



# Relationship between Foreign Direct Investment and Company Taxation: Case of Bangladesh

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## ABSTRACT

This study looks at the association between foreign direct investment and company taxation in Bangladesh from 2001-2010. The annual reports were sourced from the Bangladesh Bank Bulletin, Bangladesh Bureau of Statistics (BBS) and World Bank which was analyzed using Descriptive Statistic, correlation and regression. The independent variable corporate taxation was measured using corporate tax rate (CTR) whilst dependent variable foreign direct investment was measured using FDI net inflow (% of GDP). GDP, exchange rate and inflation rate were used as control variables. The result showed negative significant relationship between CTR and FDI whereas exchange rate and FDI indicated negative insignificant relationship. On the other hand, GDP was positively insignificantly related with FDI whilst inflation had positive significant relationship with FDI. Based on the result, the study suggested that there is require for the government to lo trim down corporate tax rate in order to create a centre of attention FDI into the country.

**Keywords:** Company Taxation, Corporate Tax Rate, Foreign Direct Investment (FDI), GDP, Bangladesh

## INTRODUCTION

Corporate tax is a levy imposed on taxable profit of firms with a stipulated statutory rate. The burden of corporate taxation obviously influences the volume and location of foreign direct investment (FDI) for the simple reason that it determines after tax returns from investment (Okoi & Edame, 2013). A sizeable review of literature is well documented on the overwhelming importance of FDI inflows to the developing countries. This is not unconnected to the teaming benefits it accrues to a nation in terms of employment, knowledge and skills transfer in the area of management and technology (Morisset, 2000). It also provides avenue for products diversification which collectively promote growth and development of an economy (Desai, Fritz & James, 2004). In view of the above stated advantages, many nations today are striving to create a favorable and enabling climate to attract FDI as a policy priority. According to Adepeju (2012), it is in dare need of foreign capital for the on-going internal adjustment, yet it fears that commanding heights of some sectors of the economy may extract complete control of the national economy and the need for foreign capital has become indispensable if the economy must come out of the depression. The Government in recognition of the importance of FDI as an important vehicle for industrial progress, most times expressed readiness to enter into bilateral agreement with foreign governments, or private organization that wish to invest in the country as well as discuss the additional incentives (Morisset, 2003). However, the aim of this research is to determine the relationship between corporate taxation and FDI.

The remaining part of the paper is structured as follows: The second part is review of the literature on previous related

studies. The third section explains the method and data of the study. The fourth part of the paper deals with the results and discussion of the study and the fifth section of the paper is the conclusion and recommendations.

## LITERATURE REVIEW

### Conceptual Framework

Company income tax is a tax payable for each year of assessment on the profit of any company accruing in, derived from or brought into or received from a trade, business or investment in Bangladesh at the rate of 30% (Ekpung & Wilfred, 2014). CITA CAP. C21 L.F.N 2004 as amended 2007 is the law that regulates the taxation of all limited liability company doing business in Bangladesh (private and public limited companies alike), other than those engaged in petroleum operations. The Federal Inland Revenue Service is the sole authority for the administration of this tax. According to Gropp and Kostial (2001), FDI is a type of investment whether in real or financial assets across the national boundaries of the investor. It can be undertaken by individual firms or government.

### Foreign Direct Investment Determinants

Many researchers investigated the main determinants of FDI flow into several countries. Ugochukwu, Okore & Onoh (2013) pointed out four different FDI determinants such as economic, social, political and policy determinants. Firstly, the economic factors mainly include foreign market characteristics, such as market size, GDP per capital and Purchasing power of currency. Secondly, social determinants are related to human capital skills, and overall host country development. Thirdly,



political stability include, frequency of government change by type and period, number of internal armed attacks per period, Degree of administrative efficiency and nationalism. Finally, Policy factors include legislative restrictiveness towards foreign companies and issues related to taxation.

### Corporate Taxation and Foreign Direct Investment

Foreign investors are partners with the Bangladeshi Government and people to develop the Bangladeshi economy. This relationship should however be reciprocal and not exploitative. Bangladeshi Government guarantees security of investments, hence investors should discharge their obligations such as corporate tax, corporate social responsibility etc (Dike, 2014). Fakile and Adegbile (2011) assert that low corporate tax rate is part of the system by developing countries and usually established by Governments in order to grant foreign investors more attractive conditions to invest in their country. Therefore, the underlying wisdom in low corporate tax is to bring about general growth and development across sectors and economy at large. In contrast, Morisset (2000) discuss that it is shortage of resources and not low corporate tax that places a limit on the pace of economic development. Therefore, government should impose high corporate tax for the provision of infrastructural facilities. In doing this, Adam Smith's cannons of taxation suggest that tax should not be; (i) Of a magnitude which would drive people out of business and (ii) Sufficiency high to discourage industry with consequent reduction in revenue (Broadway, 1978).

### Review On Related Empirical Studies

Ekpong and Wilfred, (2014) found that high corporate tax is bad for economic growth and discourage FDI. This is because, it discourages new incentives by distorting FDI decisions and discouraging work effort. Okoi and Edame (2013) found that high corporate tax rate as witnessed in Bangladesh has an enormous effect to FDI and GDP. As corporate tax rate rises, it would discourage FDI in the country. High corporate tax rate would reduce the incentives of foreign investors to invest in both physical and human capital. When corporate tax rate is high foreign investors would look for other places to invest and domestic investment will look for investment projects abroad were taxes are low. This therefore contributes to a reduction in GDP. Hartman (1984) found that the aggregate inflow direct investment in the United States as a ratio of GNP ( $K/Y$ ) between 1965 - 1979 by the following three terms:  $\ln(K/Y) = a_1 \ln[r(i-t)] + a_2 \ln[r'(i-t)] + a_3 \ln[(i-t') / (i-t)]$ . The first term on the right hand side,  $\ln[r(1-t)]$ , measures the after-tax rate of return on US investment for foreign investors. According to Hartman, this reflects the impact on new investment. The second term,  $\ln[r'(1-t)]$ , is the gross rate of return on investment in the US, reduced by the US tax on FDI. This variable is said to reflect the effect of acquiring existing capital on which no extraordinary return is earned. The third term on the right hand side of the equation is a relative tax term, capturing a valuation effect. In particular, if a tax change makes it more attractive for domestic firms to invest, it becomes more expensive for foreign investors to acquire a US firm. Young (1988) focus on FDI from Germany and the UK into 11 locations during 1977-1992. He use a log specification and include lagged FDI in their estimation. Moreover, he stress the importance of the home country corporate tax for the responsiveness of FDI to host country corporate tax rate. The

result revealed negative association between corporate taxation and FDI.

## METHOD AND DATA

This study examines the relationship between corporate taxation and FDI in Bangladesh. The study was based on empirical research method. The data used for this study were extracted from Bangladesh Bank Bulletins, BBS publications and World Bank (secondary data) covered the period of ten (10) years from 2001-2010. Therefore, descriptive statistics, regression analysis and correlation co-efficient were used in analyzing the relationship between the variables with the help of STATA (version 12).

### Variables Descriptions and Measurement

The categories of variables used in this study, they are dependent variable which is FDI, independent variable which is corporate taxation and control variables which are GDP (gross domestic product is in natural logarithm), exchange rate (refers to the rate at which naira is converted to US dollar), and inflation rate (IFL). In order to determine the FDI net inflow (% of GDP) is that the value of inward direct investment made by non-resident investors in the reporting economy, including reinvested earnings and intra-company loans, net of repatriation of capital and repayment of loans. This study shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by gross domestic product (GDP). FDI net inflow (% of GDP) = FDI net inflow / GDP. This was utilising in line with the work of Young (1988).

### Model Specification

In line with the previous research conducted by Hartman (1984), the regression equation of this study is as follows:

$FDI = a_0 + \beta_1 CTR + e_1 \ln GDP + e_2 EXCR + e_3 IFL + \mu$ . Where:

FDI = Foreign direct investment net inflow (% of GDP)

CTR = Corporate tax rate.

$\ln GDP$  = Natural Logarithm of Gross domestic product

EXCR = Exchange rate

IFL = Inflation rate

$a_0$  = Constant term

$\beta_1$  = Coefficient of the independent variable

$e$  = Coefficient of the control variables

$\mu$  = is the error term

## RESULT AND DISCUSSION

In this part of the paper, the results were presented findings were discussed. The section started with descriptive statistics result of variables, correlation matrix and regression analysis.

### Descriptive Statistics

The descriptive statistics shows the minimum, maximum, mean and standard deviation of the variables used in the study.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Fd[	10	2.692709	2.181054	-1.150856	10.83256
ctr	10	36.81818	6.47813	30	50
lngdp	10	4.560455	4.985745	-6.8	21.4
excr	10	49.06227	61.02939	.5467809	157.4994
ifl	10	19.113	16.4584	3.45765	72.8355

Source: Generated by the researcher from the Bangladesh Bank Bulletins, BBS publications and World Bank, using Stata (version 12)

Table 1 shows that on average, FDI net inflow (% of GDP) into the country for the whole period (2001-2010) stand at 2.69 with the highest FDI net inflow of 10.83 and the lowest of -1.15. This indicates the standard deviation of 2.18. The result shows a disturbing situation of FDI net inflow (% of GDP) thereby putting the growth of the economy at risk. This result is consistent with previous research findings of Ekpung and Wilfred, (2014). Table 1 also reveals that the Bangladeshi government averagely fixed corporate tax rate within the period at 36.82 with a standard deviation of 6.48. The maximum and minimum rates for the period are 50 and 30. The LnGDP has an average mean of 4.56 with a standard deviation of 4.99. The maximum and minimum values of LnGDP are 21.4 and -6.8. The exchange rate has an average mean of 49.06 with a standard deviation of 61.03. The maximum and minimum rates for the period are 157.50 and 0.55. The average rate of inflation (IFL) for the whole period is 19.75 with maximum rate of 72.84 and the minimum rate of 3.46 with a standard deviation of 16.46.

**Correlation Matrix of the Variables result**

The correlation matrix shows the relationship between dependent, independent and control variables.

Table 2: Correlation Matrix of the Variables result

	fdi	ctr	lngdp	excr	iflr
fdi	1.0000				
ctr	-0.4299	1.0000			
lngdp	0.0922	-0.3808	1.0000		
excr	0.1201	-0.8114	0.3650	1.0000	
iflr	0.5250	0.0510	-0.1664	-0.2623	1.0000

Source: Generated by the researcher from the Bangladesh Bank Bulletins, BBS publications and World Bank, using Stata (version 12)

The correlation matrix result shows that the values on the diagonal are all 1.000 meaning that each variable is perfectly correlated with itself. The result shows a significant negative relationship between corporate tax rate and FDI net inflow (% of GDP) (-0.4299). This negative relationship implies that a decrease in corporate tax rate will result to an increase in FDI net inflow and vice versa. The existence of a positive relationship between LnGDP and FDI (0.0922) indicates a rise in the size of the GDP will lead to an increase in FDI net inflow and vice versa. The correlation result also shows a positive relationship between EXCR and FDI net inflow (% of GDP) (0.1201). The positive relationship between inflation and FDI net inflow (0.414) indicates a rise in inflation rate will lead to an increase in FDI net inflow and vice versa.

**Multicollinearity Test**

In order to assess the validity of multicollinearity test revealed by the correlation matrix, this study considered the Tolerance Value (TV) and Variance Inflation Factor (VIF).

Table 3: Multicollinearity Test

Variable	VIF	1/VIF(TV)
excr	3.42	0.292035
ctr	3.30	0.302596
lngdp	1.20	0.831460
ifl	1.19	0.840006
Mean VIF	2.28	

Table 3 represents the result of Tolerance Value (TV) and Variance-inflating factor (VIF) for the independent and control variables. TV ranges from 0.292035 to 0.840006 which reveals non multicollinearity feature. However, a multicollinearity feature is said to exist when the value of TV is less than 0.2 (Davies, 2004). On the other hand, the VIF result range from 3.42 to 1.19 and this also reveals non multicollinearity. The mean VIF of all variables is 2.28 which is far below 10. The mean VIF reveals Multicollinearity when its value exceeds 10 (De Mooij & Ederveen, 2003).

**Regression result**

Table 4 represent the regression model employed to test the linear relationship between the dependent, independent and control variables. The regression equation is given as follows:  $FDI = a_0 + \beta_1CTR + e_1LnGDP + e_2EXCR + e_3IFL + \mu$

Table 4: Regression result

fdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
ctr	-.2509948	.0675627	-3.71	0.001	[-.3876533, -.1143363]
lngdp	.0093392	.0529588	0.18	0.861	[-.09778, .1164584]
excr	-.0132014	.0073002	-1.81	0.078	[-.0279673, .0015646]
ifl	.0622473	.015961	3.90	0.000	[.0299632, .0945315]
cons	11.34925	2.955189	3.84	0.000	[5.371811, 17.32668]
F- statistic			10.77		
Prob. (F- statistic)			0.0000		
R-squared			0.5248		
Adj R-squared			0.4760		
No. of observation			10		

Source: Generated by the researcher from the Bangladesh Bank Bulletins, BBS publications and World Bank, using Stata (version 12)

From the result of Table 4, the "F value" of 10.77% indicates a significant linear relationship between FDI, corporate taxation and the control variables. This prediction by the regression model shows that any positive or negative change that affects the independent variable or control variables in the economy could necessarily affect the level of FDI net inflow. The "R-square" reveals 52% of the changes in FDI net inflow (% of GDP) is jointly explained by the influence of all the independent and control variables included in the model. The remaining 48% of variability in FDI net inflow is caused by other factors not captured in this study.

It also shows that relationship between CTR and FDI are negative and significant which can be justified with the negative "t" value of -3.71 and  $p > |t|$  0.001 with negative coefficient of -.2509948. This implies that an increase in CTR by 1% will lead to a decrease in FDI by -.2509948 holding other variables constant. This is consistent with the previous findings of Okoi and Edame (2013) and Cassou (1997). The negative relationship implies that, the burden of corporate taxation obviously influences the volume and location of foreign direct investment (FDI) for the simple reason that it determines after tax returns from investment. However, corporate taxation has significant impact on foreign investors and their investment decisions.

Moreover, the control variable LnGDP and FDI net inflow are positive and insignificant which can be proved with the positive "t" value of 0.18 and  $p > |t|$  0.861 with positive coefficient of .0093392. This reveals that an increase in GDP by 1% will result to an increase in FDI net inflow by 0.0093392. This is consistent with the findings of Okoi and Edame (2013). However, the exchange rate and FDI net inflow are negatively and

insignificantly related with the negative "t" value of -1.81 and  $p > |t|$  0.078 with negative coefficient of -.0132014. This implies that an increase in exchange rate by 1% will lead to a decrease in FDI net inflow by -.0132014. This finding is in line with the work of Young (1988). The inflation rate have positive and significant relationship with FDI net inflow, and this is vindicated with positive "t" value of 3.90 and  $p > |t|$  0.000 with positive coefficient of .0622473. Therefore, this positive relationship indicates a rise in inflation rate by 1% will lead to an increase in FDI net inflow by .0622473. This is in consistent with the findings of Hartman (1984).

## CONCLUSION

This study empirically examined the relationship between the corporate taxation and foreign direct investment in Bangladesh. The regression results revealed negative and significant relationship between corporate taxation and foreign direct investment in Bangladesh, which indicated that the burden of corporate taxation obviously influenced the volume and location of foreign direct investment in Bangladesh. Furthermore, the FDI and exchange rate had negative and insignificant relationship. On the other hand, the existence of positive association between FDI and GDP found to be insignificant in attracting FDI into Bangladesh whilst FDI and inflation rate revealed positive and significant relationship. Based on the above findings the study recommends that; there is need for the government reduce corporate tax rate in order to spur FDI into the country; Bangladeshi government needs to come up with more friendly economic policies and macroeconomic adjustments that will lead to continuous increase and growth of the nation's GDP and stable inflation rate thereby paving way for a friendly business environment.

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