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FDI Inflows in Bangladesh and Its Impact on Export, Employment Generation and GDP

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Abstract

FDI inflows in Bangladesh have been increasing at a faster rate for the past few years. This paper examines the impact of FDI on the county's export, employment generation, and gross domestic product (GDP). This paper found FDI has a positive relationship with the export sector while incoming FDI has not any positive effect on employment generation. It has also been observed that local private investment has a greater impact on the GDP growth of the Bangladeshi economy than FDI. There is also inequality between sectors in terms of FDI inflows. The manufacturing and power sector attracting higher FDI whereas agriculture, services, trade and commerce are neglected. It is important to mention that barriers such as weak infrastructure, low skilled labour force and labour unrest, social and political instability discourage foreign investors from investing in the country. So, it is time to pay attention to these problems and search for remedies to attain a higher level of FDI.

Keywords: FDI • Export • Employment generation • GDP • Bangladesh

Introduction

When an individual or business, invests from one country to another country is called foreign direct investment or in short FDI. It maybe takes place either in the form of starting a new business or invest in an existing foreign-owned business. According to the IMF, a foreign direct investment is where the investor purchases over a 10 percent stake in the company which indicating the voting power. However, Todaro and Smith (2003) defined FDI in a most simple way that is "foreign direct investments are multinational investments overseas". Empirical evidence on the relationship of FDI with growth is often ambiguous. Many economists consider FDI to be the most effective weapon related to the benefits of developing economies such as international trade, diversification, low cost and efficiency growth, technology and knowledge sharing, reduction of regional and global tensions through integration, and employment and economic growth. According to Sala-i-Martin (1996) and Solow (1956), FDI can serve as an exogenous contributing to growth through increases in investment volumes or its efficiencies. On the contrary, Carkovic and Levine (2005), found no robust positive impact of FDI on growth either directly or mediating via human capital levels. The threat of declining domestic employment and increased foreign control in residential countries is a matter of concern for many others. However, it is widely accepted that foreign direct investment is an important source of private external finance for developing countries. For many developing countries it is found that FDI has a positive impact on the export sector economy, employment generation, and economic growth. Consequently, most of the developing countries try to attract foreign investment. However, each country has to meet certain criteria such as basic infrastructure, macroeconomic environment, good governance, international integration, political stability, and human resources to achieve significantly higher FDI inflows. Bangladesh, like other developing countries, has been promoting FDI for decades with the help of liberal investment policies and incentives. The government has targeted foreign investors for investment in export processing zones (EPZs) and special economic zones (SEZs). However, net FDI inflows to Bangladesh have increased over time, but not consistently. FDI inflows into EPZs are much lower as compare to non-EPZs. In the financial year 1996-97, Bangladesh's net FDI inflow was 366.85 million US dollars (0.76 percent of GDP) and stood at 3888.99 million US dollars (1.28 percent of GDP) in the year 2018-19. Besides, if we analyze sector-wise FDI inflows in Bangladesh we can observe a shift has been made by foreign investors. Manufacturing, power and energy, and telecommunications sector attracting higher FDI, whereas agriculture, services, and trade and commerce sector are comparatively neglected. Similarly, country-wise FDI inflow has also changed. During 1996-2010, the UK and the USA were at the topmost position which has occupied by the East Asian country China People's Republic and Netherlands (Source: Bangladesh Bank). Now, the UK and the USA are in third and fifth position among the top ten investing countries. The objective of this study was to find the impact of FDI on export, employment generation, and GDP in the case of Bangladesh and to present a scenario of FDI inflows over the period. This paper is structured as follows; the next section presents a literature review followed by section 3 which presents details of the data and methodology. Section 4 present result and discussion. The last section is about the conclusions and of this study.

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A Brief Review of Literature

FDI plays a crucial role to attain expected economic growth in Bangladesh. Moreover, FDI has a positive correlation with GDP, export, and private investment. He had concluded that FDI inflows have been successful in increasing GDP along with the rise of income level (Islam, 2014). However, many studies oppose the notion of higher FDI higher GDP growth. Several studies revealed that higher GDP growth determines a higher level of FDI inflow. [1] investigated the relationship between FDI and GDP empirically in the context of Bangladesh and found that economic growth attracted FDI inflow instead of FDI improved economic growth. A similar argument also presented by [2-4]. Kafi et al (2007) the government of Bangladesh has taken a plethora of policies to attract foreign investment and as a result, Bangladesh experiencing an increasing trend of FDI since 2001. But the matter of concern is that most FDI concentrated in some particular sectors like telecommunications, readymade garments, energy, and power while agriculture, industrial, trade, and commerce sectors are neglected. Hossain et al (2018) in their paper "Foreign Direct Investment in Bangladesh: Analysis of Sector Wise Impact on Economy" comments that FDI has a positive impact on the Bangladeshi economy and the government should give more emphasis on infrastructural advancement, skilled labour force as well as security of foreign investors. Higher FDI inflows can improve employment, income, output, and long-term economic growth which will help alleviate poverty (Hossain and Haque, 2016). In addition to these studies, there has been a lot of research on the role of FDI in developing and underdeveloped economies and there are suggestions and recommendations to facilitate FDI flow. This paper aimed to give an overview of FDI inflows in the context of the Bangladeshi economy along with its impact on export performance, employment generation, and GDP growth.

Data and Methodology

The study uses the data of FDI inflows, total export, employment generation, local private investment, and GDP of Bangladesh over the years. The data mainly collected from the World Bank, Bangladesh Bank (central bank of Bangladesh), and the Bangladesh Investment Development Authority (BIDA).In this paper, I have formulated three particular regression models to know the impact of net FDI inflows on the export, employment generation, and GDP. Besides, I calculated the log values of the variables to transform into more efficient models. To know the relationship between FDI and total export, the regression equation is written as follows;

$$InTE_i = \beta_1 + \beta_2 InFDI_i + u_i \quad (1)$$

Equation (1) is calculated using observations of twenty-three financial years from 1996-97 to 2018-19. Here, dependent variable=TE_i=total export, dependent variable=FDI_i=foreign direct investment, β_1= intercept, β_2=slope of FDI, andu_i=error term.

Similarly, in the case of FDI and employment generation we have,

$$InEG_i = \beta_1 + \beta_2 InFDI_i + u_i \quad (2)$$

Here, dependent variable=EG_i =employment generation, FDI_i=dependent variable, β_1= intercept for equation (2), β_2=slope of FDI, and u_i=error term for equation (2). However, regression equation (2) is calculated using observations from FY 2001-02 to FY 2016-17.

Finally, to know the influence of FDI and local private investment on GDP, a multiple linear regression model used in this paper which is as follows,

$$InGDP_i = \beta_1 + \beta_2 InFDI_i + \beta_3 LPI_i + u_i \quad (3)$$

Here, GDP_i is the dependent variable, FDI_i, and LPI_i (local private investment) are two independent variables, β_2 And β_3 are the slopes of FDI andLPI respectively, u_i is the error term of this equation. The multiple regression equation (3) is calculated using observations from FY 2001-02 to FY 2017-18.

Results and Discussions

Summary of models

Regression equation (1) was calculated to predict export earnings based on FDI. A significant regression equation was found (F (1, 21) =128.314, P<0.000), with an $R^2$of 0.85. The R^2 value of 0.85 means that 85 percent of the variation in the (log of) total export is explained by the log of FDI. Table 1 presents the necessary information regarding this model.

Table 1. OLS, using observations from FY 1996-97 to FY 2018-19.

Model 1	Coefficient	Std. Error	t-ratio	p-value	
constant	2.97579	0.581144	5.121	<0.0001	***
FDI	0.965295	0.0852160	11.33	<0.0001	***

Mean dependent variable	9.522998	S.D. dependent variable	0.755845
Sum squared residual	1.767681	S.E. of regression	0.290130
R-squared	0.859358	Adjusted R-squared	0.852660
F(1, 21)	128.3149	P-value(F)	0

Dependent variable: total export.

Further, with the help of obtained values in Table 1, we can rewrite equation (1) as,

$$In\hat{TE}_i = 2.975+0.96\ InFDI_i \quad (4)$$

From equation (4), we see that a 1 percent increase in FDI led to the average to about a 0.96 percent increase in the total export. Bangladesh's lion share of export earning comes from readymade garments (83 percent of total export in 2019-20) and this sector has succeeded to attract foreign investors to invest. This could be a probable reason for this significant relation between FDI and total export.

The aim of the estimation of the second linear regression model was to know the relationship between FDI inflows and employment generation over the years. However, regression equation found insignificant with (F (1, 14) = 1.226, P>0.05), with a R^2 of 0.08 (see Table 2). The R^2 value 0.08 means that 8 percent of the variation in the (log of) employment generation is explained by the log of FDI.

We can simply assume that whatever the FDI inflowing in the Bangladeshi economy is not enough to make any significant impact on employment generation.

Finally, a multiple linear regression (equation 3) was calculated to predict GDP based on FDI and local private investment. Henceforth, a significant regression equation found (*F* (2, 14) = 207.56, P<0.005), with an R^2 of 0.96. See, Table 3 for the model summary.

Further, regression equation (3) can be rewritten as,

$$In\hat{GDP}_i = 5.81 + 0.31FDI_i + 0.44LPI_i \quad (5)$$

Equation (5) tells, holding LPI constant, a 1 percent increase in FDI led on the average to about a 0.31 percent increase in GDP. Similarly, holding FDI constant, a 1 percent increase in the LPI led on average to about a 0.44 percent increase in GDP. Thus, the contribution of local private investment towards GDP is more than the FDI. From a purely statistical viewpoint, the estimated regression line fits the data quite well. The R^2 value of 0.96 means that about 96 percent of the variation in the (log of) GDP is explained by the (logs of) FDI and LPI.

An overview of FDI inflows in Bangladesh

For several reasons, FDI is important for a developing economy. It has a

Table 2. OLS, using observations from FY 2001-02 to FY 2016-17.

Model 2	Coefficient	Std. Error	t-ratio	p-value	
constant	13.5699	0.764951	17.74	<0.0001	***
FDI	−0.123539	0.111539	−1.108	0.2867	

Mean dependent variable	12.72589	S.D. dependent variable	0.269253
Sum squared residual	0.999844	S.E. of regression	0.267240
R-squared	0.080564	Adjusted R-squared	0.014891
F(1, 14)	1.226734	P-value(F)	0.286710

Dependent variable: employment generation.

Table 3. OLS, using observations FY 2001-02 to FY 2017-18.

	Coefficient	Std. Error	t-ratio	p-value	
constant	5.81240	0.288672	20.13	<0.0001	***
FDI	0.310544	0.0780350	3.980	0.0014	***
LPI	0.439672	0.0683681	6.431	<0.0001	***

Mean dependent variable	11.65965	S.D. dependent variable	0.518729
Sum squared residual	0.140458	S.E. of regression	0.100163
R-squared	0.967375	Adjusted R-squared	0.962715
F(2, 14)	207.5619	P-value(F)	0

Dependent variable: GDP.

positive effect on employment, economic growth, development of backward areas, exports, and as a whole stimulates economic development. Bangladesh has been suffering the problem of lower investment which accrues from a lower level of domestic savings. A higher level of FDI is a way to mitigate the problem of a lower level of investment. To attract a higher level of FDI, Bangladesh has liberalized the economy in the early 1990s. As a result, Bangladesh's FDI inflows have been increasing over the years. However, if we analyze the data we found that FDI inflow was not consistent until 2009. Table 4 shows the net FDI inflows from 2010 to 2019.In 2010 the net FDI inflow was 913.02 million US dollars (0.79 percent of GDP) which stood at 3888.99 million US dollars (1.28 percent of GDP) in 2019. Further, we can observe that still, net FDI inflow is around less than 1 percent to the GDP and surpassed above only two times during this period. So, we can infer that still, Bangladesh has to take a plethora of actions to accelerate FDI inflows. While we are discussing FDI inflows, it leads us to talk about FDI inflows by components. Foreign direct investment has three basic components. They are: (1) equity capital, (2) reinvested earnings, and (3) intra-company loans. Equity capital can be defined as an overseas investor's purchase of shares of a business while reinvested earnings simply refer to the amount of profit retained for investment. Finally, intra-company loans or intra-company debt transactions refer to short or long-term borrowing and lending of funds between direct investors and affiliate enterprises. Table 5 shows net FDI inflows by components over the last ten years.

From Table 5, we can easily identify the dominant position of reinvested earnings which tells us the deficiency in the fresh FDI flow into Bangladesh. However, in 2018-19, the difference between reinvested earnings and equity capital reduced as compare to previous years but intra-company loans

Table 4. Net FDI inflows.

Net FDI inflows		(in million US dollar)	
FY	**FDI Inflow**	**GDP**	**Percent of GDP**
2010	913.02	115279	0.79
2011	779.04	128638	0.6
2012	1194.88	133356	0.9
2013	1730.63	149990	1.15
2014	1480.34	172885	0.85
2015	1833.87	195079	0.94
2016	2003.53	221415	0.9
2017	2454.81	249711	0.98
2018	2580.44	274039	0.94
2019	3888.99	302571	1.28

Table 5. Time Series Data on FDI Inflows.

Time Series Data on FDI Inflows (Net) by Components (in million US dollar)			
Year	**Equity capital**	**Reinvested earnings**	**Intra-company Loans**
2009-10	515.14	331.1	66.78
2010-11	249.95	445.19	83.9
2011-12	454.1	542.35	198.43
2012-13	761.03	645.64	323.96
2013-14	233.84	795.78	450.72
2014-15	528.03	1141.34	164.5
2015-16	505.55	1154.45	343.53
2016-17	1006.74	1253	195.07
2017-18	614.76	1253.44	712.24
2018-19	1195.2	1363.46	1330.33

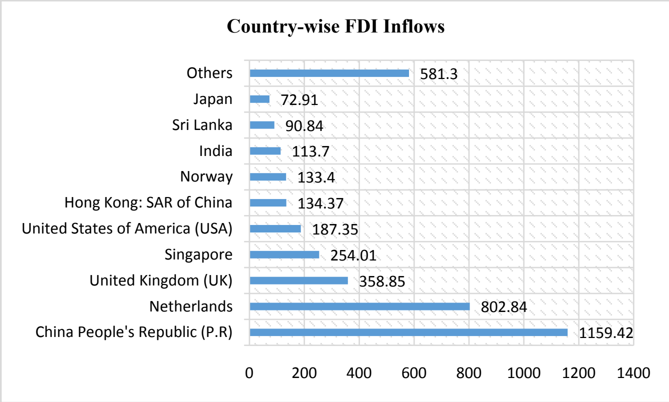

Figure 1. Country-wise FDI Inflows (net) in 2019 (in million-dollar).

increased significantly. The economy of a country is broadly classified into six sectors with many sub-sectors regardless of its size and geographical location. These six sectors are (I) agriculture, (II) manufacturing, (III) power and energy, (IV) service, (V) trade and commerce, and (VI) transport, storage, and communication. All of these sectors are interlinked and demand an adequate level of investment for the smooth functioning of the economy. Financial assistance through FDI helps to meet this investment demand. As we know these sectors are interconnected and determinants of economic growth and development so an optimum level of FDI inflow is necessary for all of these sectors. When we analyze sector-wise net FDI inflows in Bangladesh, we found it is concentrated with few sectors. There is a higher FDI inflow in the manufacturing and power and energy sectors while the agriculture and service sectors could have not attracted foreign investment. Table 6 presents an overview of sector-wise FDI inflows.

Over the years, FDI inflows in the manufacturing sector have increased with consistency while inflows in other sectors are inconsistent. After the manufacturing sector, the power, gas, and petroleum sector is most successful to obtain high FDI. In 2018-19, FDI in the manufacturing sector was 1493.75 million US dollars (38.4 percent of the net FDI) following the power and energy sector 1328.65 million US dollars (34.16 percent of the net FDI). The contribution of other sectors is not as significant as compared to these two sectors. In the power, gas, and petroleum sector, power alone received 1217.84 million US dollars while in the manufacturing sector, food products (830.88 million US dollars) and textiles (262.66 million US dollars) are top of the list. Other than the manufacturing and power sectors, sub-sectors like banking (299.35 million US dollars) and telecommunication (222.75 million US dollars) could have achieved a mentionable amount. Bangladesh used to gain the maximum amount of investments from the UK and The USA. According to the Board of Investment, during 1996-2010, the amount received from the UK and USA was 1530.66 million US dollars (17 percent of total) and 1139.08 million US dollars (13 percent of total) respectively. However, in recent years Country-wise FDI inflows in Bangladesh have also shifted. FDI inflows have significantly increased from the East Asian countries. a6 t 1 shows the country-based net FDI received in 2019. In the financial year 2019, China became the leading investor in the country with 1159.42 million US dollars, the US, traditionally the top investor dropped to fifth with only 187.35 million US dollars. The Netherlands stood as the second-largest investor with 802.84 million US dollars and followed by the UK with 358.85 million US dollars. China invested 960.59 million US dollars only in the power sector out of 1159.42 million US dollars while Netherlands invested mostly in the food sector 727.15 million US dollars out of 802.84 million US dollars (source: Bangladesh Bank). All in all, dynamic changes have taken place in the case of country-wise net FDI inflows in Bangladesh over the period.

Conclusion

The role of FDI in economic development still a subject of long debate.

Table 6. Sector Wise FDI Inflows.

Sector Wise FDI Inflows (Net) FY 2004-05 to FY 2018-19 (in million-dollar)						
FY	**Agriculture and Fishing**	**Manufacturing**	**Power, Gas, and Petroleum**	**Services Sector**	**Trade and Commerce**	**Transport, Storage, and Communication**
2004-05	2.07	235.51	198.4	2.04	101.8	263.96
2008-09	19.14	183.96	46.89	7.77	122.53	579.62
2012-13	29.72	712.88	93.67	65.18	295.05	527.09
2016-17	43.26	869.43	467.93	104.44	309.73	601.28
2018-19	39.19	1493.75	1328.65	197.33	550.21	232.47

However, according to UNCTAD's World Investment Report (2019), FDI inflows to developing countries in Asia increased by 3.9 percent in 2018. In the same year, FDI inflows to South Asia increased by 3.5 percent and Bangladesh was the second largest FDI recipient FDI in South Asia. The regression analysis has shown that FDI has a significant positive impact on Bangladesh's export sector while local private investment has a greater impact on GDP than FDI. On the other hand, it is also found that whatever the FDI inflowing in the Bangladeshi economy is not sufficient to make any significant impact on employment generation. Still, net FDI constitutes a very small portion of GDP which is around only 1 percent. Liberal investment policy has been initiated to enjoy a higher level of FDI. Thus, despite initial delays, FDI inflows in Bangladesh progressively increasing over the past few years. Investment in export processing zones (EPZs) has also increased which directly helps to promote the export sector of the economy. The government of Bangladesh has taken initiatives to establish special economic zones in different parts of the country to attract FDI. Though Bangladesh has been trying to attract foreign investors with many initiatives and incentives, there have many existing problems that hinder the flow of higher FDI. Major problems that discourage higher FDI in Bangladesh are bureaucratic interference, poor infrastructure support, labour unrest, political unrest, frequent changes in policies on import duties. On the other hand, the disparity in sector-wise FDI inflows will slow down the development of various sectors. Solving these major problems and implementation of pragmatic policy measures for foreign investment will constantly help to attain an optimum level of foreign direct investment.

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