

Available online @ [www.iaraindia.com](http://www.iaraindia.com)  
 RESEARCH EXPLORER-A Blind Review & Refereed Quarterly International Journal  
 ISSN: 2250-1940 (P) 2349-1647 (O)  
 Impact Factor: 3.655 (CIF), 2.78 (IRJIF), 2.62 (NAAS)  
 Volume X, Issue 34  
 January-March 2022  
 Formally UGC Approved Journal (63185), © Author

## **DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN BANGLADESH: AN EMPIRICAL ANALYSIS**

**Dr. MOSTOFA MAHMUD HASAN**

Associate Professor of Finance  
 Faculty of Business Administration  
 EXIM Bank Agricultural University Bangladesh  
 Chapainawabganj-6300

&

**MD. ABU SAYEM**

Lecturer in Statistics  
 Faculty of Agricultural Economics and Rural Development  
 EXIM Bank Agricultural University Bangladesh, Chapainawabganj-6300

### *Abstract*

*Foreign direct investment (FDI) plays an important role for attaining sustained growth of a nation including Bangladesh. The key objective of the research is to assess the effect of foreign direct investment (FDI) on different macroeconomic factors (GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade). For this, multiple regression analysis model is utilized for analyzing different macroeconomic factors. Based on the analysis, it is observed that GDP, interest rate, inflation rate and balance of trade are negatively associated factors with foreign direct investment (FDI) and growth rate, average exchange rate and external debt are positively associated factors with foreign direct investment (FDI). These macroeconomic factors are important indicators for the economic development of a country.*

**Keywords:** *FDI, GDP, Macroeconomic factors, Sustained growth, Economic development.*

### **INTRODUCTION**

Foreign direct investment (FDI) is fundamental funding manufactured by an enterprise into an external concern. Foreign direct investment (FDI) is essentially needed for the economic development of any country especially for developing country like Bangladesh. Bangladesh requires economic evolution to get through the world. Bangladesh is impotent to accumulate national savings to saturate in attractive projects as it is capital poor country.

Foreign direct investment (FDI) is the pivotal factors for the development of country's economy. For the developing countries like Bangladesh, foreign direct investment (FDI) contributes at large. It assists to amalgamate the national economy with international economy. Bangladesh has a numerous opportunities to captivate the foreign stakeholders from different developed and developing countries. In this case, foreign direct investment (FDI) is considered to be most potential factor for economic growth.

### 1.1. STATEMENT OF THE PROBLEM

Bangladesh is a capital poor but potential country. Foreign direct investment (FDI) is crucial for attaining the country's socio-economic development. There are many macroeconomic factors that affect foreign direct investment (FDI). That's why, the researchers are aimed to realize the influence of different macroeconomic factors on foreign direct investment (FDI).

### 2. OBJECTIVE OF THE RESEARCH

The major objectives of this research as follows:

- i. To observe the pattern of different macroeconomic variables over foreign direct investment.
- ii. To measure the effect of different macroeconomic variables over foreign direct investment.

### 3. REVIEW OF LITERATURE

*Saini & Singhania (2018)* investigated that GDP, income, trade openness, inflation, exchange rate and external indebtedness are associated factors of FDI. *Asiamah et al. (2019)* found that inflation rate, interest rate and exchange rate are negatively associated factors with FDI and GDP, electricity production and telephone usage are positively associated factors with FDI.

*Kaur & Sharma (2013)* analyzed that inflation and exchange rate are negatively associated on FDI and GDP, forex reserves, openness and external indebtedness are positively associated on FDI. *Reenu & Sharma (2015)* studied that market size, trade openness, inflation rate and interest rate have impact on FDI.

*Kandiero & Chitiga (2014)* found that FDI inflows and real exchange rate are negatively correlated. *Stanic & Racic (2019)* analyzed that FDI, import, export have positive association and growth rate, unemployment rate and inflation rate have negative association with GDP. *Rahman (2015)* explored that GDP, inflation rate are positively related with FDI and

balance of trade is negatively related with FDI.

*Maryam & Mittal (2020)* studied that economic growth has positive impact on FDI. *Alfalih* described that exchange rate has significantly positive association with FDI. *Lily et al. (2014)* found that exchange rate has negative association with FDI.

## 4. METHODOLOGY

### 4.1. DATA SOURCE

The researchers used secondary data related to this study and data was collected from World Bank for the fiscal year 2010 to 2020.

### 4.2. DATA ANALYSIS TECHNIQUES

The secondary data has been analyzed in SPSS 16.00 version and descriptive statistics and multiple linear regression was used to analyze the macroeconomic factors.

### 4.3. DEPENDENT VARIABLE

Foreign direct investment (FDI) was used as dependent variable for this study.

### 4.4. INDEPENDENT VARIABLE

GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade were used as independent variables.

### 4.5. MULTIPLE LINEAR REGRESSION

The multiple linear regression model is applied to determine the relationship between a dependent variable and one or more independent variables. The general form of the regression model is:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_k x_k \quad (1)$$

Where  $y$  the dependent is variable,  $\beta_0$  is the intercept,  $x_1$  to  $x_k$  are the independent variables,  $\beta_1$  to  $\beta_k$  is the change in  $y$  for each one increment change in the independent variables, and  $\varepsilon$  is the disturbances.

Therefore, the ordinary least square fitted model from (1) is given by

$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \hat{\beta}_3 x_3 + \dots + \hat{\beta}_k x_k$$

$\hat{y}$  is the predicted value of the dependent variable,  $\hat{\beta}_0$  is the intercept,  $x_1$  to  $x_k$  are the independent variables,  $\hat{\beta}_1$  to  $\hat{\beta}_k$  is the estimated value of  $\beta_1$  to  $\beta_k$ .

Since the variables are measured in different units, so we used standardized partial regression coefficients which is measured by

$$\hat{\beta}_k = \frac{s_k}{s_y}$$

Where,  $s_k$  is the standard deviation of the  $k$ 'th independent variable and  $s_y$  is the standard deviation of the dependent variable.

**5. RESULTS AND DISCUSSION**

There are numerous macroeconomic variables that affect foreign direct investment (FDI). Here, we used some selected variables which are given in the following table.

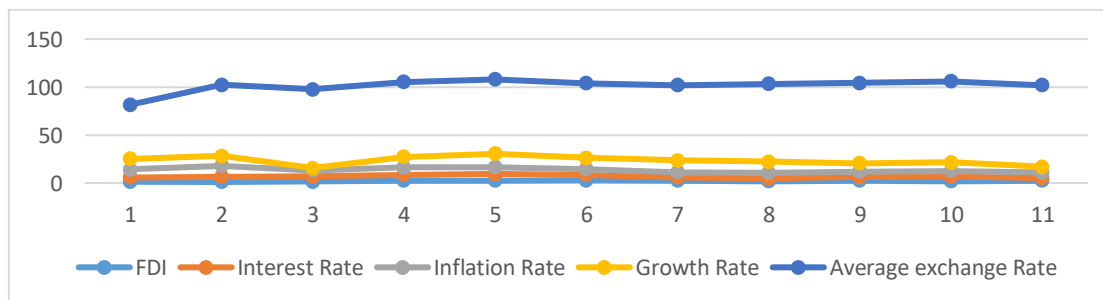
**Table 1**  
**Some macroeconomic factors of Bangladesh economy**

Fiscal Year	FDI (USD Billion)	GDP (USD Billion)	Interest Rate (%)	Inflation Rate (%)	Growth Rate(%)	Exchange Rate (%)	External Debt (USD Billion)	Balance of Trade(USD Billion)
2010	1.23	115.30	4.73	8.13	11.23	56.31	20.34	-6.63
2011	1.26	128.60	5.06	11.4	10.32	74.10	22.1	-9.75
2012	1.58	133.40	5.34	6.22	2.48	81.86	22.10	-10.39
2013	2.60	150.00	5.98	7.53	11.18	78.10	22.40	-10.83
2014	2.54	172.90	6.88	6.99	13.95	77.56	24.40	-11.30
2015	2.83	195.10	5.51	6.19	11.58	77.80	23.90	-14.46
2016	2.33	221.40	3.44	5.51	12.26	78.53	26.31	-10.31
2017	1.81	249.70	3.06	5.70	11.57	81.18	28.34	-13.06
2018	2.42	274.00	3.83	5.54	8.59	83.87	33.51	-23.69
2019	1.91	302.60	4.87	5.59	9.28	84.39	38.48	-18.50
2020	2.56	324.20	2.63	5.69	6.09	84.87	44.20	-20.76

Data source: World Bank

**5.1: GRAPHICAL ANALYSIS**

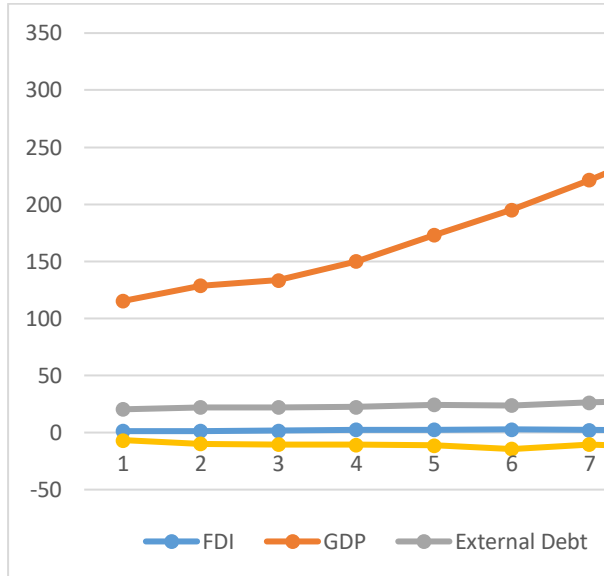
**Figure 1: Scatter plot of interest rate, inflation rate, growth rate and exchange rate with FDI**



Source: Authors calculation from collected data

From the figure 1, it is observed that interest rate, inflation rate, growth rate and exchange rate are gradually decreased as year passes with FDI.

**Figure 2**  
**Scatter plot of GDP, external debt and balance of trade with FDI**



*Source: Authors calculation from collected data*

From the figure 2, it is seen that GDP and external debt are gradually increased with FDI and balance of trade is gradually decreased with FDI.

**5.2: CORRELATION ANALYSIS**

**Table 2**  
**Correlation among different macroeconomic factors with FDI**

Factors	Pearson r	P value
GDP	0.43	0.18
Interest Rate	0.06	0.86
Inflation rate	-0.54	0.09
Growth Rate	0.22	0.51
Average Exchange Rate	0.51	0.11
External Debt	0.32	0.33
Balance of Trade	-0.48	0.14

*Source: Authors calculation from collected data*

The above table shows the correlation among different macroeconomic factors (GDP, interest rate, inflation rate, growth rate, average

exchange rate, external debt and balance of trade) with FDI.

From the table 2, it is cleared that GDP, interest rate, growth rate, average exchange rate and external debt have positive linear relationship with FDI. On the other hand, inflation rate and balance of trade have negative linear relationship with FDI. Their relationship is not statistically significant at 5% level of significance.

**5.3: MULTIPLE LINEAR REGRESSION MODEL FOR FDI**

**Table 3**  
**Testing overall significance of the regression model**

Sources of Variation	D F	SS	MS	F value	P value
Regression	7	2.61	0.37	1.91	0.32
Residual	3	0.59	0.20		
Total	10	3.20			

*Source: Authors calculation from collected data*

From the table 3, it is observed that GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade are not jointly significant with FDI at 5% level of significance.

**Table 4**  
**Testing individual significance of the regression model**

Sources of Variation	Standardized Coefficients	Standard Error	t value	P value	95% CI	
					Lower	Upper
Intercept	-2.21	2.65	-0.84	0.47	-10.63	6.21
GDP	-4.77	0.22	-21.72	0.18	-0.11	0.03
Interest Rate	-0.53	0.25	-2.09	0.43	-1.02	0.56

Inflation rate	-1.23	.18	-2.15	0.12	-0.97	0.19
Growth Rate	1.47	.12	2.20	0.12	-0.16	0.63
Average Exchange Rate	1.05	.04	1.84	0.16	-0.06	0.20
External Debt	2.78	.13	1.57	0.21	-0.21	0.62
Balance of Trade	-1.05	.07	-1.63	0.20	-0.33	0.11

$$R = 0.904, R^2 = 0.816 \text{ and } R^2_{adj} = 0.388$$

Source: Authors calculation from collected data

From the table 4, the estimated model for FDI is,

$$\begin{aligned} \widehat{FDI} &= -2.21 - 4.77GDP \\ &- 0.53Interest\ Rate \\ &- 1.23Inflation\ Rate \\ &+ 1.47Growth\ Rate \\ &+ 1.05Average\ Exchange\ Rate \\ &+ 2.78External\ Debt \\ &- 1.05Balance\ of\ Trade \end{aligned}$$

GDP is negatively associated with FDI and the coefficient -4.77 indicates that one standard deviation change in GDP would lead to 4.77 standard deviation decrease in FDI.

Interest rate is negatively associated with FDI and the coefficient -0.53 indicates that one standard deviation change in interest rate would lead to 0.53 standard deviation decrease in FDI.

Inflation rate is negatively associated with FDI and the coefficient -1.23 indicates that one standard deviation change in inflation rate would lead to 1.23 standard deviation decrease in FDI.

Growth rate is positively associated with FDI and the coefficient 1.47 means that one standard deviation change in growth rate would lead to 1.47 standard deviation change in FDI.

Average exchange rate is positively associated with FDI and the coefficient 1.05 means that one standard deviation change in average exchange rate would lead to 1.05 standard deviation change in FDI.

External debt is positively associated with FDI and the coefficient 2.78 exerts that one standard deviation change in external debt would lead to 2.78 standard deviation change in FDI.

Balance of trade is negatively associated with FDI and the coefficient -1.05 means that one standard deviation change in average balance of trade would lead to 1.05 standard deviation decrease in FDI.

All the independent variables (GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade) are statistically insignificant at 5% level of significance. That means, GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade does not individually influence on FDI.

Adjusted R-square value 0.388 indicates that 38.80% of the total variation of FDI is explained by the GDP, interest rate, inflation rate, growth rate, average exchange rate, external debt and balance of trade, i.e., this model is on an average good enough in predicting the dependent variable FDI.

## 6. CONCLUSION

In a developing country like Bangladesh, foreign direct investment (FDI) can come to light as a noteworthy weapon for accomplishing the country's socio-economic development.

Based on the analysis, the researcher's explored that GDP, interest rate, inflation rate and balance of trade have negative effects on FDI and growth rate, average exchange rate and external

debt have positive effects on FDI. An indepth study is also needed in investigating the whole economic growth in the Bangladesh for effective decisions and making potential policies.

According to the study, the researcher's recommends that Bangladesh must have created conducive circumstances for increasing the share of foreign direct investment (FDI) and this can be executed through the utilize of effective and sound policies.

#### REFERENCES

- Alfalih, A., A. & Hadj, T., B. (2020). Foreign direct investment determinants in an oil abundant host country: Short and long-run approach for Saudi Arabia. *Resources Policy*, 66 (June 2020), 1-11.
- Asiamah, M., Ofori, D., & Afful, J. (2019). Analysis of the determinants of foreign direct investment in Ghana. *Journal of Asian Business and Economic Studies*, 26 (1), 56-75.
- Kandiero, T., & Chitiga, M. (2014). Trade openness and foreign direct investment in Africa. *South African Journal of Economic and Management Sciences*, 9 (3), 355-357.
- Kaur, M., & Sharma, R. (2013). Determinants of foreign direct investment in India: an empirical analysis. *Decision*, 40 (1-2), 57-67.
- Lily, J., Kogid, M., Mulok, D., Sang, L., M., & Rozilee A., R. (2014). Exchange Rate Movement and Foreign Direct Investment in Asean Economies. *Economics Research International*, 2014, 1-10. <https://doi.org/10.1155/2014/320949>.
- Maryam, J., & Mittal, A. (2020). Foreign direct investment into BRICS: an empirical analysis. *Transnational Corporations Review*, 12(1), 1-9.
- Reenu, J., & Sharma, A., K. (2015). Trends and determinants of foreign direct investment in India: a study of the post-liberalization period. *South Asian Journal of Management*, 22 (3), 96-98.
- Rahman, A. (2015). Impact of Foreign Direct Investment on Economic Growth: Empirical Evidence from Bangladesh. *International Journal of Economics and Finance*, 7 (2), 178-185.
- Stanić, S., & Račić, Ž. (2019). Analysis of Macroeconomic Factors Effect to Gross Domestic Product of Bosnia and Herzegovina Using the Multiple Linear Regression Model. *ECONOMICS*, 7(2) 91-97.
- Saini, N., & Singhania, M. (2018). Determinants of FDI in developed and developing countries: a quantitative analysis using GMM. *Journal of Economic Studies*, 45 (2), 348-382.