

# Impacts of Foreign Direct Investment on Economic Growth of Bangladesh: An Econometric Exercise

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## ABSTRACT

Economic Growth is a concerning issue for the development of Bangladesh. Foreign direct investment (FDI) is a potential weapon for economic development, especially for Bangladesh. It can help us to build up physical capital, decrease unemployment rate, increase production capacity and create a good economic relationship between the domestic economies with global economy. This study examines the impacts of foreign direct investment on economic growth in Bangladesh during the period of 1990-2015 using Ordinary Least Square (OLS) method. The findings of the study reveal that FDI has its negative sign, which indicates that there is an inverse relationship between FDI and economic growth. The negative sign of FDI supports that Bangladesh should attract FDI increasing human capital, creating a good political environment and enhancing adequate infrastructure facilities, which will improve our economic growth.

**Key words:** Economic Growth, Remittance, FDI, Export, Import, Inflation, Multiple regression, Multi-national companies

## INTRODUCTION

Foreign direct investment (FDI) is a powerful engine for the economic growth of a country. It can build up physical capital, reduce unemployment problem, develop productive capacity, and increase skills of local labor. It also helps to create good economic relationship between domestic economy and global economy. Long term capital inflows (FDI) are beneficial for the country as they lead to higher competition and innovation encouraging domestic firms to reduce their cost (Anwar, 2000).

As all other countries Bangladesh is trying to be a suitable location for FDI. After independence the flow of FDI was only 0.09 million US dollar. Realizing the benefits of FDI which can accelerate the growth, the government set-up export processing zones (EPZ) at different locations in the country which are economically attractive and also permitted establishment of private EPZs (Karnafuly EPZ at Chittagong etc.), which is regarded as a milestone for the local as well as foreign investors.

## METHODOLOGY AND DATA SOURCES

To investigate the impacts of FDI on economic growth multiple regression analysis is used. Time series data for the period 1990-2015 (n = 25) are used to analyze the model on Gross Domestic Product in Bangladesh.

Different diagnostic tests are used to justify the major assumptions of multiple regression analysis such as normality test, residual test, heteroskedasticity test and autocorrelation test. The data of Gross Domestic Product, Foreign Direct Investment and Inflation are collected from World Bank and data on Remittance, Export Revenue, Import Expenditure are collected from Bangladesh Economic Review. All of the econometric tests are done by statistical software SPSS20 and EVIEWS7.

## LITERATURE REVIEW

Hussain and Anjum (2014) showed that worker's remittances are positive as well as significant with GDP growth and play important role in Pakistan economy. Impact of financial sector on GDP growth was also positive and significant as trade openness and world growth GDP. Kurtishi-Kastrati (2013) explained the theoretical and empirical literature on FDI, it further identified the main trends in FDI theory and highlighted how these theories are developed, the motivations that led to the requirement for new approaches to enrich economic theory of FDI and it provided a list of theoretical determinants of FDI as well the impact of FDI on economic growth. Awe (2013) revealed a negative relationship between Economic Growth and FDI as a result of insufficient FDI flow into the Nigerian economy.



Rahaman and Chakraborty (2015) found a long-run equilibrium relationship between FDI and GDP using co-integration and Granger causality runs from FDI to GDP. This study concluded that comparing to neighbor Asian countries FDI inflow was very low. Akter (2015) revealed that the impact of export on economic growth was positive and an opposite scenario was investigated in the case of import. Ahmed and Uddin (2009) examined that exports, imports and remittances caused GDP in the short run but had no long-run impact. Sri Lankan economists Thirunavukkarasu and Achchuthan (2013) showed that the export and import have the significant positive relationship with each other, and also, both export and import have the significant impact on the economic growth. Ismail *et al.* (2010) examined a long-run relationship between the variables (export and GDP) which was found by Johansen's co-integration test. Rai and Jhala (2015) showed that there is a positive relationship between growth rate and exports. Zaheer *et al.* (2014) indicated that exports and imports have significant relationship with growth rate in Tanzania. Gokal and Hanif (2004) examined a weak negative correlation between inflation and economic growth and causality between the two variables runs one-way from GDP to inflation. Testing for non-linear effects of inflation on growth in Egypt provided that inflation has 15% and higher negative effects on growth. Considering that low inflation could harm growth where as high inflation was going out of control, adversely affecting economic growth. Barro (1995) showed that if a number of Country's characteristics are held constant, then regression results indicate the impact effects from an increase in average inflation by 10% points per year are a reduction of the growth rate of real per capita GDP by 0.2-.3% points per year and decrease in the ratio of investment to GDP by 0.4-0.6% points. Statistically significant results emerge only when high inflation experiences are included in the sample. In this paper we want to investigate the impacts of FDI on economic growth with an econometric analysis.

**GROSS DOMESTIC PRODUCT**

GDP is the final value of the goods and services produced within the geographic boundaries of a country during a specified period of time, normally one year. GDP growth rate is an important indicator of the economic performance of a country.

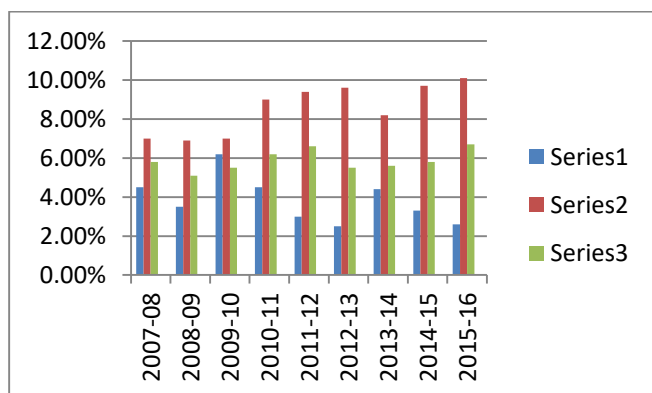


Figure 1: Broad sectoral GDP growth at constant prices Series 1 = Agriculture, series 2 = Industry, series 3 = Service. Source: Bangladesh Economic Review, 2016

Between FY 2014-15 and FY 2015-2016 agriculture sector's growth decreased from 3.33 percent to 2.79 percent at constant prices. In agriculture sector, animal farming slightly increased to 3.19 percent in FY 2015-16, it was 3.08 percent in FY 2014-15. Forest and related services stood at 5.12 percent in FY 2015-16, which was slightly higher than that of 5.08 percent of FY 2014-15. According to DOF the fishing sector's growth slightly declined to 6.11 percent in FY 2015-16, which was 6.38 percent in FY 2014-15. In FY 2015-16, industry sector's growth peaked at 11.09 percent, which was 9.67 percent in FY 2014-15. For the same fiscal year, the growth of mining and quarrying sector increased to 12.84 percent, which was significantly higher than that of 9.60 percent of previous fiscal year. The estimated growth rate of electricity, gas and water sector was 13.33 percent in FY 2015-16 and it was approximately two times higher that of previous fiscal year. The service sector recorded 6.25 percent growth in FY 2015-16, up from 5.80 percent in FY 2014-15. Between FY 2014-15 and FY 2015-16 financial intermediations slightly dropped at 7.74 percent from 7.78 percent.

**REMITTANCES**

Remittance is the funds an expatriate sends to their country of origin via wire, mail, or online transfer. These peer to peer transfers of funds across borders are economically significant for many countries that receive them.

Table 1: Remittances (million US\$)

| Fiscal Year | No of employment abroad ('000) | Amount of remittance (million us\$) |
|-------------|--------------------------------|-------------------------------------|
| 2005-06     | 382                            | 4801.88                             |
| 2006-07     | 833                            | 5978.47                             |
| 2007-08     | 875                            | 7914.78                             |
| 2008-09     | 475                            | 9689.16                             |
| 2009-10     | 427                            | 10987.4                             |
| 2010-11     | 439                            | 11650.32                            |
| 2011-12     | 691                            | 12843.4                             |
| 2012-13     | 441                            | 14461.15                            |
| 2013-14     | 409                            | 14228.3                             |
| 2014-15     | 461                            | 15316.91                            |
| 2015-16*    | 503                            | 11053.43                            |

Source: Bangladesh Economic Review, 2016

Table 1 shows that in the FY 2015-16\* the number of employment in abroad was 503000 and the corresponding amount of remittance was 11053.43 million us\$ while the number of Employment and the amount of remittance were respectively 461000 and 15316.91 million us\$ for the previous fiscal year.

From the table 1 we can say that there is an upward trend in the number of manpower export and the number of inward remittances except some small declining trend. According to the following table 2, in FY 2006-2007, the remittances sent by Bangladeshi expatriates were 8.72 and 49.09 as percent of GDP and export earnings respectively. In FY 2015-16, remittances as percent of GDP and export earnings declined to 6.74 and 43.60 respectively. Remittances as percent of GDP and export earnings are shown in table 2.

Table 2: Remittances as percent of GDP and export earnings

| FY                      | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| As % of GDP             | 8.72    | 9.95    | 10.83   | 11.00   | 10.55   | 11.11   | 11.14   | 8.20    | 7.90    | 6.74    |
| As % of export earnings | 49.09   | 56.09   | 62.25   | 67.80   | 50.64   | 52.92   | 53.52   | 47.10   | 49.00   | 43.60   |

Source: The World Bank

## FOREIGN DIRECT INVESTMENT

Foreign direct investment (FDI) is an investment made by a company or individual in one country in business interests in another country, in the form of either establishing business operation or acquiring business assets in the other country, such as ownership or controlling interest in a foreign company (Investopedia).

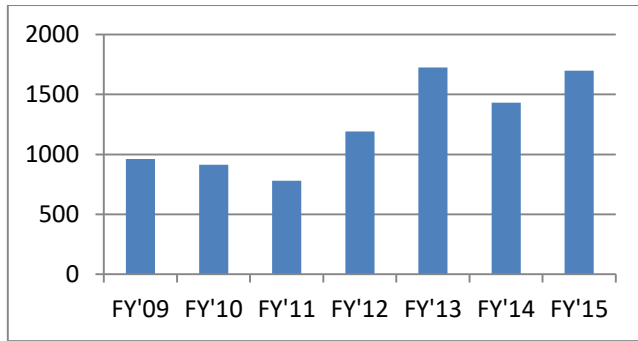


Figure 2: Net FDI inflow ( million us\$)

Source: Bangladesh Bank

Central bank's latest balance of payment statistics show net inflow of FDI amount was \$1700 million in the fiscal year 2015 but it was \$1432 million in fiscal year 2014, which was 18.7% lower than that of fiscal year 2015. Between FY'09 and FY'11, FDI decreased slightly and for the next two fiscal years it increased moderately. In FY2014 we received the

highest amount of FDI from the united kingdom, which was \$181 million, followed by South Korea (\$134.7 million), Pakistan (\$130.74 million), Singapore (\$117.13 million), Hong Kong (\$111.41 million) and Norway (\$103.58 million). For the same fiscal year the highest amount of FDI came from textile sector, which was \$390.92million.

Table 3: FDI as percent of GDP

| Year            | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|-----------------|------|------|------|------|------|------|
| FDI as % of GDP | 1.1  | 1.0  | 1.2  | 1.7  | 1.5  | 1.7  |

Source: The World Bank

According to table 3 we can say that FDI as percent of GDP fell from 1.7 to 1.5 between FY 2013 and FY 2014 but, it slightly increased to 1.7 in FY 2015. These values were comparatively lower than those of India, Sri Lanka and Vietnam.

## EXPORT AND IMPORT

Exports are the goods and services produced in one country and purchased by citizens of another country. Imports are foreign goods and services bought by residents of a country. Furthermore net-exports are the difference between a country's total value of exports and total value of imports. Depending on whether a country imports more goods or exports more goods, net exports can be a positive or negative.

Table 4: Export earning source

| FY         | USA    | Germany | UK     | France | Belgium | Italy  | Netherlands | Canada | Japan | Others  | Total   |
|------------|--------|---------|--------|--------|---------|--------|-------------|--------|-------|---------|---------|
| 05-06      | 3039.8 | 1763.4  | 1053.7 | 678.9  | 359.3   | 427.9  | 327.2       | 407.0  | 138.5 | 2330.5  | 10526.2 |
| 06-07      | 3441.0 | 1955.4  | 1174.0 | 731.8  | 435.8   | 515.7  | 459.0       | 457.2  | 147.5 | 2860.6  | 12177.9 |
| 07-08      | 3590.6 | 2174.7  | 1374.0 | 953.1  | 488.4   | 579.2  | 653.9       | 564.4  | 172.6 | 3559.9  | 14110.8 |
| 08-09      | 4052.0 | 1501.2  | 2269.7 | 1031.1 | 409.8   | 615.5  | 970.8       | 663.2  | 202.6 | 3849.3  | 15565.2 |
| 09-10      | 3950.5 | 2187.4  | 1508.5 | 1025.9 | 390.5   | 623.9  | 1016.9      | 648.2  | 330.6 | 4522.3  | 16204.7 |
| 10-11      | 5107.5 | 3438.7  | 2065.4 | 1538.0 | 666.2   | 866.4  | 1107.1      | 944.7  | 434.1 | 6760.1  | 22928.2 |
| 11-12      | 5100.9 | 3689.0  | 2444.6 | 1380.4 | 742.0   | 977.4  | 691.3       | 993.7  | 600.5 | 7682.2  | 24301.9 |
| 12-13      | 5419.6 | 3962.6  | 2764.9 | 1513.9 | 730.8   | 1036.6 | 712.5       | 1090.0 | 750.3 | 9046.2  | 27027.4 |
| 13-14      | 5583.6 | 4720.5  | 2917.7 | 1677.7 | 970.5   | 1332.4 | 858.1       | 1099.6 | 862.1 | 10154.6 | 30176.8 |
| 14-15      | 5783.4 | 4705.3  | 3205.4 | 1743.5 | 975.1   | 1382.3 | 840.3       | 1029.1 | 915.2 | 10628.9 | 31208.9 |
| 15-16*     | 4100.7 | 3214.4  | 2464.5 | 1156.0 | 650.2   | 904.6  | 554.5       | 720.1  | 711.4 | 7646.7  | 22123.7 |
| % of total | 18.53  | 14.53   | 11.14  | 5.23   | 2.94    | 4.09   | 2.51        | 3.26   | 3.22  | 34.65   | 100     |

Source: Bangladesh Economic Review, 2016

Table 4 shows that USA is the main export earning source for our country. We can see USA was in top position for importing commodities form our country in FY 2015-16\*

(July-February). During this period our export earning was US \$5784.4 million from USA, which was 18.53% of our total export earnings.

Table 5: Import and import payments

| FY         | China | India | Singapore | Malaysia | Japan | South Korea | Hong Kong | Taiwan | USA | Others | Total |
|------------|-------|-------|-----------|----------|-------|-------------|-----------|--------|-----|--------|-------|
| 05-06      | 2079  | 1868  | 849       | 332      | 651   | 489         | 626       | 473    | 345 | 7034   | 14746 |
| 06-07      | 2571  | 2268  | 1035      | 334      | 690   | 553         | 747       | 473    | 380 | 8106   | 17157 |
| 07-08      | 3137  | 3393  | 1273      | 451      | 832   | 620         | 821       | 478    | 490 | 10134  | 21629 |
| 08-09      | 3452  | 2868  | 1768      | 703      | 1015  | 864         | 851       | 498    | 461 | 10027  | 22507 |
| 09-10      | 3214  | 3819  | 1550      | 469      | 1232  | 788         | 1046      | 839    | 542 | 10239  | 23738 |
| 10-11      | 5918  | 4569  | 1294      | 1760     | 1308  | 1124        | 777       | 731    | 677 | 15500  | 33658 |
| 11-12      | 6440  | 4743  | 1710      | 1406     | 1455  | 1544        | 703       | 792    | 709 | 16014  | 35516 |
| 12-13      | 6328  | 4777  | 1422      | 1903     | 1180  | 1296        | 612       | 733    | 538 | 15295  | 34084 |
| 13-14      | 7541  | 6036  | 2290      | 2042     | 1284  | 1199        | 759       | 919    | 836 | 17826  | 40732 |
| 14-15      | 11268 | 5588  | 2894      | 1361     | 1816  | 1417        | 881       | 1060   | 880 | 13539  | 40704 |
| 15-16*     | 4703  | 2684  | 1072      | 474      | 776   | 557         | 572       | 367    | 610 | 7904   | 19719 |
| % of total | 23.9  | 13.6  | 5.4       | 2.4      | 3.9   | 2.8         | 2.9       | 1.9    | 3.1 | 40.1   | 100   |

Source: Bangladesh Economic Review, 2016

From Table 5 we can see that China secured the first position for our import in FY2015-16 (July-December) and the amount was US\$4703 million, which was 23.9% of our total import payments.

Line graphs of trade balance and current account balance from FY08-09 to FY15-16 are shown below:

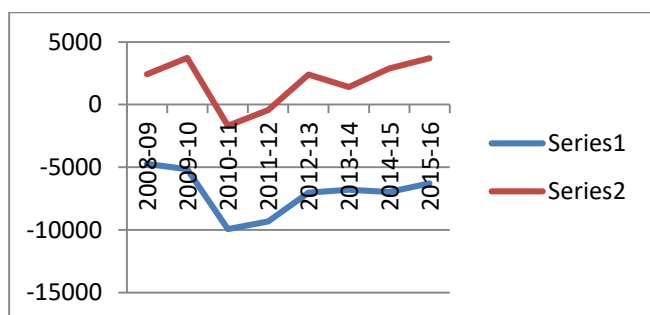


Figure 3: Trade balance and current account balance (FY 08-09-FY15-16)

Series1=Trade balance (in million us\$),  
Series2=Current account (in million us\$)

Source: Bangladesh Economic Review, 2016

### INFLATION

Inflation is the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of currency is falling.

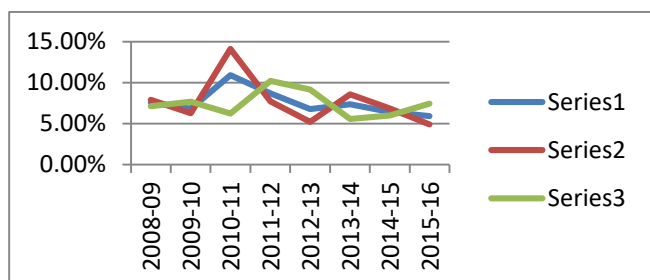


Figure 4: Percentage of inflation

Series 1 = General index inflation, Series 2 = Food index inflation and Series 3 = Non-food index inflation.

Source: Bangladesh Economic Review, 2016

From the above diagram, it is observed that in the FY2015-16 the rate of inflation stood at 5.92% and it was 6.41 percent for the previous fiscal year. In the FY2015-16, non-food inflation was higher than food inflation. The general level of inflation reached at 7.60% in FY2015-16 in a long 8 years showing a bit of fluctuation during the entire period.

### MODEL SPECIFICATION

The analysis explains the impacts of remittance, Foreign Direct Investment, export, import and inflation on economic growth. The respective model of this study can be written as below:

$$GDP_t = \beta_1 + \beta_2 Re m_t + \beta_3 FDI_t + \beta_4 Exr_t + \beta_5 Im p_t + \beta_6 Inf_t + e_t$$

Here  $e_t$  is the error term. That means there could be some other factors that may effect GDP but not included in the model.  $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  are the slope coefficient parameters of the respective variables. We can transform this model in log linear model:

$$\log GDP_t = \beta_1 + \beta_2 \log Rem_t + \beta_3 \log FDI_t + \beta_4 \log Exr_t + \beta_5 \log Im p_t + \beta_6 \log Inf_t + e_t$$

### VARIABLE DEFINITION

$\log GDP$  = log of Gross Domestic Product, which is measured in terms of million us dollar.

$\log Rem$  = log of Remittances, which is measured in terms of million us dollar.

$\log FDI$  = log of Foreign Direct Investment. The amount of investment coming to the economy from abroad, which is measured in terms of million us dollar.

$\log Exr$  = log of Export revenue, Which is measured in terms of million us dollar.

$\log Imp$  = log of Import expenditure, which is also measured in terms of million us dollar.

$\log Inf$  = log of Inflation rate.

### EMPIRICAL ANALYSIS

After employing ordinary least square method (OLS) the following results were estimated-

Table 6: Regression results

| Variables | coefficients |            | t      | Prob. |
|-----------|--------------|------------|--------|-------|
|           | B            | Std erroer |        |       |
| Constant  | 2.982        | 0.799      | 3.734  | 0.001 |
| logRem    | 0.199        | 0.136      | 1.465  | 0.159 |
| logFDI    | -0.061       | 0.028      | -2.137 | 0.045 |
| logExr    | 0.180        | 0.221      | 0.816  | 0.424 |
| logImp    | 0.548        | 0.150      | 3.647  | 0.002 |
| logInf    | -.037        | 0.035      | -1.052 | 0.306 |

Dependent variable: logGDP, R Square=0.96, Adjusted R Square=0.95

From the above table 6, it can be seen that all the variables are completely satisfactory. The p-value for all variables are quite acceptable. All the variables gained expected to sign as we explained already in above. The coefficient of Rem is 0.199. That means, a 1 percent increase in the Rem led to a 0.199 percent increase in the GDP when the other variables are constant. And t-statistics of Rem is 1.465, Which is quite acceptable. On the other hand, 1 percent rise in the Exr led to a 0.180 percent rise in the GDP. Similarly, 1 percent grow in the Imp led to a 0.548 percent grow in GDP. The t-statistics of Exr and Imp are respectively 0.816 and 3.647. The coefficients of FDI (-0.061) and Inf (-.037)are negative. So we can say that the relationship between FDI and GDP or Inf and GDP is negative. That means 1 percent increase in FDI led to a 0.061 percent decrease in GDP when the other variables are constant. And similarly if we rise 1 percent Inf then led to a 0.037 percent decline in GDP. The t-statistics of FDI and Inf are correspondingly -2.137 and -1.05.

### ESTIMATED EQUATION

$$\log \hat{GDP} = 2.982 + 0.199 \log Rem - 0.061 \log FDI + 0.180 \log Exr + 0.548 \log Imp - 0.037 \log Inf$$

$$= 2.982 + 0.199 \log Rem - 0.061 \log FDI + 0.180 \log Exr + 0.548 \log Imp - 0.037 \log Inf$$

Table 7: Explanation of explanatory variable

| R square | Adjusted R square | Std error of the estimates | F-statistics | Durbin-Watson |
|----------|-------------------|----------------------------|--------------|---------------|
| 0.96     | 0.95              | 0.119                      | 118.363      | 0.962         |

a. Predictors: (constant), logInf, logFDI, log Imp, logRem, logExr

b. Dependent variable: logGDP

From the above table 7 it's clear that, the fitted regression line is very much satisfactory. 96% variation in the GDP can be explained by the explanatory variable logRem, logFDI, logExr, logImp, logInf.

### RESIDUAL TEST

We know that residual,  $e = \text{ActualGDP} - \text{EstimatedGDP}$  or  $\text{PredictedGDP}$ . GDP not only depends on Rem, FDI, Exr, Imp and Inf but also reclines on other variables, so they are called residual.

This picture is also clear from the following graph:

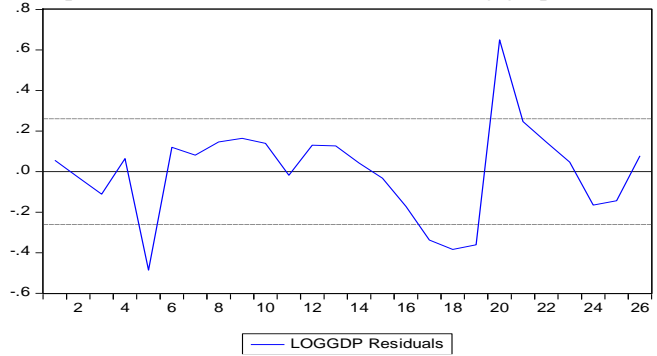


Figure 5: Negative and positive residual values

From the diagram we can see some negative and positive values. If we sum these negative and positive values the whole result will be zero.

### HYPOTHESES

Null hypothesis,  $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6$

Alternative hypothesis,  $H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6$

From above table-7, it is quite clear that, the calculative value for F is 118.363 where as the critical values of F-statistics are 3.32 and 5.39 for 5% and 1% level of significances respectively. So we can reject the null hypothesis. That means any of the  $\beta$  parameters should have some short of effect on GDP. That is, the estimated multiple regression model is significant.

### NORMALITY TEST

Different tests are used in determining normality. Jarque and Bera (1980) developed a statistical method which is used to check the normality assumption. So null and alternative hypotheses are,

$H_0$ : The data are normally distributed.

$H_1$ : The data are not normally distributed.

From the table p-value,  $0.6864 > 0.05$  and the value of Jarque and Bera (1980) is 0.7524. So we can reject the alternative hypothesis. That means the data are normally distributed according to the normality preconditions.

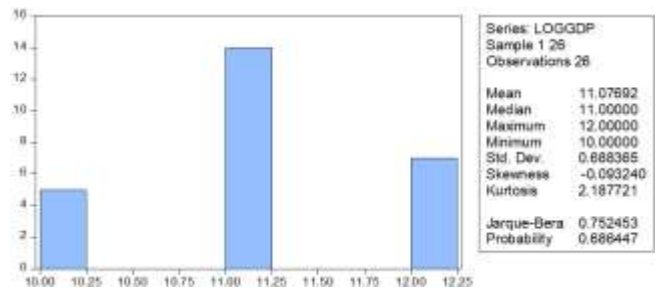


Figure 6

### TEST OF HETEROSKEDASTICITY

To detect heteroskedasticity we can take two hypotheses:

$H_0$ : Homoskedasticity

$H_1$ : Heteroskedasticity



There are many methods for detecting heteroskedasticity I used Breusch-Pagan-Godfrey test. The empirical results of the test are given below:

Table 8: Heteroskedasticity Test: Breusch-Pagan-Godfrey

| F-statistic         | 1.737305    | Prob. F(5,20)         |             | 0.1721    |
|---------------------|-------------|-----------------------|-------------|-----------|
| Obs*R-squared       | 7.873023    | Prob. Chi-Square(5)   |             | 0.1634    |
| Scaled explained SS | 7.269538    | Prob. Chi-Square(5)   |             | 0.2014    |
| <hr/>               |             |                       |             |           |
| Variable            | Coefficient | Std. Error            | t-Statistic | Prob.     |
| C                   | 1.068599    | 0.591407              | 1.806874    | 0.0859    |
| LOGREM              | 0.227679    | 0.100966              | 2.255004    | 0.0355    |
| LOGFDI              | 0.010114    | 0.021127              | 0.478737    | 0.6373    |
| LOGEXR              | -0.153052   | 0.164527              | -0.930255   | 0.3633    |
| LOGIMP              | -0.168528   | 0.110268              | -1.528347   | 0.1421    |
| LOGINF              | 0.022725    | 0.025845              | 0.879289    | 0.3897    |
| <hr/>               |             |                       |             |           |
| R-squared           | 0.302809    | Mean dependent var    |             | 0.052434  |
| Adjusted R-squared  | 0.128511    | S.D. dependent var    |             | 0.094465  |
| S.E. of regression  | 0.088187    | Akaike info criterion |             | -1.819545 |
| Sum squared resid   | 0.155538    | Schwarz criterion     |             | -1.529215 |
| Log likelihood      | 29.65408    | Hannan-Quinn criter.  |             | -1.735940 |
| F-statistic         | 1.737305    | Durbin-Watson stat    |             | 1.720215  |
| Prob(F-statistic)   | 0.172115    |                       |             |           |

From Table 8 r-squared's p-value > 0.05, so we can reject the alternative hypothesis. That means there is no heteroskedasticity in this model.

**TEST OF SERIAL CORRELATION**

The null hypothesis  $H_0$  to be tested is that-  
 $H_0: \rho_1 = \rho_2 = \dots = \rho_p = 0$ ; That is, there is no serial correlation of any order. And the alternative hypothesis is-  
 $H_1: \rho_1 \neq \rho_2 \neq \dots \neq \rho_p \neq 0$ ; That is, there is serial correlation in the residual.

Table 9: Breusch-Godfrey Serial Correlation LM Test

| F-statistic        | 1.169205    | Prob. F(3,17)         |             | 0.3506   |
|--------------------|-------------|-----------------------|-------------|----------|
| Obs*R-squared      | 4.447031    | Prob. Chi-Square(3)   |             | 0.2171   |
| <hr/>              |             |                       |             |          |
| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
| C                  | -1.126550   | 1.859518              | -0.605829   | 0.5526   |
| LOGREM             | 0.097074    | 0.326800              | 0.297044    | 0.7700   |
| LOGFDI             | -0.014138   | 0.062435              | -0.226435   | 0.8236   |
| LOGEXR             | -0.347304   | 0.546945              | -0.634989   | 0.5339   |
| LOGIMP             | 0.379338    | 0.382967              | 0.990524    | 0.3358   |
| LOGINF             | -0.018910   | 0.078774              | -0.240052   | 0.8132   |
| RESID(-1)          | 0.358879    | 0.268014              | 1.339029    | 0.1982   |
| RESID(-2)          | 0.012421    | 0.249001              | 0.049883    | 0.9608   |
| RESID(-3)          | -0.359547   | 0.247258              | -1.454135   | 0.1641   |
| <hr/>              |             |                       |             |          |
| R-squared          | 0.171040    | Mean dependent var    |             | 1.37E-15 |
| Adjusted R-squared | -0.219059   | S.D. dependent var    |             | 0.233520 |
| S.E. of regression | 0.257832    | Akaike info criterion |             | 0.394406 |
| Sum squared resid  | 1.130113    | Schwarz criterion     |             | 0.829901 |
| Log-likelihood     | 3.872720    | Hannan-Quinn criter.  |             | 0.519813 |
| F-statistic        | 0.438452    | Durbin-Watson stat    |             | 2.088861 |
| Prob(F-statistic)  | 0.881524    |                       |             |          |

From Table 9 we can see that the Obs\* R squared is 4.44 and p-value is 0.217. So p-value > 0.05, as a result we can reject the alternative hypothesis. So there is no serial correlation in the residual.

**RECOMMENDATIONS AND POLICY SUGGESTIONS**

Interestingly, we have seen that, FDI has a negative effect on economic growth. The results seem to support that FDI does not enhance economic growth. Negative sign could be result of insufficient FDI fund invested into the Bangladesh economy, which has not enough impact to make it positive relationship between FDI and GDP. The negative sign also could be due to low level of human capital in Bangladesh. We know FDI depends on political, social and cultural factors. A few years ago political situation of Bangladesh was not FDI favorable. As a result the graph of FDI in Bangladesh was downward sloping; this is another reason for insufficient FDI.

From the daily financial express the following description is found for insufficient FDI in Bangladesh:

There numbers of factors which are responsible for hindering positive outcomes from foreign investment in Bangladesh, such as an unskilled labor force, inadequate infrastructure, a slow-moving privatization process, inefficient bureaucracy, political instability, and recurring natural disasters (Rahman, 2008). Corruption and lack of transparency further increase the difficulty of doing business in Bangladesh (Transparency, 2010). Presently, Bangladesh's taxation policy is not favorable at all to attract FDI. Many incidents of unfair tax claims were imposed on foreign investment while misusing gap of local regulations that violates the provisions of equal treatment as per international treaties. It is alleged that the National Board of Revenue (NBR) tries to impose additional tax burden irrationally on multi-national companies (MNCs) to meet revenue target. MNCs sometimes complain that they do not get proper justice against unfair treatment as well as irrational additional taxes claims through administrative process. The aggrieved MNCs then take recourse to time-consuming judicial process. Absence of level playing field local competitors apparently get extra advantage from law-enforcement agencies and other government authorities whereas the same authorities are not found to be supportive enough for the MNCs at the same level. Foreign investors often do not get the same facilities as local investors. It is always difficult for foreign investors to adopt the culture and associated business mechanism of a foreign country. Metropolitan Chamber of Commerce and Industry (MCCI), Dhaka in its latest quarterly economic review, said the investment was not enough for the country's development. "It needs US\$7.4 billion to US\$10 billion annually to spend for infrastructural development in line with its target of graduating to a middle-income country by 2021". The country faced political turmoil in the third quarter (January-March 2015) of the last fiscal year due to strike (hartal) and blockade that negatively affects

economic activities. So, increase in FDI amid political chaos remains otherwise a question. Dr Biru Paksha Paul said "The political turmoil definitely hit the inflow of FDI last fiscal year" otherwise, total inflow might have crossed \$2 billion level." Dr Paul also said the current amount of FDI was very small compared to the gross domestic product (GDP) of the country. MCCI said in order to attract FDI, the government would have to solve problems of infrastructure bottlenecks and policy inadequacies. These include scarcity of land, lack of policy continuity, bureaucratic red tape, and weak governance, and political instability, poor skills of the labor force, administrative impediments and adequate utilities like gas, electricity and water. "A step in the right direction is the government's recent offer of a lucrative incentive package for investors and developers of the country's economic zones", it noted.

So for increasing FDI some of our suggestions are given below:

- Bangladesh should develop some rules and regulations on multinational corporation so that they cannot take away all of their profit from our country and reinvest their significant part of their profit into Bangladesh economy.
- The important investment areas of our country are: Textiles, Leather goods, Frozen foods, Jute goods, Oil and gas, coal, power, Telecommunication, Air transportation, Electronics, Light engineering industries, Tourism sector, Agro based industry and so on. We should develop these sectors to attract FDI.
- Good production facilities and sustainable business operations are crucial to attract foreign investors. Besides these good electricity supply, good transportation facilities, efficient human resources and good governance are also necessary for this. So we should ensure the above factors.
- Finally, political stability is another significant issue to attract FDI. So we should ensure this.

## CONCLUSION

Multiple regression analysis shows that there is a negative relationship between FDI and economic growth. This negative relationship could be as a result of insufficient FDI fund invested into the Bangladeshi economy. Low level of human capital, bad political situation, unskilled labor forces, and inadequate infrastructure facilities are also responsible for this. As a result, we should take proper steps to enhance FDI for economic development of our Bangladesh.

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