foreign exchange reserves position would have been better.

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[1] International Labor Organization (ILO) : A study conducted by the Refugee and Migratory Movements Research Unit, ILO, 2001.

- Now every year 0.45 million workers on average migrate, which helps cut the unemployment level. Moreover, remittance inflow has helped the country cut its poverty substantially. According to Global Economic Prospects for 2006, "Remittances have association with significant declines in poverty in several low income countries including six percent in Bangladesh, eleven percent in Uganda and five percent in Ghana."

- Remittance plays a vital role to bring sustainability in the current account balance. Current account balance has been turned positive in recent years (with some exceptions) following a steady remittance inflows.

- Remittances have contributed a lot to maintaining healthy foreign exchange reserves. Among major sources of foreign exchange, exports hold the top position followed by remittance. But if we take back-to-back imports into consideration used for RMG exports, remittances emerge as the single largest source of foreign exchange. The surge in remittances also contributes to reducing the dependency on conditional costly foreign borrowings.

- Financial sector development is being enhanced through increased inflows of remittances. This is reflected in the increasing number of clients, the expanding base of different products among beneficiary of remittances, and adoption of modern technology by the financial institutions.

- Remitters also create markets in the destination country for domestic products.

- Since Bangladesh is a labor surplus country, the adverse effect of brain drain is perhaps the minimum.

3.   Review of Literature

The existing literature has recognized two types of determinants of Workers Remittances (Aydas, S. T. etal. 2004). The first category refers to microeconomic determinants such as socio demographic characteristics of migrants and their families; these include migrant income, gender, marital status, age, education level, duration level, migration costs, migrant's spouse, risk, HH income, wealth, shock and dependency ratio (Agarwal & horowitz 2002, Amudo-Doranttes & Pozo 2005, 2006, Holst and Schrooten 2006). The second type of determinants deals with macroeconomic variables such as the economic activity in host and home countries, exchange rates, relative interest rate, number of workers, wage rates and financial development. Since the scope of the research paper is confined to analyze the macroeconomic determinants of remittances inflow, it is beyond our scope to analyze the microeconomic determinants of remittances.

Major empirical macroeconomic papers focus that the economic activity in the migrant workers' host country is the most important factor because improved economic conditions in the host country allow migrants to increase their employment and earnings prospects, which in turn allow migrants to send more money home (Swamy 1981, Straubhaar 1986, Elbadawi and Rocha 1992, El-Sakka and Mcnabb 1999, Aydas, S. T. etal. 2004, IMF 2005).

The state of the economy in the migrants' home country is also important since negative shocks in the home country may increase the need for remittances to be sent, which may induce current migrants to send money or cause migration in the first place (IMF 2005). While most empirical papers that test altruistic motive to remit at the microeconomic level, Bouhga-Hagbe (2006) uses macroeconomic determinants to test altruism as a motive to remit. They use a measure of "hardship" (fall in domestic GDP) to test altruistic motives in Egypt, Jordan, Morocco, Pakistan and Tunisia and find that as hardship increases so do remittances.

Some macroeconomic papers also look at the investment motive of remitters by looking at the macro economic conditions for investment in both the home and host countries (Akkoyunlu & Kholodilin, 2006 and Schiopu & Siegried, 2006). When testing altruism versus investment at a macroeconomic level, Schiopu and Siegried (2006) find evidence for altruism, but little evidence for the investment motive.

Economic policies and institutions in the home country, like exchange rate restrictions and black market premiums, may discourage remittances from being sent and may also shift remittances from the formal to the informal sector (IMF, 2005 and El-Sakka & McNabb, 1999). Macroeconomic instability such as high inflation or real exchange rate hyperinflation may have a similar negative effect. On the other hand, financial sector development, which makes remittances easier and cheaper, should stimulate remittances (IMF, 2005).

Some studies like Chandavarkar (1980) and Aydas, S. T etal. (2004) reveal that exchange rate affects remittances flows. A few studies opine that neither interest rate differentials between the host and home countries, nor the variation in exchange rates have any effect on remittance flows (Swamy 1981 and Straubhaar 1986).

Wahba (1991) indicates that black market premium, interest rate differentials, political stability, consistency in government policies and financial intermediation all significantly affect the flow of remittances. However, while El-Sakka and Mcnabb (1999) and Elbadawi and Rocha (1992) agree on the negative effect of

the black market premium, they disagree on the effects of differential interest rate and domestic inflation. According to Elbadawi and Rocha (1992), differential between domestic and foreign interest rates has no significant effect on remittances, while El-Sakka and Mcnabb (1999) argue that it negatively affect the remittances. Moreoever, Elbadawi and Rocha (1992) find significant negative effect of inflation on WR flows, while El-Sakka and Mcnabb (1999) argue that it has a positive effect.

General risks in the home country such as political instability or low levels of law and order may deter remittances, since such an environment is not conducive for investment purposes (IMF, 2005). On the other hand, in such times there may be more need for remittances so more remittances may be sent. Investment opportunities in the home and host country may also have an effect on remittances. Greater potential return to assets in the host country (as opposed to the home country) may encourage migrants to invest in the host country and reduce remittances for investment purposes (IMF, 2005).

The contradictory findings reported in the literature may reflect the fact that the focus of some of these studies is often limited to only a few macroeconomic variables, ignoring key determinants such as the black market exchange rate. In addition, due to the lack of data, estimation periods of most of the studies are rather short. Also, in various studies (Elbadawi and Rocha [1992], El-Sakka and Mcnabb [1999]) the estimation is based on modeling remittances with the levels of potential determinant variables, while these variables are generally non-stationary.

Though there are many studies dealing with macroeconomic determinants of remittances in key recipient's countries (e.g Turkey, India, Pakistan, Kenya, Jordan, Greece, Egypts, Philippines, Mexico etc), surprisingly, few are available on the topic in Bangladesh. In this backdrop, the present research paper, dealing empirically with macroeconomic determinants of remittances in Bangladesh, would add new dimension to the existing literature on migration and remittances in Bangladesh.

4.   Data Information & Methodology

Variables Definition and Data Information

Data employed in this research paper are secondary in nature. The main sources include Economic trend (Bangladesh Bank), Bangladesh Economic Survey (Ministry of Finance), Scheduled Banks Statistics (Bangladesh Bank),

International Financial Statistics (IFS) and World Bank Data Series. The sources and definition of data/variables used in the model are explained in detail below.

- Remittances inflow (REM): Remittances inflow represents the cash inflow of remittances in million US$ that comes from top ten Bangladeshi manpower importing counties – KSA, UAE, Kuwait, Oman, Qatar, Bahrain, Malaysia, USA, UK and Singapore. These countries account for more than 90 percent of total remittances. The other countries are excluded due to non-availability of data.

- GDP of Host country (GDPH): Ten countries with biggest stock of Bangladeshi workers are selected as host countries. We assign weights to each country according to the stock of Bangladeshi remitters and derive GDP index. Data are collected from World Bank Data Base.

- Domestic GDP at constant Price (GDPD): The paper uses the base, 1995-96 = 100, for GDP at constant price. This figure is used for calculating the GDP growth. The data for GDP at constant price in million Taka are collected from different issues of Monthly Economic Trend.

- The financial sector development (FSD) refers to (M2/GDPMP)*100. Data on GDP at current market price (GDPMP) in million Taka and Broad Money (M2) in million Taka have been collected from different issues of Monthly Economic Trend of Bangladesh Bank.

- Exchange Rate (ER): It refers to Taka/dollar exchange rate. The data for ER are collected from different issues of Monthly Economic Trend directly.

- Inflation (INF): It refers to % change in CPI index (base:1995-1996) which is gathered from Economic Trend, Bangladesh Bank.

Specification of the Model

After reviewing the existing literature and the salient features of remittances inflow in Bangladesh, the paper focuses a model to analyze the macroeconomic determinants of workers' remittances in the context of Bangladesh economy. In the light of previous studies cited in the literature review particularly, Aydas, S. T., etal (2004). Gupta, P. (2005) and Bouhga-Hagbe, (2006), the variables employed in the model are official cash remittances (REM), stock of workers abroad (NRB), domestic GDP of Bangladesh (GDPD), the GDP of host countries , exchange rate of Taka against US dollar (ER), domestic inflation (INF) and financial sector development (FSD). We use ordinary least square (OLS) method to estimate the

model for remittances inflow in Bangladesh using the data set from 1981 to 2006. In this context, we use statistical software E-views as a tool for estimation. Though Bangladesh started exporting manpower since 1976, the 1981-2007 period is selected due to non-availability of earlier data. Hence, the following model is estimated for the dependent variable remittances inflow (REM) for 1981-2007:

$$Log\ REM = log(GDPH) + log\ (GDPD)\ + log(ER) + log\ (FSD) + log(INF)$$

5. Findings, Statistical Analysis and Policy Options

Findings

In order to estimate the model for remittance inflow in Bangladesh based on the data set for 1981-2010, the research paper obtains the following regression results (Table-2) by using the statistical software e-views.

Using the findings we can estimate remittances inflow function as below:

Table 2: Regression Results (Dependent Variable: LOG (REM)

Explanatory Variables	Coefficients	Std. Error	t-statistic	Prob.
Log(GDPH)	1.354360	0.190150	7.122592	0.0001
Log(GDPD)	-0.350892	0.065886	-5.325760	0.0019
Log(ER)	0.771258	0.258763	2.980554	0.0066
Log(FSD)	0.623780	0.267680	2.330319	0.0151
Log(INF)	0.074275	0.059559	1.247065	0.2081
R-squared	0.976812			
Adjusted R-squared	0.972395			
F- Test	221.1560			0.0000
D-W Statistic	1.299586			

Log REM = 1.35log(GDPH) - 0.35log (GDPD) + 0.77log(ER) + 0.62log (FSD) + 0.o7log(INF)

Analysis of the findings

According to the second column of Table 2, we find the estimated coefficients of GDPH, GDPD, Exchange rate, FSD, and inflation. Now we shall explain the sign and magnitude of these coefficients and their implications one by one.

The estimated coefficient of host country GDP (GDPH) is positive (1.35) and highly statistically significant at less than 1 percent level of significance. The

values of t-statistic and the probability of rejecting the null hypothesis, H_0: $?_1 =$ 0, are 7.12 and 0.0001 respectively. The positive coefficient suggests that an increase in host GDP increases remittances inflow in Bangladesh. This conforms to the findings of other studies (Swamy 1981, Straubhaar 1986, Elbadawi and Rocha 1992, El- Sakka and Mcnabb 1999, Aydas, S. T., etal. 2004, IMF 2005) implying that the expanded GDP of remittance-source countries enhances recruitments of Bangladeshi workers, and as a result, remittance flows go up. The greater than 1 percent coefficient of host GDP suggests that the level of economic activity in the host country is the most important among the variables of the model affecting the remittance inflows in Bangladesh.

The sign of the coefficient of Bangladeshi GDP (GDPD) is found negative and lower than unity (0.35). But the coefficient is statistically significant with less than 1 percent level of significance. The values of t-statistic and the probability of rejecting the null hypothesis, H_0: $?_2 = 0$, are 5.325760 and 0.0019 respectively. The negative effect of GDPD indicates that remittance inflow mainly smoothes consumption of recipient households to compensate for negative income shocks. However, it has multiplier effects on GDP. The results supported by other studies (Gupta, 2005 and Bouhga-Hagbe 2006) are also found in other countries. Remittances as share of personal consumption rose in response to financial crisis in Mexico in 1995, in Indonesia and Thailand in 1997. Remittances as share of personal consumption also went up in response to natural disaster in Bangladesh, Dominican Republic, Haiti and Honduras.

The elasticity of the remittances inflows with respect to exchange rate is 0.77, which is positive and lower than unity. The values of t-statistic and the probability of rejecting the null hypothesis, H_0: $?_3 = 0$, are 2.98 and 0.0066 (below 1%). The effect of exchange rate is significant at less than 1 percent level of significance. This indicates that currency depreciation promotes inward remittances in Bangladesh. A depreciation of currency (Taka against US$), as the regression results reveals, increases remittances sent through official channel. This is also consistent with the findings of Chandavarkar (1980). The depreciation of the home currency makes the citizen living abroad wealthier as it increases the purchasing power in the home country and provides incentives to buy goods, including residential real estate. This has also multiplier effects.

The sign of the coefficient of the financial sector development is positive, but the magnitude is less than one (0.62). But, it is statistically significant at 1.5 percent level of significance. The values of t-statistic and the probability of rejecting the null hypothesis, H_0: $?_4 = 0$, are 2.33 and 0.0151, respectively. The positive sign

indicates that the higher the degree of financial sector development, the more will be the remittances inflows. This is also supported by other studies (IMF, 2005).

The empirical evidence in this paper reveals that inflation (INF) does not significantly affect remittances inflow to Bangladesh. The issue of no relation of inflation with remittances or minimal relation between the two is also analyzed in some studies.

Considering the F-statistic (221.1560), we can say the model is overall significant, because the probability of rejecting the null hypothesis, H_0: $?_1 = ?_2 = ?_3 = ?_4 = 0$ is zero (0.0000). Besides, since the R^2 (0.972395) and adjusted R^2 (0.976812) are very high, the variables used in this model are able to explain the model significantly. In other words, the model is a good fitted one.

6. Policy Options and Conclusions

Based on the findings, the paper suggests the following measures to augment remittances inflows in Bangladesh.

1. Establishing hassle free sending infrastructure

2. Exploring new overseas markets

3. Making continuous improvement of formal channel of fund transfer

4. Creating real investment avenues for Non-resident Bangladeshis (NRBs)

5. Restrictions on holding of foreign currencies by NRBs or residents may be lifted altogether. The experience of the Philippines in this regard indicates that remittance inflow rather increased after withdrawal of restrictions in that country.

6. Alongside the other three bonds (Wage Earners' Development Bond, US $ Investment Bond and US $ Premium Bond), a special financial instrument named "Workers' Remittance Bond" with attractive returns in the pattern of Foreign Exchange Bearer Certificates may be introduced and sold to the NRBs through the overseas branches or correspondents of Bangladeshi banks, including exchange companies.

7. Government can issue sovereign bond to raise funds from Bangladeshi migrants/ foreigners for infrastructure financing. International Sukkuk bond based on Islamic Sharia'h may also be issued to tap foreign currencies.

8. Enactment of a "National Migration Policy" is a need of the hour to treat this sector as an industry and to establish formal smooth guidelines, transparency

and accountability in processing the overseas employment and welfare of the migrant workers.

9. Mexican experience suggests that introduction of 'matriculas consulers' have boosted up remittance flow to Mexico. Our foreign embassies and high commissions may also replicate this system to provide a legal identity to the NRBs spread over the world. This official recognition/identity of the NRBs whether they went there legally or illegally might help them to open bank accounts as well as sending remittances through the official channel.

10 Financial fairs may also be arranged by Bangladesh missions abroad   in cooperation with the overseas country's concerned ministries or departments to inspire the NRBs to acquaint with the formal official arrangements for effecting remittance to the country. Drawing on the experience of Sri Lanka, commercial banks may be allowed to extend low-interest loan schemes to the beneficiaries of NRBs at home for purchasing land, flats, building houses or for investing in self-employment activities.

11. An effective and elaborate publicity drive should be undertaken by the embassies, consulate offices and the Bangladeshi bank branches abroad and their correspondents including exchange companies to familiarize the NRBs with the benefits and advantages of the package of facilities including investment facilities extended to them.

In Bangladesh, the stability of remittance inflow has become an important policy issue due to its growing impacts on employment generation, development financing, BOP stability and liquidity of the banking system. Following this policy perspective, the paper empirically examines the effect of various macroeconomic variables on remittance flows and found that for the 1981-2010 period, macroeconomic variables like economic activity of home country, economic condition of host country, financial development and exchange rate have significantly affected remittance flows. Based on these findings, the paper concludes that Bangladesh as a labor exporting country can influence the inflow of remittances by means of appropriate policies of building hassle free sending infrastructure, searching new overseas markets, further improvement of formal channel of fund transfer, and creating investment avenues for non-resident Bangladeshis.

As remittances are quid-pro-quo in nature and have no future repayment obligations like other forms of foreign capital and have exhibited resilience and stability, Bangladesh should pay topmost priority to tap huge amount of foreign exchange by exporting millions of unemployed youths to remove constraints of

financing development activities to make Bangladesh poverty free within 2020. In the backdrop of declining trend of ODA and fierce competition for FDI, massive remittance flows to Bangladesh would also curtail dependency on conditional foreign funds and enhance our policy sovereignty. Further rigorous research should be conducted to examine trends, determinants and policy options so that remittances can be a viable sustainable source of development finance in Bangladesh.

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Annexure 1: Countrywise Remittances inflows in Bangladesh

(In Million US$)

Year	KSA	UAE	Qatar	Oman	Bahrain	Kuwait	USA	UK	Malaysia	Singapore	Total10	Others	Grand Total
1981	83.88	65.59	13.67	5.91	1.26	19.09	32.99	104.9	0	0	327.3	53.89	381.2
1982	120.9	55.49	15.98	10.36	2.48	22.97	31.86	69.27	0	0	329.3	89.15	418.5
1983	199.7	78.68	28.99	12.65	3.68	44.94	39.52	84.55	0	4.04	496.8	122.7	619.5
1984	215.1	59.8	30.2	24.1	8.1	50.5	36.8	70.6	0	6.6	501.8	88.8	590.6
1985	153.7	42.1	22.1	27.5	6.8	37.6	32.4	50.9	0	3.4	376.5	65.1	441.6
1986	180.4	54	22.3	54.1	9.4	62.3	38.7	77.6	0	2.4	501.2	147.4	648.6
1987	216.3	60.9	38.4	53.4	11.3	101.3	43.2	92.8	0	2.6	620.2	77.25	697.5
1988	226.5	62.36	45.7	51.92	12.39	96.37	61.44	88.39	0	2.11	647.1	90.29	737.4
1989	219.4	61.23	44.84	45.31	13.25	96.41	83.96	67.39	0	2.09	633.9	137	770.8
1990	226.2	55.16	40.27	40.55	14.28	89.22	82.38	58.4	0	2.28	608.7	149.5	758.2
1991	264.9	78.13	59.5	49.69	16.48	9.01	60.15	68.83	0	2.16	608.9	155.2	764.0
1992	315.7	79.56	48.07	60.55	20.2	66.9	55.43	57.15	0	1.52	705.1	142.9	848.0
1993	398.4	80.22	53.83	60.08	22.36	124.1	68.06	48.44	4.22	2.53	862.3	81.75	944.0
1994	441.1	88.1	56.16	73.03	27.3	185.2	78.68	48.49	10.19	2.32	1010.6	78.21	1088.8
1995	476.9	81.34	72.18	81.27	33.71	174.7	102.23	47.02	10.19	2.32	1081.9	115.8	1197.6
1996	498.2	83.7	53.28	81.71	30.08	174.3	115.36	41.28	74.43	3.99	1156.3	60.76	1217.1
1997	587.2	89.64	53.16	94.45	31.52	211.5	157.39	56.2	94.51	6.66	1382.2	93.23	1475.4
1998	589.3	106.9	57.81	87.61	32.42	213.2	203.13	65.8	78.09	7.69	1441.9	83.57	1525.4
1999	685.5	125.3	63.94	91.93	38.94	230.2	239.43	67.52	13.07	1609.9	95.82	1705.7
2000	916	129.9	63.73	93.01	41.8	245	241.3	71.79	54.04	11.63	1868.2	81.14	1949.3
2001	919.6	144.3	63.44	83.66	44.05	247.4	225.62	55.7	30.6	7.84	1822.2	59.91	1882.1
2002	1148	233.5	90.6	103.27	54.12	285.8	356.24	103.3	46.85	14.26	2435.8	65.29	2501.1
2003	1254	327.4	113.55	114.06	63.72	338.6	458.05	220.2	41.4	31.06	2962.4	99.61	3062.0
2004	1386	373.5	113.64	118.53	61.11	361.2	467.81	297.5	37.06	32.37	3248.8	123.2	3372.0
2005	1510	442.2	136.41	131.32	67.18	406.8	557.71	375.8	25.51	47.69	3701.1	147.2	3848.3
2006	1697	561.4	175.64	165.25	67.33	494.4	760.69	555.7	20.82	68.84	4567.1	234.8	4801.9
2007	1735.0	805.0	233.0	196.0	80.0	681.0	930.0	887.0	12.0	80.0	5639.0	339.0	5978.0
2008	2324	1135	289.8	220.6	138.2	863.7	1380.1	896.1	92.44	130.1	7470.3	444.5	7914.8
2009	2859.1	1754.9	343.4	290.1	157.5	970.8	1575.2	789.7	282.2	165.1	9187.8	501.3	9689.2
2010	3427.1	1890.3	1019.2	170.1	193.5	587.1	349.1	360.9	827.5	1451.9	10276.6	453.9	10730.5

Source: Bangladesh Economic Review 2011, Ministry of Finance, Government of Bangladesh.

Annexure 2: Number of Bangladeshi Expatriates (1981-2006)

Year	KSA	UAE	Qatar	Oman	Bahrain	Kuwait	USA	UK	Malaysia	Singapore	Others	G10	Grand Total
1981	13384	6418	2268	7352	1392	5464	0	0	0	385	19124	92450	55787
1982	16294	6863	6252	8248	2037	7244	0	0	0	1083	14741	110783	62762
1983	12928	6615	7556	11110	2473	10283	0	0	0	331	7924	110516	59220
1984	20399	5185	2726	10448	2300	5627	0	0	0	178	9851	103577	56714
1985	37133	8336	4751	9218	2965	7384	0	0	0	718	7189	148199	77694
1986	27235	8790	4847	6255	2597	10286	0	0	0	792	7856	129460	68658
1987	39292	9953	5889	440	2055	9559	0	0	0	25	6804	141230	74017
1988	27622	13437	7390	2219	3268	6524	0	0	0	0	7661	128581	68121
1989	39949	15184	8462	15429	4830	12404	0	0	401	229	4836	198612	101724
1990	57486	8307	7672	13980	4563	5957	0	0	1385	776	3688	203940	103814
1991	75656	8583	3772	23087	3480	28574	0	0	1628	642	1709	292553	147131
1992	93132	12975	3251	25825	5804	34377	0	0	10537	313	1910	374338	188124
1993	106387	15810	2441	15866	5396	26407	0	0	67938	1739	2524	486492	244508
1994	91385	15051	624	6470	4233	14912	0	0	47826	391	5434	367218	186326
1995	84009	14686	71	20949	3004	17492	0	0	35174	3762	8396	366690	187543
1996	72734	23812	112	8691	3759	21042	0	0	66631	5304	9629	413799	211714
1997	106534	54719	1873	5985	5010	21126	0	0	2844	27401	5585	456569	231077
1998	158715	38796	6806	4779	7014	25444	0	0	551	21728	3834	531500	267667
1999	185739	32344	5611	4045	4639	22400	0	0	0	9596	3808	532556	268182
2000	144618	34034	1433	5258	4637	594	0	0	17237	11095	3780	441592	222686
2001	137248	16252	223	4561	4371	5341	0	0	4921	9615	6656	371720	188965
2002	163269	25462	552	3854	5421	15769	0	166	85	6856	4545	447413	225256
2003	162131	37346	94	4029	7482	26722	0	166	28	5304	11148	497752	254190
2004	139031	47012	1268	4435	9194	41108	0	2055	224	6948	25006	527556	272958
2005	80425	61978	2114	4827	10716	47029	0	2793	2911	9651	35165	480053	252702
2006	108671	129155	7662	8038	16301	35483	0	1597	20452	20077	40979	735851	381516
2007	204112	226392	15130	17478	16433	4212		972	273201	38324	68188	864442	832609
2008	132124	419355	25548	52896	13182	319		952	131762	56851	68836	901825	875055
2009	14666	258348	11672	41704	28426	10		1253	12402	39581	80141	488203	475278
2010	7069	203308		42641	21824	48		1253	919	39053	75840	391955	390702

Bangladesh Economic Review 2010, Ministry of Finance, Government of Bangladesh.

Annexure 3 : Remittances as % of Key Macroeconomic Variables

Year	REM%GDP	REM%EXPORTS	REM%IMPORTS	REM%FXRESEVES	REM%CAB	REM%BOP	REM%ODA	REM%FDI
1981	2.7	53.7						
1982	3.2	66.8	17.4	345.5	47.6	314.2	33.7	
1983	5.1	90.2	28.8	172.9	193.4	333.2	52.6	
1984	4.2	72.9	27.9	109.4	219.4	323.4	46.6	
1985	2.8	47.3	16.7	111.9	76.3	339.6	34.8	
1986	4.2	79.2	27.5	136.3	130.3	1066.2	49.7	
1987	4.0	64.9	26.6	97.5	153.8	1686.6	43.7	
1988	3.9	59.9	24.7	86.1	226.5	690.8	44.9	
1989	3.8	59.7	22.8	84.4	110.3	12196.2	46.2	
1990	3.4	49.7	20.2	145.8	97.8	324.6	41.9	
1991	2.5	44.5	21.8	86.8	525.3	255.4	44.1	
1992	2.7	42.5	24.0	52.7	407.4	145.2	52.6	
1993	3.0	39.7	23.3	44.6	522.5	161.7	56.5	
1994	3.2	43.0	26.0	39.5	391.2	153.9	69.9	
1995	3.2	34.5	20.5	39.0	653.8	264.0	68.9	
1996	3.0	31.3	17.6	59.7	130.9	153.1	84.3	
1997	3.5	33.4	20.6	85.8	1017.7	600.4	99.6	
1998	3.5	29.5	20.3	87.7	329.4	2824.1	121.9	
1999	3.8	32.1	21.3	112.0	357.7	883.9	111.1	862
2000	4.1	33.9	23.3	121.7	466.3	1088.8	122.7	509
2001	4.0	29.1	20.2	144.0	171.4	669.8	137.5	342
2002	5.3	41.8	29.3	158.0	1593.0	613.0	173.4	640
2003	5.9	46.8	31.7	124.0	1739.8	375.7	193.2	814
2004	6.0	44.4	30.9	124.7	1915.9	1971.9	326.4	1222
2005	6.4	44.5	29.3	131.3	690.8	5743.3	258.1	481
2006	7.7	45.6	32.6	137.8	839.5	1315.6	320.3	711
2007	8.7	49.1	34.8	117.7	627.9	400.4	366.7	754
2008	9.9	56.1	36.6	128.7	1163.8	2390.9	383.9	1058
2009	10.8	62.2	43.0	129.7	401.0	470.8	524.5	1512
2010	10.9	66.1	46.2	102.1	293.6	383.0	495.0	1202

Source: BOP Statistics, Bangladesh Bank and Bangladesh Economic Review (Various issues). Compiled by the author.