

MACROECONOMIC IMPLICATIONS OF INTERNATIONAL MIGRANTS' REMITTANCES IN BANGLADESH

by

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ABSTRACT

This paper empirically examines the magnitudes of remittances to Bangladesh and its impact on development and growth of the Bangladesh economy. The first part of the thesis describes the extent and evolution of remittances, which is followed by an empirical analysis. The results suggest that the relationship between remittances, investment and growth is ambiguous. However, remittances seem to exert a relatively strong impact on human capital through which growth is also influenced. A discussion of the policy implications concludes the thesis.

Keywords: Remittance, Investment, Knowledge economy, Causality, Growth.

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ABBREVIATION USED

ADB	Asian Development Bank
ADF	Augmented Dickey Fuller
ADRL	Autoregressive Distributed Lag
BB	Bangladesh Bank
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HDI	Human Development Index
IOM	International Organization of Migration
IMF	International Monetary Fund
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
Tk.	Taka (Currency of Bangladesh)
UNDESA	United Nations Department of Economic and Social Affairs
WB	World Bank
WEO	World Economic Outlook

CHAPTER 1

Introduction

1.1 Background of the study

One of the many features of globalization is the eternal movement of people across countries. All over the history, individuals and households have migrated for survival or for an improvement in economic, social and political status. The total number of international migrants over the last 10 years has increased from 150 million in 2000 to 214 million persons nowadays (IOM, 2011). Men and women, predominantly from the developing countries, given their circumstances, perceive the opportunities of the developed countries as better and hence make the decision to leave home and seek work abroad.

The widespread movement of people between the developing and developed nations transforms the lives of migrant population along with remarkable influences in the lives of non-migrant population. For instance, when migrants settle in the destination countries their personal lives and of those who are left behind in the countries of origin change not only economically, but also socially and culturally. Global remittances have increased exponentially up from USD 132 billion in 2000 to USD 440 billion in 2010 despite a slight decline due to the current economic crisis.

The case for Bangladesh presents an interesting setting of migration and remittances, particularly driven by oil exploration of Middle East countries during mid 1970s, there was tremendous demand for unskilled workers. Steadily, this sort of migration also extended to the recently industrialized countries such as India, Saudi Arabia, the United Kingdom, Kuwait, Oman, the United States, Malaysia, the United Arab Emirates, Italy, Jordan. However, the percentage of labour migration has dropped down in the recent years due to the recent economic recession, Middle Eastern political unrest and squeeze in the demand of labour markets. This migration goes on because of specific job contracts and almost all of the migrants' get back to their home country labour market after completing their contracts.

The process of migration to more advanced economies (e.g. Middle East, OECD countries) generates an opportunity for migrants to absorb advanced knowledge and technology. Clearly people tend to migrate for a number of reasons, such as continuing their studies, training and jobs etc. In case of Bangladesh, remittance plays a significant role to maintain balance of payment and foreign currency reserve. They also provide a major source of income and foreign exchange earnings and play leading role especially international financial obligations, such as debt servicing as well. Their level is often noteworthy weighing against to the country's merchandise exports. The consistent flow of workers' remittances is also noteworthy in the case of Bangladesh when compared with the flows of official aid and foreign direct investment.

The role of migrants is thus twofold. They constitute both a source of increased capital and a source of knowledge, since they absorb the relevant knowledge from the practical training provided by developed societies. These activities should have a strong potential to positively influence investment and business entrepreneurship. Such enterprise should accelerate the ongoing productivity of firms (Barro et al. 2000). Also, as a consequence of

increasing demand in the industrial and service sector, workers' migration from the labour abundant agricultural sector does not deteriorate the national growth of an economy. Such an intrinsic phenomenon provides sufficient motivation for analyzing the key factors that ensure development and economic growth in a less developed country, like Bangladesh, including remittances.

There are many ways to analyze the determinants of growth. Typical theoretical growth models based on reasonable axioms seem to have a limited capability of uncovering some of the implied determinants of economic development, whereas empirical analysis seems to fare better. Thus, it can be said that remittances play an important role in the development process, and is a key focus of this study.

The method we follow for this empirical analysis is based on the multi-variate time series approach of examining the dynamic relationships among the variables. In fact, we would like to determine the plausible factors of economic development and growth in the case of the Bangladesh economy.

1.2 Research Question

International migrants' remittances have up to now highlighted its attention mainly on the impact of remittances on income distribution within the countries, on the determinants of remittances or on the special effects of remittances for specific countries. Therefore, this paper highlights on three questions:

1. To demonstrate so far has the ever-increasing inflow of remittances bring about economic growth in Bangladesh?
2. What are the macroeconomic factors influenced by remittances?
3. Are there any lines of causality observable between international migrant remittances and economic growth in Bangladesh?

1.3 Objectives of the Research:

After reviewing the literature on the macroeconomic impact of in the remittances on the economic development of the Bangladesh found the research gap in the sustainability of remittance in the economy. In fact, we would like to determine the plausible factors of economic development and growth in the case of the Bangladesh economy. Hence the following objectives are prioritized to experiment further in research study:

1. To contribute to the weak and recent literature on macroeconomic impact of international migrants' remittance on the economic growth
2. To assess the extent of remittances compared with key macro-economic variables such as gross domestic product, private investment and human capital development
3. To suggest suitable policy recommendations for the macroeconomic development of with a view to smooth transaction of remittances in Bangladesh.

1.4 Chapter Outline

This study is divided into six chapters and proceeds as follows. Chapter 2 discusses the relevant literature on migration-remittances development. A review of the burgeoning literature on conceptualizing migration is followed by a discussion of various theories of remittances. Specific emphasis is placed on the remittances- development nexus, particularly the impact of remittances on economic growth. In Chapter 3 an overview of stylized fact of remittance impact in the South Asian region reported in recent publications of the World Bank, to highlight the important factors that propel growth of Bangladesh economy. The chapter also provides a macroeconomic overview of Bangladesh economy in terms of economic growth, labour market performance, the role of international capital flows like foreign direct investment (FDI) and foreign aid, and migration and remittance flows. Next, the theoretical underpinning, and the methodology employed in empirical analysis, is introduced (section 4) while section 5 analyzes the findings and presents the results. Finally section 6 summarizes and concludes stressing on policy recommendations.

CHAPTER 2

Literature Review

A large number of contemporary studies allude to the importance of strategic externalities of international remittances. Therefore, focusing on the macroeconomic implication of international migrants' remittances in comparison with other macroeconomic variables is the prime concern of this research study and the papers reviewed accordingly.

2.1 Migration and Economic Growth

International migration is becoming a central feature of globalization and has emerged as a major factor in international relations and remittances have become an increasingly important source of financial flows to developing countries. While foreign direct investments and capital market flows fell sharply in the last years due to the recession in the high income countries, migrant remittances continued to grow. The OECD (2006) notes that although the importance of remittances in compensating human capital loss of developing countries was recognized as early as the 1980s, a wide range of issues including the transfer channels used and their economic impact on the receiving countries following the sharp increase in remittance flows have gained momentum, resulting in a mushrooming of the scientific literature.

2.2 Remittances and Economic Growth

The role of workers' remittances in the economic growth of recipient countries is considered to be an important area of research. In particular, sound research in this area is crucial for policy makers that will enable them to formulate policies that channel the flows of remittances into more productive investments fostering growth and development. The inflow of remittances not only affects growth to the receiving economies through savings and investment but also it has short run effects on aggregate demand and output all the way through consumption (Solimano, 2003).

The neoclassical growth model of Solow (1956) and Swan (1956) is based on the rate of labor supply, capital accumulation and consumers' time preferences (i.e. interest rate).³ Romer (1986, 1990) extended this growth model by inserting Arrow's (1962) exogenous knowledge factors in the production function. More precisely, non-rivalry and, partially, non-excludability of such knowledge stimulate labour productivity through the diffusion of knowledge and spillovers (Lucas 1988). Part of this knowledge stocks can however be appropriated by other existing firms.

According to contemporary growth theory, fostering economic growth crucially depends on the increase of knowledge embedded in human capital. In addition, a number of recent empirical studies suggest that entrepreneurial startups are important links between knowledge creation and its commercialization (Braunerhjelm, 2008). In that case, policies should put more emphasis on incentives structure for skill upgrading of labor, competitive innovation systems, entrepreneurial activities and access to capital. Thus, growth hinge upon the endowment of knowledge and its continuous augmentation (Romer 1986, 1990).

Better earning potentials in the foreign countries along with other advantages (i.e. acquisition of new technical knowledge, skills, etc.) and the possibility to aid the close family members are perhaps the main reasons why people choose to migrate. As shown by Adams (2004), foreign remittance has a positive impact on low-income groups. His study is an empirical examination of cross-national databases of African and Latin American countries (see Adams and Page, 2005, Acosta et al. 2007).⁴ On the other hand, Amuedo-Dorantes and Pozo (2004) argue that remittance can affect domestic competitiveness adversely. They point out that, in the context of Latin America, the inward remittance generates more pressure on the exchange rate having a direct negative effect on productivity.

An explorative study by Quibria (1986), focusing on how to promote growth and taking into consideration the implication of remittance inflow, showed that the increase of remittance lifted the national savings of Bangladesh. Afsar (2000) reviewed this evidence and stated that during the last two decades of the 20th century, the remittance inflow had a positive impact on the national foreign currency reserve. Moreover, remittances also seem to spur the internal development of the financial capital and industrial sectors (Khan 2003). However, in a more recent study, Khan (2004) reviewed the investments of foreign remittance and recommended developing infrastructures for financing micro-level enterprises in Bangladesh. He explored how to bridge remittances and micro-enterprise development by drawing on policy initiatives taken by Mexico and other Latin American countries.

Thanks to the advantages of fertile land and sizeable population, Bangladesh has its comparative advantage in agro-based production. In the beginning of 1960s, investments in land intensive production played a central role for economic development (Schultz 1964). The introduction of modern agricultural equipment made the contribution of the agricultural sector to overall growth of the economy even more pronounced. This sector has strong and direct forward links with agricultural processing and backward linkages to industrial inputs (Johanston and Mellor 1961). However, as of the early 1980s the country's agricultural production sector has experienced a relatively lower growth than the manufacturing sector. Since the large and dense population contained a significant number of unemployed and underemployed due to the limited capacity of the economy to create jobs, labor migration to other foreign countries (especially to the Middle East region) has been taking place for a long time. During the early 1970s several foreign delegations visited Bangladesh to recruit workers.

In addition, Siddiqui and Abrar (2003) have explored the underlying reasons for money laundering and found some explanatory power for factors such as sluggishness of service of official system, and lack of possibility to reach the remote receiver. By analyzing two different regions in Bangladesh they recently concluded that more than *half* of the remittance inflow is from a system of illegal activities (called *hundi*¹). Comparative studies between households that received remittance and those that did not, show that receiving groups exhibit a consistently significant and higher propensity to save (Ali 1981, Habib 1985). Although these savings increase individual income level (as shown by Mahmud and Osmani 1980), a greater portion of this income is spent on food, loan disbursement, house construction and similar household purposes (Mahmud 1991, Murshid et al, 2001).

¹ This term is used in Bangladesh for transfers of remittance by 'ethnic' or 'underground' banking (Samuel 2004)

As regards macroeconomic effects, Hassan et al (2004) estimated a model of the Bangladesh economy for the period 1974-2000. They found a statistically significant positive effect of remittances on GDP². However, among the nine key macro economic variables ‘human capital’ is absent in their empirical work. More recently, Barua et al (2008) found a negative correlation between remittance inflow and inflation. Analyzing workers’ remittance from 21 Western European countries to 7 European neighboring countries, Schiopu and Siegfried (2006) suggests that altruistic motives dominate over investment motive. Furthermore, empirical examination of cross country analysis involving Asia and Latin American as well as other less developed countries, show an increasingly stronger link between urban industrialization and foreign remittance (Byerlee and Diao, 2005). A large share of migrants is from the rural areas, implying that they are remitting to their close relatives and thus rarely involved in domestic investment of Bangladesh economy.

As mentioned in above, human capital has been identified as a key to achieve growth (e.g. by Mankiw, Romer and Weil 1992, Barro and Martin 1992, Lucas 1993, Fafchamps 2007). In this paper, human capital is measured by the level of education, indicating more efficient and more productive workers. It is a potential factor of higher economic growth and development. Such educated people have a strong ability to absorb advanced technological and managerial skills from the foreign developed countries, suggesting that they may also be inclined to encourage human capital investment in their home countries, e.g. by remitting part of their income to be used for that purpose³.

2.3 Significance of the Study

The role of international migration in facilitating development has been highlighted above. In particular, one of the positive effects of international migration, the inflow of remittances and its subsequent impact on the receiving country has been discussed in detail. The assessment of the empirical literature on the impacts of remittances on the migrant-producing countries noted in the previous section suggests the need for impact analysis at the country-specific level. International migration is a not a new phenomena for Bangladesh and neither the purpose of international migration for the country is any different from the global view that people move across borders in search for better economic opportunities.

The review of literature provides significant evidence that remittances contribute positively to economic and social development of the recipient countries. As such, this study seeks to establish whether remittances have contributed to the socio-economic development of Bangladesh in a similar manner and thus prescribes development-enhancing policies. Very limited attention has given to the analysis of remittances and development in the case of Bangladesh. This study undertakes a comprehensive assessment of the developmental impact of remittances. In particular, it empirically examines the impact of remittances on economic growth of Bangladesh. Ultimately, the study bridges the empirical gap that currently exists relating to the remittances-development nexus in the case of Bangladesh.

² They show that inward remittances have an estimated 23% impact on GDP-growth over five years.

³ The educated people also have a strong impact on social development and its outcome, which is more important for an underdeveloped country such as Bangladesh. See also Barro and Lee (2000).

Poor political and economic performance of the last two decades in Bangladesh reflects hardships for the nation, which has been exacerbated by the migration of skilled labour. The dwindling performance of the export sectors such as garments, jute and jute goods, leather, frozen fish and seafood have put further pressures on the foreign exchange earnings. This has essentially made remittances the second largest foreign exchange earner for Bangladesh. The inflow of remittances could further contribute to the development process if it is channelled into productive uses than being utilised for mere consumption purposes. This call for appropriate policy response from the individual stakeholders given that, remittances impact can positively affect macroeconomic development. Consequently, this study is significant in contributing to the remittances-development policies in Bangladesh.

Given the mixed views emanating from the literature, individual country case studies are vital in prescribing the appropriate remittance development policy. The next chapter will provide an overview of migration and remittances. This is then followed by an empirical assessment of the impact of remittances on the economic growth and financial sector development of Bangladesh including the testing of the remittance decay hypothesis.

Chapter 3

Methodological Approach and Empirical Model

3.1 Introduction

The empirical analysis aims primarily at testing the impact of the variable remittance on growth, controlling for other variables. In addition, we like to explore the extent to which remittances is correlated with other variables associated with growth. This chapter holds the research design, data collection and processing techniques and tools.

3.2 Research Design

In view of choosing a specific method and process to gather required information, we use a multi-variant time series process. More precisely; several diagnostic tests of the data and computations of correlations of the variables used in the model will be presented. As regards time series modeling with a limited number of observations and more than one independent variable, the Prais-Winsten method is considered to be the preferred methodology⁴. Since we are dealing with four variables in the current analysis, the relevant approach should be to implement the Prais-Winsten co-integration technique⁵.

3.3 Sources of Data

The data required to accomplish the research works were divided into two groups:

3.3.1 Qualitative Data:

Sources of qualitative data consist of analysis of management's comment on channeling remittances and its social as well as economic impacts on the economy which had been thoroughly analyzed and developed through out of the study.

3.3.2 Quantitative Data:

The data for the purposed study has been utilized the secondary time series data for the period 1976 to 2010 to estimate various hypotheses. In particular, remittances data is from the Bangladesh Bank (BB) through personal communication. The other secondary data sources are the World Bank (2010), the International Monetary Fund (various), Organization for Economic Cooperation and Development (OECD) (2010) and the Bangladesh Bureau of Statistics (BBS).

⁴ Around 32 observations for each variable are used for this empirical analysis. Other econometric models (such as the Vector autoregressive (VAR) models can create sensitive error specifications on asymptotic properties (see Sjöö 2003 and Maddala 2001).

⁵ The common factor restrictions present a severe limitation of the Engel-Granger approach where all short-run dynamics are forced to the residual (Engel and Granger, 1987). These and other limitation of the Engel-Granger two-step make it unappealing when dealing with more than two variables. Intuitively, this procedure rests on uncorrelated variables to derive plausible relationships by revealing degrees of lag length. Although the causality of long-run co-integrated vectors is possibly captured by error correction (VECM) model, common factor restriction is non-excludable except in this model (Engel and Granger, 1988).

3.4 Model and Tests

The method we follow for this empirical analysis is based on the multi-variate time series approach of examining the dynamic relationships among the variables. The rigorous tests followed in the research study include the followings:

3.4.1 Unit Root Test

A concrete set of data (data file or data series) can be regarded as a realization of the underlying stochastic process. A stochastic process is said to be stationary if its mean and variance are constant over time and the value of covariance between two time periods depends only on the distance or lag between the two time periods, and not on the actual time at which the covariance is being computed. Non-stationary processes could be due to a shift in the mean. If a non-stationary time series is being used in a regression analysis the results tend to be unreliable, that is a high R^2 and t-statistics appear to signal significance, but results are without economic meaning. The regression output looks good because the least squares estimate are not consistent and the customary tests of statistical inference do not hold. Hence, it is important to determine whether a series is stationary or not before using it in regression. If a series contains a unit root it is non-stationary. The Augmented Dickey-Fuller (ADF) unit root test however, is to be used here.

If a time series is differenced once and the differenced series is stationary we say that the original series is integrated of the order 1, denoted by $I(1)$. In general, if a time series has to be integrated to be differenced d times, it is integrated of the order d or $I(d)$. Thus anytime we have an integrated time series of order I or greater we have a non-stationary time series. If $d=0$ the resulting $I(0)$ process represents a stationary time series.

3.4.2 Co-integration Test

As pointed out, two or more non-stationary time series are co-integrated if a linear combination of these variables is stationary. The stationary linear combination is called the co-integrating equation (or a co-integrating vector). Thus, a common stochastic trend in a system of four macroeconomic variables can be interpreted to mean that the stochastic trend in one variable is related to the stochastic trend in some other macro variable. The most general⁶ model used for co-integration test is the multivariate test which is based on the autoregressive representation discussed by Prais and Winsten (1954). This method is derived from an autoregressive AR (1) model and is efficient for small samples (Judge et al 1985). In order to determine the number of co-integrating vectors The Prais-Winsten maximum likelihood method is used for two different likelihood ratio tests, the t-statistics and the P-value (Durbin and Watson 1950, 1951, 1954).

3.4.3 Prais-Winsten approach

The Prais-Winsten process is the most efficient method of modelling when using a small sample. The estimator in this approach is a generalized least square (GLS). This estimator

⁶ Johansen co-integration approach is well behaved for large sample and it has also general usages in general (More information available on Johansen 1988, 1991, 1995 and Johansen and Juselius 1990).

is appropriate to estimate an auto-regressive system of the first order (AR1). For this reason, the sample needs to pass several tests. The Durbin-Watson test uses statistic from ordinary least square (OLS) residuals and confirms whether the distribution follows an AR1 scheme. The alternative test in this method uses Lagrange Multiplier (LM). The null and alternative hypotheses of the test are $H_0 : \rho = 0$ and $H_1 : \rho \neq 0$.

The Breusch-Godfrey test is also an LM test but is computed as the $N \cdot R^2$, where N is the number of observations and R^2 is derived from OLS residuals. The test has a χ -square distribution with p degrees of freedom and is consistent with the estimated model.

The formula uses for Prais-Winsten regression is

$$y_t = ax_t + bz_t + C + u_t \quad (3.1)$$

where y, x, z are the variables and a, b and c have to be estimated and u_t is an error term which is specified in the following formula

$$u_t = \rho u_{t-1} + e_t \quad (3.2)$$

The estimated 'a' and 'b' parameters were tested for their significance using the standard t-test. This is stated as;

$$T - test = \frac{\alpha}{SE \alpha}, \frac{\beta}{SE \beta} \quad (3.3)$$

Where, the numerators are the estimated values of the alpha and beta parameters while the denominators are the standard errors of the alpha and beta parameters.

The beta parameters are the impulse or impact response functions. They show the effect of a change in the independent variable on the dependent variable. The alpha values on the other hand are the adjustment parameters. These show the speed with which the system or the model returns to equilibrium after a shock or deviation.

3.4.4 Causality Test

In order to study the long and short run relationship between the variables, it is necessary to study indications of past values of the time series. These indications however, provide assumptions of future movements of the variables and might be estimated by employing Granger causality test. To test for co-integration, Granger causality is based on a VAR model. A causality test is used in order to estimate the appearance and direction of relationship between the variables. Estimating the following regressions performs the test:

$$Y_t = \sum_{i=1}^n \alpha_i X_{t-i} + \sum_{j=1}^n \beta_j Y_{t-j} + \mu_{1t} \quad (3.4)$$

The Granger approach to causality is to investigate to what extent a variable Y can be explained by the past values and how much of that explanation can be improved by adding lagged values of another variable X. Causality might be established if it is proved that the lagged value of explanatory coefficient is statistically significant or actually does improve prediction of future performance of Y.

3.5 Variables of the Study

3.5.1 Gross Domestic Products (GDP)

GDP is the sum of all the resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in real GDP computed as natural logarithm in Real GDP. The source of the data is the website of the World Bank.

3.5.2 Remittance Inflow (real official)

Remittances (REM) as said by International Monetary Fund (IMF), mean (i) workers' remittances, those are living abroad for more than one year; (ii) compensation of employees those are residing overseas for less than one year; and (iii) migrants' transfers which is the net value of migrants who move from one country of employment to another. With the purpose of preparing our dataset, we used migrants' remittances from the Bangladesh Bank and World Bank data source.

3.5.3 Human Capital Development

Human Capital Development (HC) is the growth in secondary, commercial, technical and vocational schools enrolment as a deflated by population growth rate. The data has been derived from World Development Indicators, World Bank.

3.5.4 Private investments

Private investment (INV) is the portion of total investment substituted by gross fixed capital formation to nominal GDP. The data has been calculated based on data acquired from World Bank's WDI.

Chapter 4

Migration and Remittances: An Overview

This chapter undertakes a detailed analysis of migration and remittance flows in the global context and then in the case of Bangladesh, with a particular focus on various usages of migrant remittances. Examination of migration and remittance trends facilitates in understanding the importance of migrant dollars and its subsequent development potential in a recipient country.

The rest of the chapter is structured as follows. Section 4.2 provides a discussion on the global migration and remittance flows including the factors that affect remittance flows and the subsequent use of the migrant dollars by the recipients. To contextualize the case of Bangladesh, a brief overview of macro-economic condition of Bangladesh with a particular reference to trends in economic growth and labour market performance are discussed in Section 4.2. Section 4.3 provides an overview on migration and remittances flows to Bangladesh. A comparison of remittances with other foreign capital inflows such as foreign direct investment and foreign aid is undertaken in this section including a survey analysis of various usages of remittances.

4.1 Migration and Remittances: The Global Picture

Ballard (2005) defined Migration as the movement of substantial bodies of people from one location to another in search of improved opportunities of one sort or another, has always been a feature of human behavior. The absolute number of international migrants increased dramatically in the last 50 years is likely to continue to expand in the future. The total number of international migrants is expected in 2010 to reach 214 million (Table 4.1). The global number of international migrants during the period of 2005 to 2010 is projected to increase by 10 per cent, which is slightly more than during the preceding five-year period (9 per cent). All major geographical regions, with the notable exception of Latin America, experienced significant growth in their migrant stock.

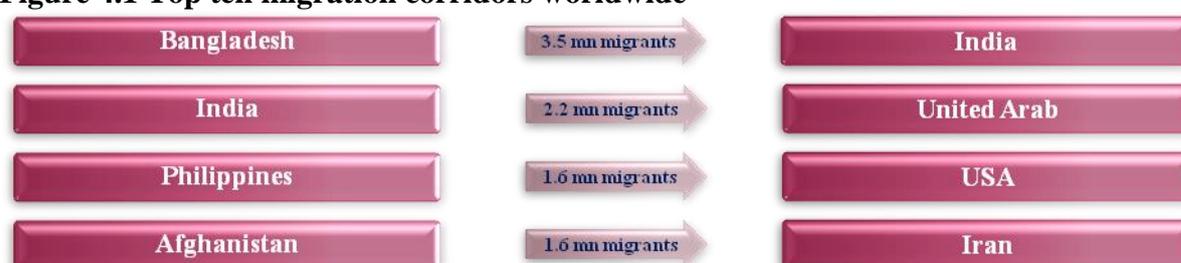
Ratha (2006) demonstrates that migration is expected to intensify as income and demographic differences between sending and receiving countries persist. He proposes that migration is not only a South-North phenomenon as commonly believed but South-South migration may be as large as South-North migration. In absolute numbers, China, Bangladesh and India are among the top ten emigration countries worldwide (World Bank, 2008).

As Bangladesh is a poor country over populated, jobs and living standards are bad. Therefore, they migrate mostly to India, Saudi Arabia, UK, Kuwait, Oman, USA, Malaysia, the UAE, Italy, Jordan due to growing economic opportunities in destination countries. Four of the top ten migration corridors worldwide include Asian countries, led by Bangladesh–India (3.5 million migrants in 2005), and followed by India–United Arab Emirates (2.2 million), the Philippines–USA and Afghanistan–Iran (both 1.6 million) (Figure 4.1). Undocumented migration is increasingly an issue within the region. It is estimated that some of Asia’s largest undocumented migration flows may be among the largest overall contemporary flows, with the Bangladesh–India corridor alone involving up to 17 million people (Hugo, 2010).

Table 4.1 Global Migrant Stock by Region of Destination (in millions), 1960–2010

Region	1960	1970	1980	1990	2000	2005	2010 ^e
World	75.5	81.3	99.3	154.9	176.7	190.6	214
Regional							
Africa	9.1	9.9	14.1	16.3	16.5	17.1	19
Asia	28.5	27.8	32.1	49.9	50.3	53.3	61
Latin America and the Caribbean	6.0	5.7	6.1	7.0	6.3	6.6	7.0
Northern America	12.5	13.0	18.1	27.6	40.4	44.5	50
Oceania	2.1	3.0	3.7	4.8	5.1	5.0	6.0
Europe	14.2	18.8	21.9	49.4	58.2	64.1	70

Source: UNDESA, (2008) *Note:* e is the estimate.

Figure 4.1 Top ten migration corridors worldwide

Sources: UN DESA, 2009; World Bank, 2008

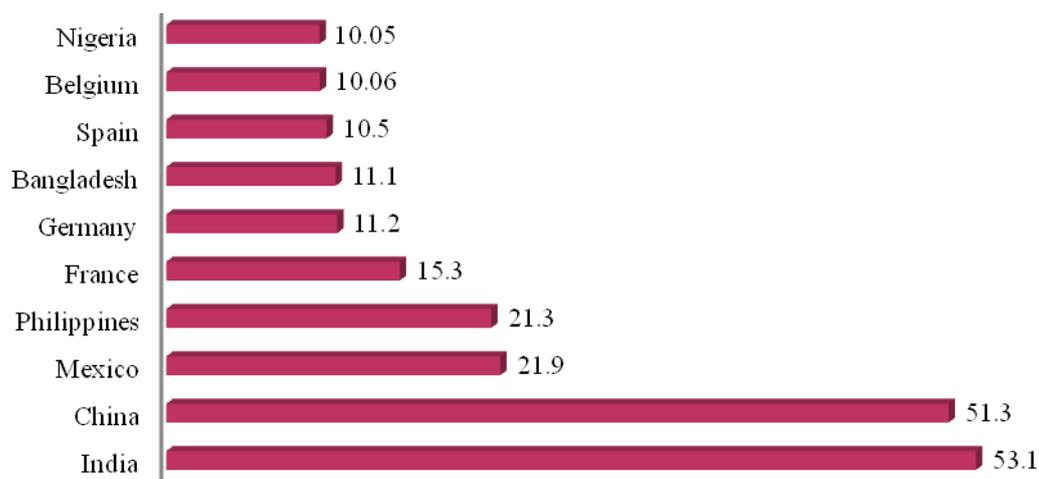
This intensity of global migration emphasizes the importance of remittances and reflects its crucial role as a potential source of development fund in recipient countries. Many of the migrant men and women make the difficult decision to leave home and seek work abroad. The moment they are employed, they begin to send money to their families at home. These remittances are typically made in small amounts, yet collectively these flows contribute to the official development assistance and surpass the value of leading exports in many countries (Terry and Wilson, 2005).

4.1.1 Global Remittance Flows: Volume, Growth and Stability

As the most widely used definition in contemporary remittances literature, it includes cash amounts and not periodic transfers of goods such as computers and household appliances that can serve as investment goods in the informal microenterprises, which is a major economic sector in all developing countries (Terry and Wilson, 2005).

In 2010, developing countries received \$325 billion remittances registering a quick recovery to the level in 2008 (see Appendix 1) whereas India, China and Mexico were the top recipients. Worldwide and collectively, these three countries received a total of around US\$126 billion of recorded remittances (figure 4.2). High-income countries acknowledged \$440 billion remittances in 2010 also.

Figure 4.2 World's Top Ten Remittance Recipients in 2010 (US\$ Bn)



Source: World Bank Data, 2011

The substantial flows of remittance income to developing countries reflects the importance of this financial flow compared to other sources of capital inflows such as foreign direct investment and overseas development assistance. Foreign direct investment in developing countries measured the size of official aid compared to the migrants' remittances twice which is the second largest source of external financing in 2009 (Table 4.2).

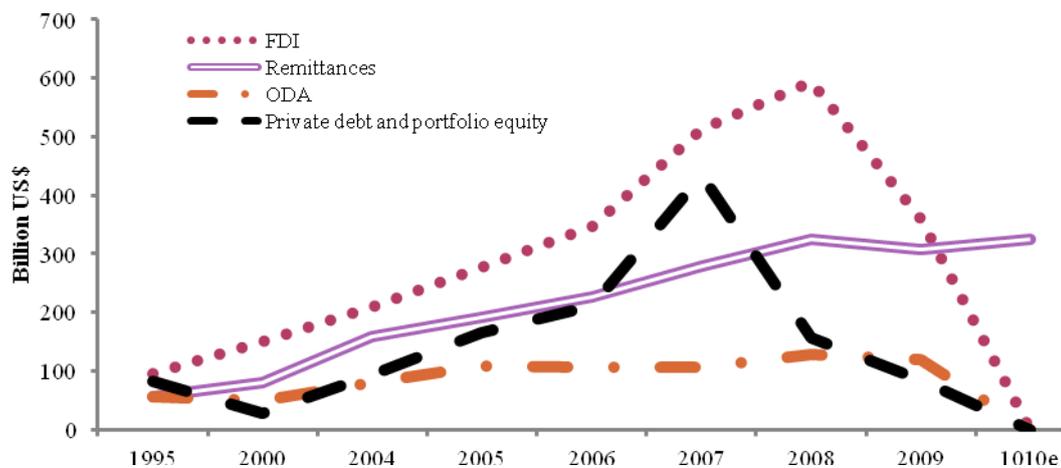
It is evident that remittances are less volatile than other sources of foreign exchange incomes especially in case of developing countries. Remittance flows has been resilient during the global financial crisis whilst other capital flows have a tendency to rise during upswings of economic cycles and turns down in economic crises (Table 4.2 and Figure 4.3).

Table 4.2 Resource Flows to Developing Countries (US\$ billions)

	1995	2000	2004	2005	2006	2007	2008	2009	1010 ^e
FDI	95	149	208	276	346	514	593	359	-
Remittances	55	81	159	192	227	278	325	307	325
ODA	57	49	79	108	106	107	128	120	-
Private debt and portfolio equity	83	27	93	165	211	434	157	85	-

Source: Migration and Remittance Fact book, 2011

Figure 4.3: Workers' Remittances and Other Inflows to developing countries



Source: Migration and Remittance Fact book, 2011

For smaller countries, remittances as a share of GDP in 2009 were equivalent to 35 percent in Tajikistan, 28 percent in Tonga, 24 percent in Lesotho, 23 percent in Moldova and Nepal (Migration and Remittance Fact Book 2011). Furthermore, as a share of GDP and other economic indicators remittances were larger than: (i) 10 percent of GDP in 20 largest recipients; (ii) capital flows in 36 developing countries; (iii) merchandise exports in 12 countries; and (iv) the largest single commodity exports in 28 countries in 2005 (Ratha, 2007). The United States (48.3 percent) and Saudi Arabia (26 percent) are the largest sources of migrant remittances to developing countries. Other top sources are Switzerland, Russian Federation, Germany, Italy, Spain (Migration and Remittance Fact Book 2011).

In the South Asia region, importance of remittances is evident in India (\$55.0 bn), Bangladesh (\$11.1 bn), Pakistan (\$9.4 bn), Sri Lanka (\$3.6 bn), Nepal (\$3.5 bn), where migrant remittances are a potential source of livelihood development. For example, exceeding tourism receipts, remittances have become the biggest foreign exchange earner for the country of Nepal, according to a World Bank study. According to the World Bank (2011), Bangladesh is one of the top ten recipients (in actual monetary magnitude) of remittances in South Asia and all over the world, received US\$ 11.1 billion in remittances in 2010. As a share of GDP in , Nepal received 23.8 percent, Bangladesh 11.8 percent, Sri Lanka 8 percent, Pakistan 5.4 percent, India 3.6 percent of remittances (World Bank Data 2011).

4.1.2 Uses of Remittances

A large number of studies have examined the role of remittances in the purchase of consumption and investment goods by comparing accumulation of goods by households that receive remittances versus similar households that do not. In this regard, Rosen (2007) states that when studying the impact of financial transfers one should not generalize findings for specific countries and households as valid for all households across the globe. He states that households from different regions or countries have different needs and thus their expenditure pattern may differ.

Remittances and migration thus appear to be a catalyst in purchase of new capital. However, several studies find a greater consumption-inducing and lower investment effect of migrant remittances. In the state of Punjab in India, Oberai and Singh (1980) find that 75 percent of households use their remittance income for consumption goods and only 6.1 percent of households use remittances for productive investments. The study on Mexican households by Durand and Massey (1992) notes that high risk of business failure and possible legal issues with land acquisition prevent migrant households from using remittances for productive investments, causing most of the remittances to be used for consumption. In the case of India, Pakistan, Bangladesh, the Philippines and Thailand, Stahl and Arnold (1986) note that a considerable portion of remittance income is devoted to consumption of basic needs. They state that the loss of a young worker to international migration decreases income derived from domestic sources and as such remittances are utilized to maintain the household's level of consumption.

The use of remittances in housing development including land acquisition is also widespread. In the case of Guatemala, Adams (2006b) finds that remittance-recipient households spend lower share of their remittance income on food and other non-durable goods and higher on housing, and other expenditure items like education and healthcare financing. The study by Adams (1998) finds that acquisition of land by migrant Pakistani households is vastly greater than households that do not receive remittances.

The use of remittance income for debt repayment is also substantial amongst migrant producing families. In their analysis of Asian economies, Stahl and Arnold (1986) find that debt repayment is a relatively important item in the expenditure profiles of the remittance receiving families. They state that migrant producing families incur substantial debt in securing overseas employment, which is settled eventually with remitted funds. Migrant dollars are also being increasingly used for education attainment and healthcare financing. In the case of El Salvador, Cox-Edwards and Ureta (2003) find that the likelihood to leave school is lowered when remittance income is utilized to finance education related expenditure. The effects of remittances on entrepreneurial development have also been noted as remittances provide opportunities for households to invest in self-business ventures. In the case of Philippines Yang (2005) finds that an increase in remittances raises the likelihood of a household to setup a business.

Overall, the common theme emerging from the studies on remittance usages in various countries suggests that migrant remittances are private flows directed to improving the quality of lives of the recipient families. The use of remittances in more productive investments and livelihood generating activities depends on opportunities available to the receiving households and policies aimed at facilitating development through remittances. Whilst these and several other factors govern the use of remittances, its economic effects are widespread such as that on economic growth, financial sector development, poverty and inequality reduction and development of human capital in recipient nations. These development impacts of remittances are empirically examined in the case of Bangladesh in the next chapters. However, to contextualize migration and remittance flows, a brief macroeconomic overview of Bangladesh is provided next.

4.2 Overview of Bangladesh

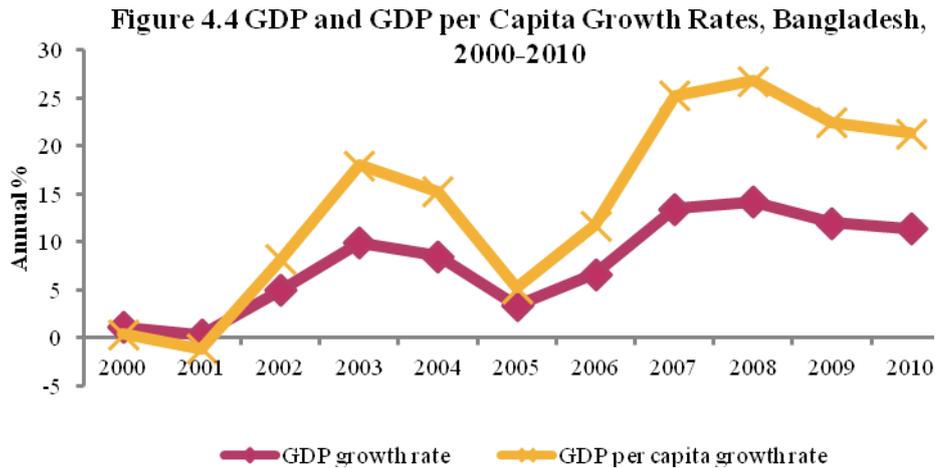
The People's Republic of Bangladesh is a small economy located in the South Asia and shares its borders with India and Myanmar and. Total land boundaries is 143,998 sq km and the population was estimated at 162.2 millions (World Bank, 2009). About 80 percent of the population lives in rural areas, with the remainder scattered across the urban areas. Despite its small size and vulnerable to climate change, Bangladesh has a relatively higher standard of living amongst the South Asian nations.

Bangladesh is classified as a lower middle-income country with the GDP per capita of US\$640.85 in 2010 (World Economic Outlook, 2010). The literacy rate is 55 (UNESCO Institute for Statistics, 2010) and the life expectancy at birth is 68 years (world Bank 2009). Human Development Index (HDI) of Bangladesh in 2010 was 0.469, which gives the country a rank of 129th out of 169 countries (UNDP, 2010). This HDI value ranks Bangladesh as one of the remarkable South Asian countries.

4.2.1 Macroeconomic Performance

Despite a range of constraints, GDP growth rate was 6 percent in 2010. Domestic and national savings of Bangladesh as percentage of GDP in 1998 were 17.4 and 21.8 while it rose to 18.99 and 28.75 in 2010 (BBS, BB 2010) respectively. On the other hand, as percentage of GDP, total investment in Bangladesh 14.3 in 1998 that reached to 24.96 in 2010. Meanwhile, government consciously took initiatives to manage inflationary pressure and the annual average rate of inflation (consumer prices) during 2001-2005 was 5.5-6.5 percent and it was estimated at 8.1% in 2010 (CIA World Fact Book, 2011). Following a prudent fiscal policy in the fiscal sector, revenue-GDP ratio stood at 10.92 percent in Fiscal Year (FY) 2008. Revenue-GDP ratio and tax-GDP ratio increased from 5.2% and 6.0% in 1980 to 9.4% and 11.1% in 2010. During the last decade (between 2000 and 2010) revenue and tax collection increased by 2 percentage points of GDP. The rise in growth levels (Figure 4.3) were largely due to rapid expansion of the public sector, high levels of consumer confidence, strong labour market growth and increasing exports of garments and agricultural products coupled with large inflows of foreign capital, and increases in domestic investment rate.

Furthermore, Bangladesh also retained preferential treatment under international trade agreements, which resulted in improved growth performance. Broad-based reforms in the financial market such as the relaxation of foreign exchange controls, expansion of bank branches and establishment of new banks and other financial institutions such as Western Union, MoneyGram, etc to facilitate money transfer operations were also introduced. The government has taken many initiatives to increase remittance legally over the last two decades. Recently, the government has introduced modern system for instance, automatic cheque-clearing and electronic money transfer to ease banking system. These reform efforts have generated competition and efficiency gains in the financial market and have also facilitated the flow of migrant remittances.



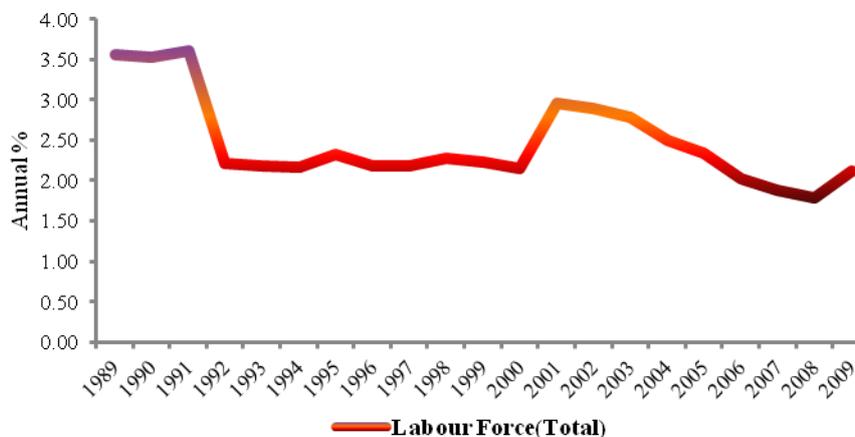
Source: International Monetary Fund, World Economic Outlook Database, October 2010

Although Bangladesh economy has improved dramatically in the 1990s, the growth phenomena have been jeopardized due to global financial and economic crisis since global depression. Bangladesh still suffers from major growth deficiencies especially in declining FDI and exports, declining migration of labour, and growing number of sick industries, industrial unrest and reduced growth. Despite of moderate growth in migrant remittances, it has failed to transform into overall improvements in standard of living with benefits being unevenly distributed across the population.

4.2.2 Labour Market Performance

An efficient, productive and mobile labour force is crucial for sustained economic growth and development of exports and investments in any economy. In the case of Bangladesh, this is evident from the growth rate of GDP, noted in previous section, which was based partly on the availability of skilled labour. The high density of population and uneven of standard of living caused a major dip in the labour force growth rate of Bangladesh causing serious brain-drain of skilled labour, loss of jobs and reduction in working hours in many sectors of the economy (see Figure 4.4).

Figure 4.5 Labour Force (Total) Growth, Bangladesh, 1989-2009



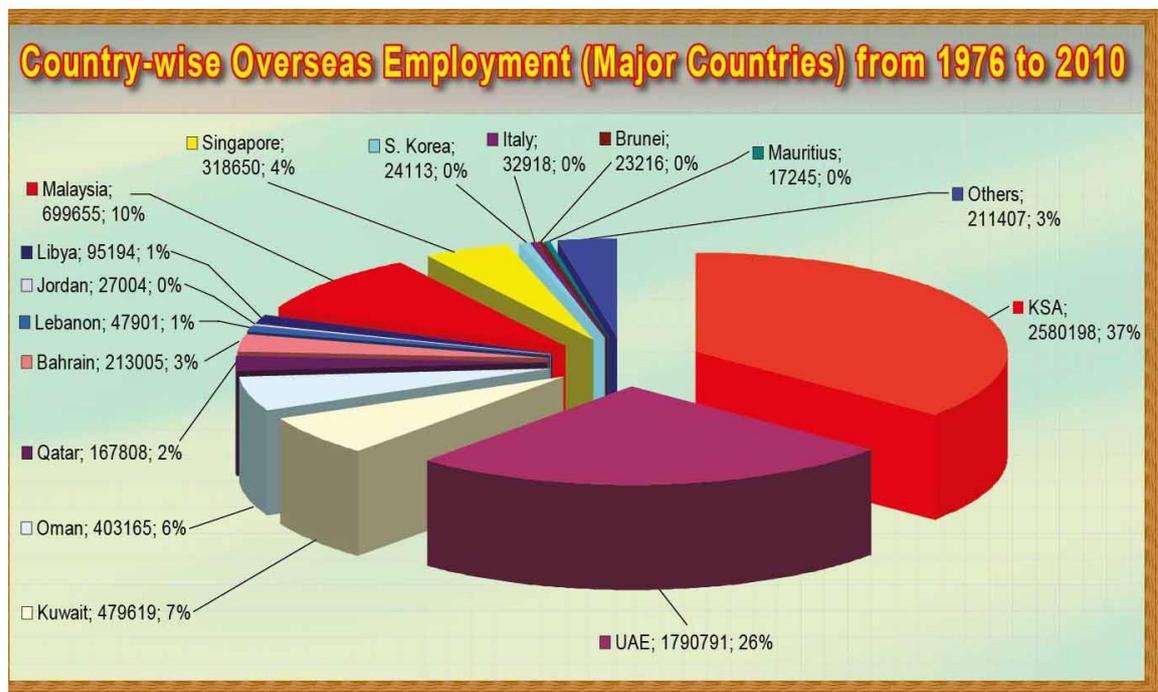
Source: World Bank (2011)

4.2.3 Migration: The Case of Bangladesh

Since the beginning of the 20th century, more young people have migrated to foreign countries, especially in Europe and North American, in order to obtain higher education, skills and knowledge. This is likely to have spurred a development towards a more creative society, to a higher degree characterized by innovation and entrepreneurship. Although some of these migrants become permanent resident, many of them move back to their home country. Many of them end up in multinationals, often foreign, as well as domestic industries, while others are working at the educational institutions in Bangladesh.

Bureau of Manpower, Employment and Training (BMET) under the Ministry of Labour and Employment, is the concerned authority of maintaining information on migration of Bangladeshi workers. In the year 2008, people migrated by and large from Bangladesh were 875,055 numbers keeping yearly average flow of more than 200,000 workers. According to the BMET among the four categories of temporary migrant population namely professional, skilled, semi-skilled, and unskilled, the skill composition points out a consistent level of migrant workers (see Appendix 1). Bangladesh send overseas migrant workers mostly to 13 Middle Eastern and North African counties while 8 countries namely Saudi Arabia, UAE, Kuwait, Malaysia, Qatar, Libya, Bahrain and Oman account for more than 82% (24,10,690) of the total migrants until now (Siddiqui, 1998). Maximum share of the total number of workers goes to Saudi Arabia, where people migrated much more than other countries from Bangladesh during the period 1976-2010 (Figure 4.6).

Figure 4.6: Country-wise Overseas Employment (Major Countries) from 1976 to 2010

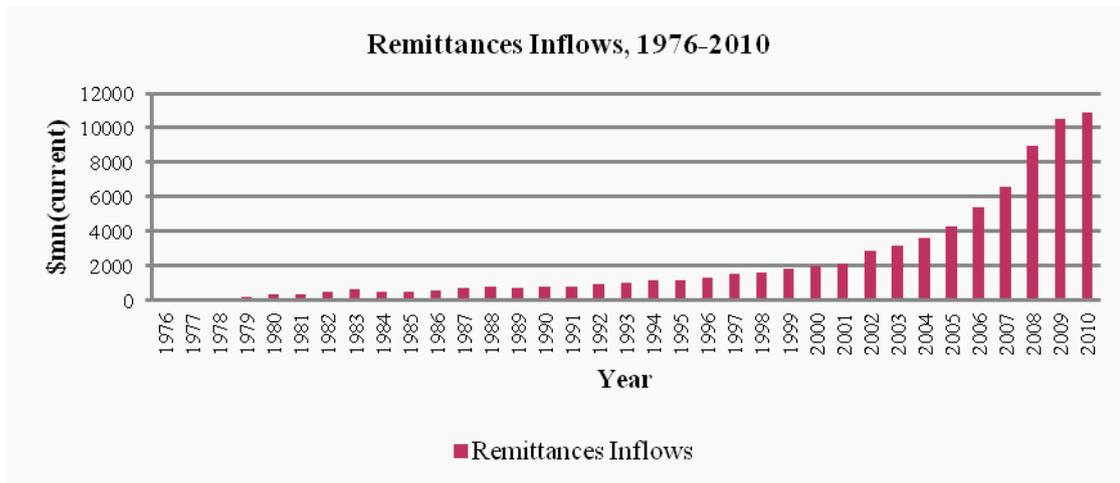


Source: BMET (2011)

4.3 Remittance, Foreign Aid and Foreign Direct Investment; A comparison of major capital cash flow

The flows of remittance to Bangladesh demonstrate a similar trend to that of the global trend noted in Section 4.1.1. In case of Bangladesh, between 1976 and 2010 remittance flows grew from \$18.76 million to a substantial \$10.85 billion in 2010, equivalent to 10.81 percent of GDP (see Figure 4.8). This, however does not include the sizeable flows of informal remittances to Bangladesh although remittances are being transmitted through commercial banks and other financial institutions like Western Union, it is estimated that unrecorded remittances are around 50% of the official recorded remittances, which if captured in the formal statistics could increase total remittances.

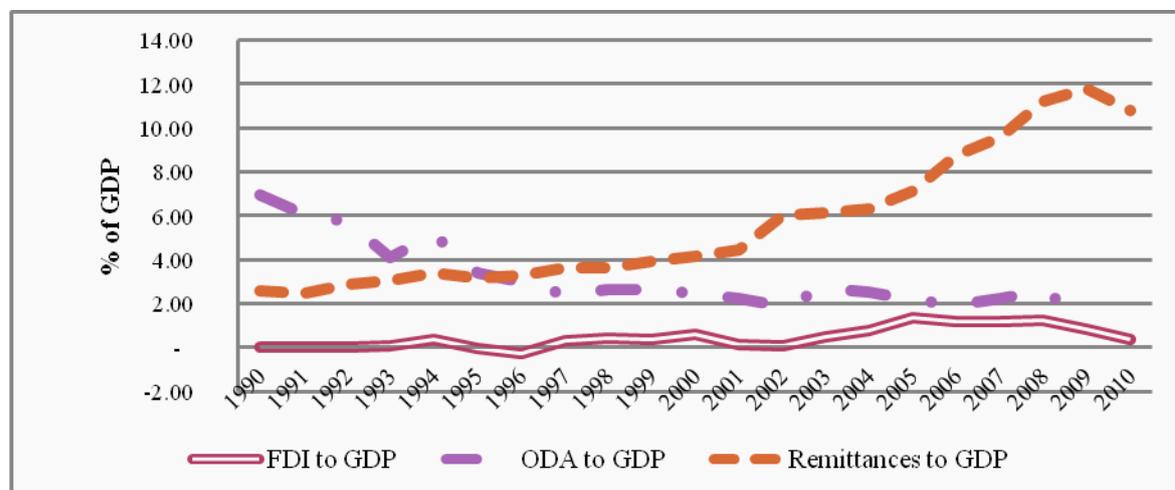
Figure 4.7 Remittances Inflows to Bangladesh, (current \$m), 1976-2010



Source World Bank (2010)

Growth in Remittances has been far more substantial with regard to ODA and foreign direct investment (FDI). In the period 1990 to 2010, remittances as a share of GDP averaged around 6 percent while ODA and FDI averaged around 3 percent and 1.5 percent, respectively (see Figure 4.8). This demonstrates the stable nature of remittance flows in Bangladesh.

Figure 4.8 Remittances, Foreign Aid and FDI (% of GDP), Bangladesh, 1990-2010



Source World Bank (2011)

Foreign direct investment, on the other hand has also been crucial in the development process of Bangladesh. FDI inflows, as a non-debt creating flow, not only supplement domestic savings, but also contribute to fostering domestic managerial skills and transfer of technology. Bangladesh has many attractions for foreign investors such as preferential market access to America, EU and other markets, easy repatriation of capital and profits, a well balanced package of financial and other incentives and good air and sea links with overseas markets.

Whilst foreign aid and FDI flows are subject to economic and political environment, migrant remittances exhibit a countercyclical nature. The flows of migrant remittances rise in times of shocks created by natural disasters and other economic crises have been driven by an altruistic motive of migrant remittances. Given that remittances are more resilient and stable in nature, it serves as a fundamental source of development fund for Bangladesh. The importance of international migrant remittances as a valuable source of foreign exchange has been increasingly noted.

Chapter 5

Results and Discussion

The objective is to estimate the impact of the explanatory variables on growth, focusing at remittances. For this reason data of real gross domestic product (GDP) are used. Domestic private investments data is used to estimate the impact of investment on growth. The human capital data is assumed to capture the effect of education on economic growth of Bangladesh. Although there is considerable debate concerning the determinants of human capital, educational achievement is one of the stronger mechanisms for development and growth. In addition, remittance data is used for evaluating its impact on the variables as it is the unique and secured external source of financial capital and for analyzing the mechanisms that translates into growth and development in the economy.

5.1 Estimation Results and Analysis

Following the methodology developed in the previous section, this subsection presents an analysis of tests of co-integration and causality⁷. The model is constructed upon the annual data from 1974 through 2005, derived from different unique sources like World Bank, Bangladesh Bank etc.

5.1.1 Time Series Properties

In Figure 1 below the variables LGDP, LREM, LINV and LHC represent logs of Gross Domestic Product, Remittance receipt, Private Investment and Human Capital, respectively. Graphs of the variables in log levels show an upward trend with only LGDP exhibiting a small decline in 1975 before joining the upward path. This could be explained by the massive market imperfection of the previous year on the country's economy which significantly affected government consumption. The periods of 1995 to 1996, were burdened with a lot of political and economic uncertainties before and immediately after the general elections at the end of 1995. This was coupled with rising inflation. These conditions resulted in panic and purchases of hard currencies, especially of US\$, causing a big increase in the exchange rate between the BDT and the USD. However graphs of the variables in first difference show no trend, though with some outliers.

5.1.2 Units Root Tests

These were conducted to determine if the series were integrated of order one I (1) or otherwise, which is important in time series analysis. The augmented Dickey-Fuller (ADF) test was used for the tests. The test starts with the assumption that a series x_t is a random walk; $X_t = x_{t-1} + \varepsilon_t$ or $x_t = \rho x_{t-1} + \varepsilon_t$ where $\rho = 1.0$, thus x_{t-1} is subtracted

⁷ All data gathered were analyzed and tested by using both STATA and PCGive (an econometric soft ware developed by Hendry and Doornik (2001)).

from both sides. Consequently, $\Delta x_t = \pi x_{t-1} + \varepsilon_t$, where $\pi = (1-\rho)$. The null hypothesis is $H_0: \Pi = 0$ and therefore $\rho = 1$ against the alternative that $H_1 < 0$ and $\rho < 1$.

The test is carried out first with a constant, then a constant and a trend. The test statistics were based on the non-standard Dickey-Fuller distributions. The results of the unit root test based on the ADF approach is shown below, where the test was conducted from a constant and a trend. All the variables are integrated to order one $I(1)$. The test was conducted with both constant and trend (See Table 5.1).

Table 5.1: Test for unit(s) root using the ADF test:

H_0 : The residual series has a unit root (variables are not co-integrated)
 H_A : The residual series has no unit root (variables are co-integrated)

Null Hypothesis

$H_0 : I(1)$

$H_1 : I(0)$

Alternative Hypothesis

$H_0 : I(2)$

$H_1 : I(1)$

Variables	Test value	Critical Value		Test value	Critical Value	
		5%	1%		5%	1%
LGDP(0)	-1.056	-3.645	-4.469	-4.005*	-3.659	-4.50
LREM(0)	-1.889	-2.975	-3.696	-3.431*	-2.980	-3.708
LINV(0)	-1.595	-3.645	-4.469	-5.283**	-3.603	-4.374
LHC(0)	-3.195	-3.594	-4.469	-4.385**	-3.603	-4.374

Note: The numbers in parentheses indicate the number of lags required to remove autocorrelation at the 10% significance level using the LM test. By employing the first differences of the times series will thus contribute to the effectiveness of this study and will give results that are not spurious.

5.1.3 Prais-Winsten Approach

Using all the variables we used several tests to model the whole economy of Bangladesh. The results of autoregressive co-integration reflect the discrepancy of modelling by including all the four variables. The equation for the Prais-Winsten co-integration method is as follows:

$$\text{LGDP} = 12.87072 + 0.1214513 \cdot \text{LREM} + \mu_t \quad (5.1)$$

t-value 3.62

$$\text{LINV} = 5.280738 + 0.1722585 \cdot \text{LREM} + \mu_t \quad (5.2)$$

t-value 11.07

$$\text{HC} = -3.149068 + 0.4931184 \cdot \text{LREM} + \mu_t \quad (5.3)$$

t-value 2.43

Note: The significance level used is 5%. Two stars (**) and one star (*) mean significant at 5% and 10% respectively. See Appendix 2 for detailed results.

Table 5.3: Causality test of more lags to check for sustainability:

Relation among Variables	Lag level 2		Lag level 3	
	Chi ² Test	P value	Chi ² Test	P value
LHC@LREM	2.51072	0.1131	0.194151	0.6595
LGDP@LREM	4.66121	0.0309 *	0.00122652	0.9721
LINV@LREM	1.16151	0.2812	0.617185	0.4321
LHC@LGDP	7.48283	0.0062**	1.33799	0.2474

Notes: the significance level used is 5%. Two stars (**) and one star (*) mean significant at 5% and 10% respectively. See Appendix 2 for detailed results.

The above results show that all the variables are significantly affected by remittance, i.e. remittance inflows are likely to be a strong determinant of development and growth of the Bangladesh economy. Apparently, the GDP growth is predictable through remittance in lag level two as well. A stable predictability (in more lag level) from GDP growth for human capital refers to increasing absolute advantage of the economy. Therefore, it is possible to conclude that remittance fuel a sustainable and faster economic growth for Bangladesh.

Being statistically significant, the positive sign of private investments and human capital demonstrates that their convergence has a direct effect on economic growth of Bangladesh. Causal relation is found for each individual of these variables with remittances, which confirms that remittance is a potential factor of determining the growth and development of the country. The conclusion from multivariate correlation presented in the previous section is thus that human capital and investment are directly correlated with economic growth; also remittances display a causal relationship with the growth.

Chapter 6

Conclusion and Policy Recommendations

6.1 Conclusion

The model we have discussed in previous sections captures some of the main factors that influence the development of a young and poor country. Our finding suggests that remittances have stronger impact on human capital and hence apparently influence sustainable growth. In relative terms, the impact of investments is considerably lower as compared to an increase in human capital. In addition, it is likely that remittances will affect labour and firm productivity through interactions and spillovers. Introducing policy incentives that will motivate migrants to return and invest in their home country is one way to better exploit the potential advantage of expatriates. A positive signal is that the central bank (i.e. Bangladesh Bank) and the government have taken several initiatives for accelerating and channeling the remittance inflow.

- Various scheme such as Wage Earners' Development Bond, US dollar premium bond with 6% interest payable in foreign currency, US dollar investment bond, Nonresident Foreign Currency Deposit Account(NFCD), National Savings Scheme have been introduced for the overseas workers.
- A Nonresident Investor Taka Account (NITA) has also been introduced for the international migrants in order to facilitate their investment in shares and securities by the foreign currency earned abroad so that the balance in this account can be repatriated abroad in foreign exchange anytime.
- In addition, tax structure and foreign currency regulations have also been relaxed to encourage investment. The expatriates Bangladeshis are give all the benefits that are offered to the foreign investors.
- At the same time expatriates Bangladeshis also enjoy certain special benefits, like a 10% quota in any Initial Public Offering (IPO). The rules and regulations have also been simplified. For example forms for subscribing have also been available in the online.
- In order to facilitate remittances by Bangladeshi nationals living abroad, Bangladesh Bank always allows commercial banks in Bangladesh to establish drawing arrangements with the foreign banks and Exchange houses.
- Furthermore, Bangladesh Bank have taken initiatives on the way to crediting the proceeds of remittances to the beneficiary's account promptly by 3(three) days maximum.

However, we could surprisingly enough not find any direct impact of international Migrants' remittance (*official*) and real gross domestic product of the economy. The reason could be into two-fold. First of all, the prevailing study of Siddiqui (2003) shows that only 46% of the total remittances comes from proper banking channels. Also, the data recorded from World Bank reveals that the inward remittance in the official system is around half of the total remittances.

Remittances have little direct (via investments) impact on growth albeit the indirect (via human capital) effect is *robust*. Moreover, an intuitive reason for why the remittances have a smaller impact on the growth and development of Bangladesh economy is that the money is used to fulfill the basic needs of family members and close networks of each migrant.

Obviously when remittances are used for daily survival they do not add to the economic development of the country. Since about half of the total population (which is around 75 million) is involved in these groups, remittances still do influence the welfare development of the economy.

Hence, in the absence of the migrant's knowledge, an overall conclusion is that the economy should gain from better educated and more productive workers. Large firms and foreign multinational corporations need to be employed much of the existing efficient work force for their own gains at the expense of the state's economy, i.e. they have developed into isolated enclaves within the economy. A proper system of incentives need to be developed that will encourage the skilled work force to enter the local economy.

6.2 Policy Recommendations

As observed so far remittances have substantial growth potentials and challenges, there are a number of important areas where improvements can be made and contributions from remittances to promote economic growth could be enhanced. Several recommendations are below given on general and sector specified level for the sustainable and faster economic growth of Bangladesh.

1) Programs to use human resources on dynamic sector

Migrants need to be encouraged to return back home to test and develop their ideas and ventures in their home country and to invest the capital they have raised. Such entrepreneurial activity could generate a more knowledge-based economy and create new business opportunities through various spillover effects. We hasten to add that this process will create demand for new jobs and in turn will increase the economy's output of goods and services. In an economy with abundant autonomous entrepreneurial activities, a demand for diverse high-tech goods is more likely to appear and could provide the grounds for nurturing infant industries. In this way, people migrating to foreign countries providing remittance, intellectual support or both, demonstrate that at least in this aspect, the concept of 'brain drain' is not an efficient argument; rather it is a unique and potential source of strengthening the economy of a highly populated country like Bangladesh.

2) Speeding-up comprehensive education system

Since much of the migrants are coming from the rural areas, policies that generate more remittances can contribute to limit the gap between the rich and the poor. Focus on market oriented vocational skills and a compatible education system are very important. Creativity needs to be developed in schools. Moreover, as the migrants have both the knowledge and the ability to consistently finance, develop, and execute ventures, supportive strategies will facilitate the rate of success and strengthen the competitiveness in the domestic market. Also, this will increase the demand for input factors of the production and the service sector of the economy. This will help to shift some workers to the manufacturing sector; as a consequence, wages in agriculture will increase. The policy-maker should thus initiate strategies for amplifying market competition and strengthening the development and entry of firms in the Bangladesh economy.

3) Reducing cost of Remittance

One of the most important policy challenges in the area of remittances addresses the issues of high cost sending money from one country to another. A typical poor migrant sends only about \$200 or less per transaction he would have to pay \$14 in most of the remittance corridor. Disposable income of poor migrants as well as incentives to send more money home would be increased by reducing remittance fees. It would also encourage the use of formal remittance channel whereas 50 percent of the remittances are coming through unrecorded channels.

4) Prudential Banking regulations and channelizing the remittances:

Remitters often use informal channels because the formal channel is often costly, inconvenient, or just not where needed. It is also observed that high remittance costs can be also reduced by increasing access to banking and escalating competition in the remittance business. As banks have inclination for providing cheaper remittance service than money transfer operators, account to account transfer should be encouraged to increase saving from remittances Encouraging that would lead to the financial development of remittance recipient countries.

5) Gender Issues

There are also significant gender issues that must be addressed if migration and remittance payments are to be effectively utilised. Women are of particular concern in the workforce and currently are an immensely unutilized asset. This is largely due to government restrictions on the number of unskilled and semi-skilled women who can migrate. The United Nations notes that female migrants frequently face demands for higher payments from recruitment agents and are also often subject to assault by employers. Therefore, in order to capitalize on this untraditional market effectively the government must promote and empower women in the workforce. Restrictions on female migration should be lifted, and there should be strict enforcement of minimum labour standards that ensure protection of workers overseas. Governments should, in conjunction with active women's agencies, educate and train women, thereby increasing their capacity to cope with potential exploitation while gaining additional skills that can be used in the workplace.

6) Regulation and Enforcement

Another point that warrants further attention is the amount of illegal migration that still occurs. With the creation of the Ministry of Expatriates' Welfare and Overseas Employment (MoEWOE) , the Bangladesh Government attempted to curtail the amount of undocumented migration. Due to a number of loopholes and disjointed efforts among different anti-trafficking groups there is still insufficient regulation of recruitment agencies and human traffickers. While promotion of formal remittances would likely help, the governments must show persistent vigilance against human trafficking through coherent and strictly enforced law. There should also be increased cooperation between origin countries and countries of destination so that there is a more coordinated and uniform effort in regulation of migration and enforcement of ethical practices and laws.

Therefore that appropriate policy to explore more foreign employment and more proficient use of remittances would help the economic development of Bangladesh.

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Appendix 1. Global Remittance Flows: Volume, Growth and Stability

Table 1.1: Global Inflows of International Migrant Remittances and future Outlook for remittance flows to developing countries, 2011-13

	2007	2008	2009	2010e	2011f	2012f	2013f
All developing countries	278	325	308	325	349	375	404
East Asia and Pacific	71	85	86	93	99	107	117
Europe and Central Asia	39	46	35	36	39	42	46
Latin America and Caribbean	63	64	57	58	63	68	74
Middle-East and North Africa	32	36	34	36	37	39	41
South Asia	54	72	75	81	89	94	100
Sub-Saharan Africa	19	22	21	22	23	24	26
LDCs (UN-classification)	17	23	24	26	28	31	33
Low-income countries	17	22	23	24	27	29	32
Middle-income	262	303	285	300	321	345	372
<i>World</i>	<i>385</i>	<i>444</i>	<i>417</i>	<i>440</i>	<i>468</i>	<i>499</i>	<i>536</i>
<i>Growth rate (%)</i>							
All developing countries	22.9%	16.8%	-5.4%	5.6%	7.3%	7.4%	7.9%
East Asia and Pacific	23.7%	20.3%	0.8%	7.4%	6.8%	8.0%	9.5%
Europe and Central Asia	38.5%	16.5%	-22.7%	1.3%	7.8%	9.4%	8.8%
Latin America and Caribbean	7.1%	2.3%	-12.3%	1.7%	8.6%	9.3%	8.6%
Middle-East and North Africa	21.5%	12.0%	-6.8%	6.2%	3.4%	5.5%	5.6%
South Asia	27.1%	32.6%	4.8%	8.2%	9.1%	5.8%	6.5%
Sub-Saharan Africa	47.1%	16.0%	-3.8%	5.5%	5.1%	5.9%	6.5%
LDCs (UN-classification)	22.9%	32.8%	5.2%	5.8%	10.9%	7.3%	6.8%
Low-income countries	27.9%	32.5%	3.3%	6.9%	12.1%	8.2%	8.2%
Middle-income	22.6%	15.8%	-6.0%	5.5%	7.0%	7.4%	7.9%
<i>World</i>	<i>21.1%</i>	<i>15.3%</i>	<i>-5.9%</i>	<i>5.4%</i>	<i>6.4%</i>	<i>6.7%</i>	<i>7.3%</i>

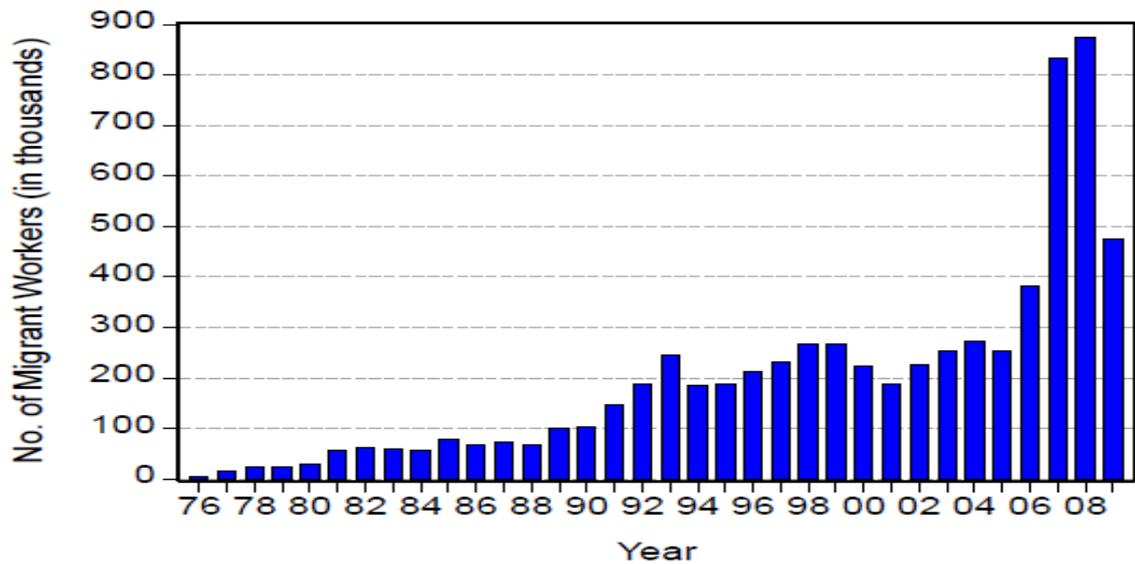
Source: BMET and World Bank (2011)

Table 2: Total no. of people officially migrated yearly, their skill composition and remittance

Year	Professional	Skilled	Semi-Skilled	Un-Skilled	Total	Remittance (US\$ Million)
1976	568	1,775	543	3,201	6,087	19
1977	1,766	6,447	490	7,022	15,725	79
1978	3,455	8,190	1,050	10,114	22,809	115
1979	3,494	7,005	1,685	12,311	24,495	171
1980	1,983	12,209	2,343	13,538	30,073	339
1981	3,892	22,432	2,449	27,014	55,787	381
1982	3,898	20,611	3,272	34,981	62,762	526
1983	1,822	18,939	5,098	33,361	59,220	642
1984	2,642	17,183	5,484	31,405	56,714	501
1985	2,568	28,225	7,823	39,078	77,694	502
1986	2,210	26,294	9,265	30,889	68,658	576
1987	2,223	23,839	9,619	38,336	74,017	748
1988	2,670	25,286	10,890	29,356	68,121	764
1989	5,325	38,820	17,659	39,920	101,724	758
1990	6,004	35,613	20,792	41,405	103,814	779
1991	9,024	46,887	32,605	58,615	147,131	769
1992	11,375	50,689	30,977	95,083	188,124	912
1993	11,112	71,662	66,168	95,566	244,508	1,007
1994	8,390	61,040	46,519	70,377	186,326	1,151
1995	6,352	59,907	32,055	89,229	187,543	1,202
1996	3,188	64,301	34,689	109,536	211,714	1,345
1997	3,797	65,211	43,558	118,511	381,077	1,526
1998	9,574	74,718	51,590	131,785	267,667	1,606
1999	8,045	98,449	44,947	116,741	268,182	1,807
2000	10,669	99,606	26,461	85,950	222,686	1,968
2001	5,940	42,742	30,702	109,581	188,965	2,105
2002	14,450	56,265	36,025	118,516	225,256	2,858
2003	15,862	74,530	29,236	134,562	254,190	3,192
2004	12,202	110,177	28,327	122,252	272,958	3,584
2005	1,945	113,655	24,546	112,556	252,702	4,315
2006	925	115,468	33,965	231,158	381,516	5,428
2007	676	165,338	183,673	482,922	832,609	6,562
2008	1,864	292,364	132,825	448,002	875,055	8,941
2009	383	104,627	18,419	341,922	465,351	10,532
1010	387	90,621	12,469	279,673	383,150	11,100
Total	180,680	2,151,125	1,038,218	3,744,468	7,264,410	78,810

Source: BMET and World Bank (2011)

Figure1: Total number of International Migrant Workers from Bangladesh, 1976-2009



Appendix 2: Data summary & Test Results

Table A: Descriptive Statistics

Variable	Obs.	Mean	Std.. Dev	Min	Max
GDP	32	1406920	562505	724953.5	2655743
REM	29	76751.03	63981.23	1314.114	249554.3
HC	32	2.181005	.4443726	1.16	2.894497
INV	32	166127.5	173373.3	5405	590727.7

Table B: Durbin-Watson correlation between GDP and REM

LGDP	Coef.	Stad. Err.	t-stat.	P-value	95% Conf.	Interval
LREM	0.1214513	0.0335577	3.62	0.001	0.0524724	0.1904301
YR3	0.1531967	0.1275265	1.20	0.316	-0.2526496	0.559043
YR4	0.0652315	0.1146398	0.57	0.609	-0.2996034	0.4300664
YR5	-0.1112899	0.1156124	-0.96	0.407	-0.47922	0.2566402
Cons.	12.87072	.4641543	27.73	0.000	11.91664	13.8248

Note: YR2 is dropped because of multicollinearity

Table C: Durbin-Watson correlation between Investments and Remittance

LINV	Coef.	Std. Err.	t-stat.	P-value	95% Conf.	Interval
LREM	0.1722585	0.0155671	11.07	0.008	.1052788	.2392382
YR3	-1.112191	0.0156164	-71.22	0.000	-1.179383	-1.044999
YR4	-1.219529	0.0143105	-85.22	0.000	-1.281102	-1.157955
YR5	-1.103018	0.0158068	-69.78	0.000	-1.171029	-1.035006
Cons	5.280738	0.047366	111.49	0.000	5.076938	5.484537

Note: Multicollinearity exists in YR1 and YR2.

Table D: Durbin-Watson correlation between HC and Remittance

HC	Coef.	Std. Err.	t-stat.	P-value	95% Conf.	Interval
LREM	.4931184	.2025219	2.43	0.093	-.1513966	1.137633
YR3	.3965935	.4344542	0.91	0.429	-.9860336	1.779221
YR4	.3239169	.359345	0.90	0.434	-.8196793	1.467513
YR5	.089621	.2306386	0.39	0.724	-.6443741	0.823616
Cons.	-3.149068	2.242892	-1.40	0.255	-10.28695	3.988816

Note: YR2 is dropped because of multicollinearity.

Table E: Multivariate correlation from Durbin-Watson test among GDP, INV and HC

LGDP	Coef.	Std. Err.	t-stat.	P-value	95% Conf.	Interval
LINV	0.1052274	0.0500579	2.10	0.045	0.0025171	0.2079377
LHC	0.4188799	0.1389073	3.02	0.006	0.1338656	0.7038941
Cons.	12.08284	0.3287964	36.75	0.000	11.4082	12.75747