

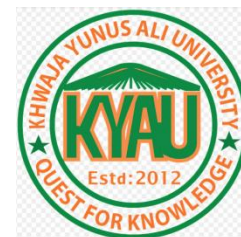
Khwaja Yunus Ali University Journal

Publisher homepage: www.kyau.edu.bd

OPEN ACCESS

ISSN: 2791-3759 (Online), 2521-3121 (Print)

Journal homepage: www.journal.kyau.edu.bd



Research Article

The Impact of Foreign Direct Investment on Economic Growth in Bangladesh

Md. Moniruzzaman^{1*}, Md. Mahmudul Hasan², Md. Nurnabi Miah², Md. Jahedul Islam², Abu Darda³

¹Department of Business Administration, Khwaja Yunus Ali University, Enayetpur, Chowhali 6751, Sirajgon, Bangladesh.

²Research Department, Bangladesh Bank, Head Office, Dhaka, Bangladesh

³IRIS Fabrics Ltd., Dhaka, Bangladesh.

*Correspondance: monir.dba@kyau.edu.bd

Abstract:

FDI can greatly reduce poverty by fostering long-term economic prosperity; it is a special indicator of economic growth in developing nations. As a result, utilizing annual time series data from 1986 to 2022, the research's primary goal is to investigate the impact of foreign direct investment on Bangladesh's economic growth. This goal was accomplished by processing the qualitative and economic analysis. This study investigated the impact of FDI on economic development in Bangladesh by employing standard time-series econometric tools, namely, unit root tests to check stationarity and augmented autoregressive distributed lag (augmented ARDL) bounds testing approaches to check cointegration. The final results of the ARDL model discovered that exports and foreign direct investment had an impact on economic growth over the long and short terms. In order to boost the quantity of FDI that enters Bangladesh, the current study recommends that a sound foreign investment strategy and liberal trade policy be formed that protect foreign investment and the interests of the economy.

Keywords: Foreign direct investment, Economic growth, sounds foreign investment strategy, liberal trade policy and Bangladesh.

1. Introduction

Bangladesh's economy is one of those in South Asia that is expanding fast. Its labor force is enormous, and its wages are low (Raihan *et al.*, 2015 and Sakamoto *et al.*, 2020). The region's tariff rate is lower than that of another region (Rahman and Amin, 2009). More than three-quarters of all exports from Bangladesh come from the ready-made clothing sector, where it has established its international name. Bangladesh's primary benefit is that it is strategically located between the massive burgeoning markets in South Asia and can rapidly expand its markets in Southeast Asia (Rahman, 2015).

The people's purchasing power is rising quickly (Chowdhury and Hossain, 2018). But due to a lack of sufficient funding, Bangladesh's infrastructure development is not as robust as it should be (Gupta, 2015; Islam, 2003;

Ahmed, 2012; Haque, 2017; and Khan, 2007). Additionally, there is not enough domestic investment in this area. In this situation, foreign assets are an essential signal to close the capital stock deficit. Therefore, foreign direct investment might be crucial in filling the gap left by a lack of foreign assets.

Additionally, it will strengthen the nation's social and economic infrastructure. One of the possible major sources of income for the receiving nations is foreign direct investment, which can be made publicly to support economic and social growth. According to estimates, Bangladesh receives about \$13.20 million in income each year from international investors (Hussain, 2016). The establishment of export promotion and import substitution sectors, on the other hand, has an impact on global trade and improves the balance of payments (Amir and Mehmood, 2012). Additionally, the establishment of these kinds of industries has increased the number of employment prospects (Alam, 2012). Therefore, it is crucial for policymakers to pay attention to foreign investors in order to draw in and maintain foreign investment for the purpose of boosting the economy. As a result, the study's primary goal is to examine how foreign direct investment has affected Bangladesh's economic expansion.

2. Literature Review

Foreign direct investment is one of the most significant economic indicators in the age of globalization (Fite, 2020). Through the transfer of capital and technology, it has a favorable effect on the economic development of developing nations (Li and Liu, 2005). Khawar (2005) looked into how FDI impacted growth between 1970 and 1992 and came to the conclusion that FDI, both domestic and foreign, had a substantial and positive association with economic growth. The theory of modernization states that FDI can assist developing nations in meeting their need for capital formation by investing money that can boost economic growth (Firebaugh, 1992). Consequently, foreign investment is essential to bridging the gap of resources in many developing countries (Mello, 1999). For instance, capital formation in South and East Asia is boosted by foreign direct investment.

For instance, by boosting capital formation, FDI has aided economic growth in South and East Asia (Fry, 1999). Additionally, foreign investment is beneficial for building physical infrastructure like industries, roads, and highways (Romer, 1994). Physical infrastructure upgrades will strengthen the host nation's capacity to absorb FDI, perhaps bringing in more FDI. Additionally, through increasing exports, foreign investment stimulates economic growth (Baliamoune-Lutz, 2004). Kabir (2007) makes a similar argument, asserting that FDI boosts exports and, consequently, foreign currency revenues that can be used to pay off external debts. Agrawal and Khan (2011) examined the effect of FDI on GDP growth using data from the panel study of China, Japan, India, South Korea, and Indonesia from 1993 to 2011. They discovered that foreign direct investment stimulates economic growth and calculated that each of the five countries' GDPs would increase by around \$7 for every dollar invested outside. As a result, foreign direct investment quickens a nation's economic progress by expanding its production capacity (Hossain *et al.* 2018).

According to dependency theory, however, FDI has a detrimental effect on the economic advancement of the receiving country (Dutt, 1997). This viewpoint is supported by Brecher and Diaz-Alejandro (1977), who assert that FDI may have a detrimental effect on the economic development of the host country if FDI-financed businesses return excessive profits to their parent country. Profit repatriation is what this is, and it has a detrimental effect on the balance of payments of the host nation (Diaz-Alejandro and Brecher, 1977). Additionally, FDI-financed businesses frequently require high-tech capital equipment and intermediate products, both of which are normally unavailable in the host nation. FDI enables the host nation to import more goods (Rahman, 2008). Increased imports could hinder economic expansion because of the associated trade deficit (Fry, 1999). Although a lot of research has been conducted in the context of other nations, there are surprisingly few studies about the influence of FDI on economic growth in Bangladesh using recent economic data. Therefore, the current study has made an effort to investigate how foreign direct investment has affected Bangladesh's economic expansion.

The previous literature on FDI and economic growth nexus in Bangladesh, for example, Shimul et al. (2009), using a smaller dataset (1973–2007), utilized the ARDL technique and found no causal relationship between FDI and economic growth. Conversely, Tabassum and Ahmed (2014), using data for the period 1972–2011 and applying a multiple regression model, found FDI to be insignificant in influencing economic growth. Therefore, the literature is limited to the selected topic in the case of Bangladesh. In addition, the FDI and economic growth relationship is one of the debatable issues in the literature, which needs further investigation.

3. Overview of FDI Inflows in Bangladesh:

In order to promote the entrance of foreign direct investment, Bangladesh adopted the Foreign Investment Act in 1980. The primary justification for passing this legislation was to establish a new source of funding for the nation (Manzoor and Chowdhury, 2017). Bangladesh has experienced a rise in foreign direct investment since 1980. Over time, there has been an increase in total inflows of FDI. During the years, this capital flow has benefited the nation by advancing technology, enhancing skills, creating jobs, and improving infrastructure and management. Table 1 shows the foreign direct investment inflows by component for FY22 (July-March):

Table-1: Component wise inflows of foreign direct investment

Year	Quarter	Component	Total (In million USD)		
			Gross Inflow	Disinvestment	Net Inflow
FY 2022(Jul-Mar)	Jul-Sep	Equity	322.27	35.17	287.10
		Reinvested Earnings	383.75	0.00	383.75
		Intra-Company Loans	200.77	200.12	0.65
		Total	906.79	235.29	671.50
	Oct-Dec	Equity	570.94	26.42	544.52
		Reinvested Earnings	444.62	0.00	444.62
		Intra-Company Loans	406.64	303.61	103.03
		Total	1422.20	330.03	1092.17
	Jan-Mar	Equity	294.49	6.16	288.33
		Reinvested Earnings	613.53	0.00	613.53
		Intra-Company Loans	294.35	307.73	-13.38
		Total	1202.37	313.89	1202.37
	Total	Equity	1187.70	67.75	1119.95
		Reinvested Earnings	1441.90	0.00	1441.90
		Intra-Company Loans	901.76	811.46	90.30
		Total	3531.36	879.21	2652.15

Source: Statistics Department, Bangladesh Bank

4. Methodology

4.1 Sources of Data

In this research, secondary data are utilized. The World Bank's Development Indicators were used to gather the necessary information for GDP, FDI, and Export. From 1986 through 2022, annual time series data were used for the study.

4.2 Model Specification

FDI and export are utilized as independent variables, and real GDP is used as dependent variable. The following is the functional form of the model:

$$GDP_t = (FDI_t, EXP_t, \mu_t)$$

Where, GDP= Real GDP, FDI= Foreign Direct Investment, EXP= Export, μ = error term.

The letter "t" in subscript stands for time.

Over other co-integration models, the autoregressive distributed lag model has a few advantages. First off, the ARDL technique is more reliable when dealing with finite or tiny samples, which may range from 25 to 80. (Pattichis, 1999 and Mah, 2000). Furthermore, the ARDL is better suited for use because it is built on a single equation skeleton. This model generates data processing in a general framework with a sufficient amount of delays (Harvey, 1989). Finally, the ARDL technique makes it simple to create the error correction model (ECM) (Yildirim et. al., 1996). In an empirical analysis, the researcher employed the ARDL model while taking into account the model's strengths to assess the impact of FDI on Bangladesh's economic growth. The following is a description of the generalized ARDL model:

$$Y_t = \alpha_{0i} + \sum_{i=1}^m \beta_i Y_{t-1} + \sum_{i=0}^n \delta_i X_{t=i} + \varepsilon_{it}$$

Where, Y_t is dependent variable, α_{0i} is the intercept of the model, β_i is the coefficient of dependent variable, δ_i is the coefficient and ε_{it} is the error term.

5. Results and Discussion

5.1 Unit Root Test

Prior to doing the regression analysis, it is critical to test the stationary properties of the model's included variables. To investigate the stationary property of time series data, unit root tests are performed. Numerous methods can be used to test the stationary. The unit root of each variable in the current study is ascertained using the Phillips-Perron and Augmented Dickey Fuller (ADF) tests. The outcomes of the stationary test are displayed in Table 2 below.

Table-2: Unit Root Test at Level

Variable(s)	Augmented Dickey Fuller (ADF)		Phillips–Perron (PP) test	
	ADF Statistic	P value	PP Statistic	P value
LNGDP	-1.528309	(0.7996)	1.613118	(0.7666)
LNFDI	0.254311	(0.9973)	-2.587340	(0.2880)
LNEXP	-0.425605	(0.9824)	-0.668984	(0.9675)
Unit Root Test at First Difference				
D(LNGDP)	-4.323	(0.008)	-3.645	(0.041)
D(LNFDI)	-6.091	(0.000)	-8.476	(0.000)
D(LNEXP)	-4.372	(0.007)	-4.372	(0.007)

Source: Author's own calculation

Table-2 displays the outcomes of the unit root test performed on the model's variable at the level and the first difference. On the basis of the ADF test and the PP test, it is simple to conclude that all variables were found to be stationary at their first differences, indicating that all variables included in the study are integrated of order one I. (1). After defining the sequence of integration, the study then tests for short-run and long-run correlations between dependent and explanatory variables.

5.2 Lag Selection

VAR lag order by selection criteria is shown in Table-3. The findings of the AIC, SIC, and HQ criteria indicated that 1 lags was the best number of lags to include in this study. For the given model, the AIC, SC and HQ criteria show that the optimum number of lag is 1.

Table-3: VAR lag order by the selection criteria

Lag	AIC	SC	HQ
0	4.945591	5.083004	4.991139
1	-4.962139*	-4.412488*	-4.779945*
2	-4.568326	-3.606437	-4.249487
3	4.200433	-2.826306	-3.744949

Note: Endogenous variable lngdp, lnfdi, lnexport, *indicates lag order selected by the criteria

Source: Author's own calculation

5.3 Bounds Test Result of Cointegration

Bounds testing method was used for cointegration suggested by Pesaran and Shin (1995). The long run form and bound test was performed to the estimated equation and verify for cointegration among the variables, as shown in Table-4. At the 1% and 5% levels, where the F-Statistics value 226.96 was found to be larger than I(1) bounds at both levels, the null hypothesis of no cointegration was rejected.

Table-4: Bounds test result

F-Statistics	Critical value 1%
	I(0)
226.96	4.13

Source: Author's own calculation, Note: Restricted Constant and No Trend

5.4 Results of ARDL Model of Cointegration

Table 5 displays the ARDL cointegration's final outcome. The variable's long and short run coefficients are displayed in this table. FDI has a strong positive impact on economic growth, according to the coefficient of FDI in the long term model. The long term association demonstrates that a 1% increase in FDI is related with 0.036 percent enhanced GDP growth. Similarly, in the short run model, it discovered that FDI has a considerable positive effect on economic growth, with coefficients of 0.20 and 0.003, respectively. Rehman (2016), Jawaid and Saleem (2017) and Ali (2019) all came to the same conclusion. The export coefficients are significantly positive in both long and short term models. A higher export indicates higher economic growth. The coefficient of ECM is negative which is -0.23 and it is statistically significant at 1% level of significance. ECM is an error correcting model/term with a one-period lag.

Table-5: Results of ARDL model: Short Run

Variable	Coefficients	T-statistics	P-value
LNGDP(-1)	0.767210	5.660678	0.0000
LNFDI	0.201107	3.060011	0.0239
LNFDI(-1)	0.003381	1.981025	0.0575
LNEXP	0.041725	3.279643	0.0028
C	0.008294	1.060565	0.2980
ecm(-1)	-0.232790	-4.690462	0.0001

Results of ARDL model: Long Run			
Variable	Coefficients	T-statistics	P-value
LNFDI	0.036438	3.245801	0.0029
LNEXP	0.040523	3.245801	0.0031
C	0.006896	0.782037	0.4410

Source: Author's own calculation

5.5 Results of Diagnostic Tests

5.5.1 Test for Autocorrelation and Heteroscedascity

In this work, the Breusch-Godfrey serial correlation LM test and the Breusch-Pagan-Godfrey heteroscedasticity test were used to determine whether serial correlation and heteroscedasticity were present. The results of the Tests are given below:

Table-6: Test for Autocorrelation and Heteroskedascity

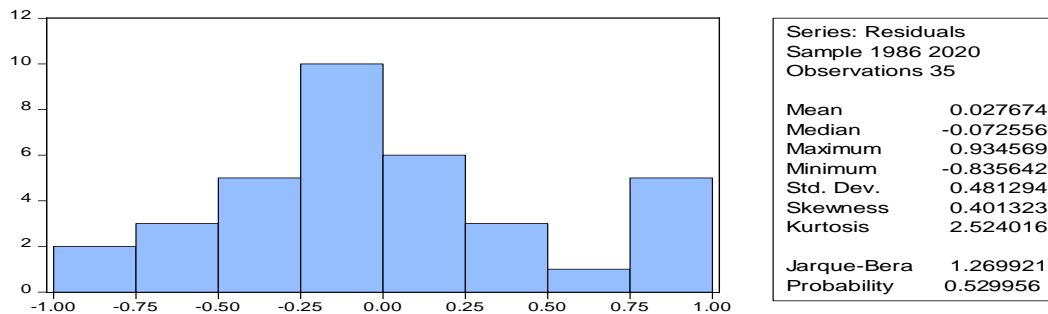
Test	Chi-Square	P-Value
Breusch-Godfrey Serial Correlation LM Test	0.1335	0.1607
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.1983	0.2122

Source: Author’s own calculation

The Breusch-Godfrey Serial Correlation LM Test value of 16.07%, which is higher than 5% and accepts the null hypothesis that there is no serial correlation problem, indicates from the aforementioned test that there is no serial correlation problem. Additionally, the researcher draws the conclusion that the error variances are homoscedastic based on the P-value of the Breusch-Pagan-Godfrey Heteroscedasticity Test.

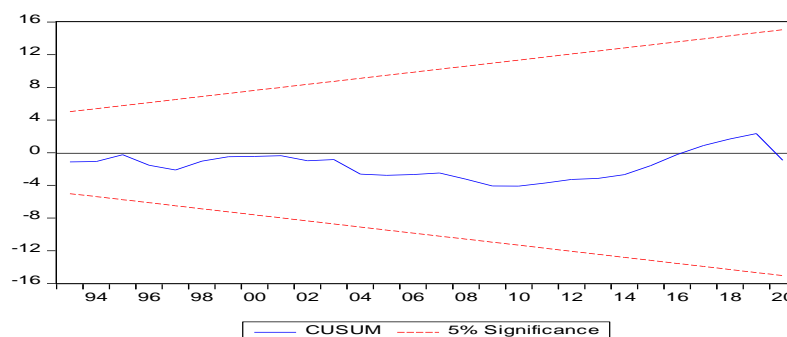
5.5.2 Normality Test

The normality test is an econometric test that assesses whether a data distribution is symmetric or not. If the probability of Jerque-Bera is greater than 5%, the model is normal distribution otherwise, it is not. The final result reveals that the model is normal because the probability of Jerque-Bera is 52.99 % as shown in the illustration below:



5.5.3 Stability Test

The model's stability in long-run estimates is evaluated using the cumulative sum of recursive residuals (CUSUM) test, as suggested by Pesaran (2001). The CUSUM test suggests that the model is significant at a 5% critical value, as shown in the graph below:



The CUSUM line, as shown in the diagram, falls within the boundaries. As a result, the model chosen for this analysis is stable.

6. Conclusion and policy recommendations

One of the most significant factors in the economic development of a nation and the entire world is foreign direct investment. The goal of this study was to ascertain how foreign direct investment affected Bangladesh's economic expansion. The study found that foreign direct investment affects economic growth in both the long and short terms. The long term association demonstrates that a 1% increase in FDI is related with 0.036 percent enhanced GDP growth. Similarly, in the short run model, it discovered that FDI has a considerable positive effect on economic growth, with coefficients of 0.20 and 0.003, respectively. Furthermore, recent research has concluded that exports are an important indicator of economic progress. Therefore, a sound foreign investment strategy must be developed that safeguards foreign investment and the interests of the economy in order to increase the amount of FDI that comes into Bangladesh. Besides, the trade policies of the country should be liberalized.

7. Limitations of the Research

The present study used yearly data for the analysis. But monthly or quarterly data allows for the identification of seasonal patterns, helping policymakers distinguish between regular fluctuations and more significant, long-term trends. For further research the present study suggests examining the impact of FDI on specific sectors of the economy considering monthly or quarterly data.

8. Conflicts of Interest: The authors declare no conflicts of interest.

9. References

1. Agrawal, G. and Khan, M. A. (2011). Impact of FDI on GDP: Comparative study China and India. *International Journal of business and management*, 6 (10), 71-79.
2. Ahmed, E. M. (2012). Are the FDI inflow spillover effects on Malaysia's economic growth input driven?. *Economic Modelling*, 29(4), 1498-1504.
3. Alam, M. S. (2012). Foreign direct investment in Bangladesh: A critical analysis. *South eastasian journal of contemporary business, economics and law*, (1), 74-80.
4. Ali, S. (2019). Socio-Economic Factors Affecting Foreign Direct Investment in Pakistan. *City University Research Journal*, 9(2).
5. Amir, M. B. and Mehmood, B. (2012). Foreign direct investment and balance of payments in Pakistan: Time series evidence. *Actual problems of economics*, 10(136), 299-304.
6. Balamoune-Lutz, M. N. (2004). Does FDI contribute to economic growth?. *Business Economics*, 39(2).
7. Brecher, R. A. and Diaz-Alejandro, C. F. (1977). Tariffs, foreign capital, and immiserizing Growth. *Journal of International Economics*, 7, 317-322.
8. Chowdhury, M. N. M. and Hossain, M. M. (2018). Population growth and economic development in Bangladesh: Revisited Malthus, MPRA Paper No. 91216.
9. Dutt, A. K. (1997). The pattern of foreign direct investment and economic growth. *World Development*, 25(11), 1925-1936. Firebaugh, G. (1992). Growth Effects of Foreign and Domestic Investment. *American journal of sociology*, 105-130.
10. Firebaugh, G. (1992). Growth effects of foreign and domestic investment. *American Journal of Sociology*, 98(1), 105-130.
11. Fite, U. F. (2020). Impact of foreign direct investment on economic growth in Ethiopia. *American journal of theoretical and applied business*, 6(4), 72-78.
12. Fry, M. (1999). Some lessons for South Asia from developing country experience with foreign direct investment. The World Bank, 1999, Washington D.C.
13. Gupta, K. (2015). Foreign direct investment and economic growth in India: An econometric approach. *Gupta, Karnika and Garg, Ishu (2015), " Foreign Direct Investment and Economic Growth in India: An Econometric Approach", Journal of Management Sciences and Technology*, 2(3), 6-14.

14. Haque, H. (2017). Foreign Direct Investment and Economic Growth: A Study on South Asian LDCs. *Journal of Economic & Financial Studies*, 5(04), 63-72.
15. Harvey, J. T. (1989). The determinants of direct foreign investment. *Journal of Post Keynesian Economics*, 12(2), 260-272.
16. Hossain, M. E., Sultana, I., Uddin, M. S., Hoq, M. N. and Ibrahim, M. (2018). Foreign direct investment in Bangladesh: Analysis of sector wise impact on economy. *Asian journal of social sciences & sumanities*, 7(4), 52-60.
17. Hussain, M. R. (2016). Foreign direct investment in Bangladesh. Retrived from https://www.researchgate.net/publication/311276409_Foreign_Direct_Investment_FDI_in_Bangladesh.
18. Islam, M.N. (2003). Political Regimes and the Effects of Foreign Aid on Economic Growth. *The Journal of Developing Areas* 37(1), 35-53. <https://doi.org/10.1353/jda.2004.0009>.
19. Jawaid, S. T., & Saleem, S. M. (2017). Foreign capital inflows and economic growth of Pakistan. *Journal of Transnational Management*, 22(2), 121-149.
20. Kabir, M. (2007). Is Foreign Direct Investment Growth-Enhancing in Bangladesh?. *BISS Journal*, 28(2), 101-119.
21. Khan, M. A. (2007). *Foreign direct investment and economic growth: The role of domestic financial sector* (No. 2007: 18). Pakistan Institute of Development Economics.
22. Khawar, M. (2005). Foreign direct investment and economic growth: A cross-country analysis. *Global Economy Journal*, 5(1), 1850034.
23. Li, X. and Liu, X. (2005). Foreign direct investment and economic growth: An increasingly endogenous relationship. *World development*, 33 (3), 393-407.
24. Mah, J. S., & Yoo, K. S. (2000). The Relationship between FDI Regulations in China and the WTO. *China Report*, 36(2), 191-200.
25. Manzoor, S. H., & Chowdhury, M. E. (2017). Foreign direct investments in Bangladesh: Some recent trends and implications. *Journal of Business & Economics Research (Online)*, 15(1), 21.
26. Mello, D. L. (1999). Foreign direct investment-led growth: Evidence from time series and panel data. *Oxford Economic Papers*, 51(1), 133–151.
27. Pesaran, H. M. and Y. Shin. (1995) “Autoregressive distributed lag modeling approach to cointegration analysis”, DAE Working Paper Series, No. 9514, Department of Economics, University of Cambridge.
28. Pesaran, M. H., Y. Shin and R. Smith. (2001) “Bounds testing approaches to the analysis of level relationships”, *Journal of Applied Econometrics*, 16, 289-326.
29. 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.
30. Rahman, K. M. A. (2008). Globalization and the climate of foreign direct investment: A case study for Bangladesh. *Journal of money, investment and banking*.
31. Rahman, M. T. and Amin, M. A. (2009). Prospects of economic cooperation in the Bangladesh, China, India and Myanmar region: A quantitative assessment, Asia-Pacific Research and Training Network on Trade Working Paper Series, No. 73, July 2009.
32. Raihan, S., Khondker, B. H., Ferdous, F. B. and Uddin, S. A. (2015). Bangladesh country paper: Employment effects of different development policy instruments. R4D Working Paper 2015/5, Swiss Agency for Development and Cooperation and the Swiss National Science Foundation under the Swiss Programme for Research on Global Issues for Development.
33. Rehman, N. U. (2016). FDI and economic growth: empirical evidence from Pakistan. *Journal of Economic and Administrative Sciences*, 32(1), 63-76.
34. Romer, P. M. (1994). The origins of endogenous growth. *The Journal of Economic Perspectives*. 8(1), 3 – 22. Available at: en.wikipedia.org/wiki/Endogenous_growth_theory. Retrieved on 7/9/2020.
35. Sakamoto, M., Begum, S. and Ahmed, T. (2020). Vulnerabilities to covid-19 in Bangladesh and a reconsideration of sustainable development goals. *Sustainability*, 12(13), 1-15. doi:10.3390/su12135296.

36. Shimul SN, Abdullah SM, Siddiqua S (2009) An examination of FDI and growth nexus in Bangladesh: Engle Granger and bound testing Cointegration approach. BRAC Univ J VI(1):69–76 <https://doi.org/10.1016/j.ejpb.2008.04.026>.
37. Tabassum N, Ahmed SP (2014) Foreign direct investment and economic growth: evidence from Bangladesh. Int J Econ Financ 6(9). <https://doi.org/10.5539/ijef.v6n9p117>.
38. Yildirim, Y. (1996). *Effects of direct foreign investment on economic development: a study of the Turkish experience, 1980-1995* (Doctoral dissertation, Oklahoma State University).

Citation: Md. Moniruzzaman, Md. Mahmudul Hasan, Md. Nurnabi Miah, Md. Jahedul Islam, and Abu Darda. (2023). The Impact of Foreign Direct Investment on Economic Growth in Bangladesh. *Khwaja Yunus Ali Uni.J*, 6(1):107-115. <https://doi.org/10.61921/kyauj.v06i01.011>