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*Full Length Research Paper*

# The effect of FDI on economic growth and the importance of host country characteristics

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In spite of a large increase in FDI inflows to developing countries, the effect of FDI flows on economic growth remains confusing. The recent contribution of modern economic growth theories in general predicts that FDI can be the main catalyst of economic growth in the receiving countries. Empirical studies, however, produce ambiguous results, and suggest that the growth effects of FDI are conditional on the host country characteristics. The main purpose of this paper is to examine the growth-effect of FDI in a selected sample from developing countries from 1970 to 2005. Particularly, the paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions? By applying GMM panel data technique, the paper finds that that FDI has in general a positive impact on economic growth, but its magnitude depends on the host country conditions to achieve a economic growth and sustainable development. The results of this paper clearly show that domestic investment, human capital, infrastructure development, financial market development, trade openness and institution quality positively related to economic growth. The results also show that the technology gap is negatively related to economic growth

**Key words:** Foreign direct investment, absorptive capacity, economic growth, GMM panel data framework, developing countries.

## INTRODUCTION

In spite of a large increase in FDI inflows to developing countries as reported by UNCTAD (UNCTAD, 2009), the effect of FDI flows on economic growth remains ambiguous. However, whether foreign direct investment (FDI) helps to improve economic growth has been one of

the fundamental debates in development and international economics. Recently, this question has received a lot of consideration in the economic literature. So far, it seems that this debate has not been conclusive. The recent contribution of modern economic growth

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theories in general predicts that FDI can have a positive impact on economic growth and sustainable economy in the receiving countries (Barro and Sala-i-Martin, 1995; De Jager, 2004; Romer, 1990). Empirical studies, however, produce ambiguous results, and suggest that the growth effects of FDI are conditional on the host country characteristics (Alfaro et al., 2004; Balasubramanyam et al., 1996; Bernstein, 2000; Blomstrom et al., 1992; Borensztein et al., 1998; Kinishita and Lu, 2006; Kokko, 1994; Li and Liu, 2005; Sadik and Bolbol, 2001). Besides, De Mello (1999) finds that the growth effects of FDI depend on the degree of complementary with DI in the receiving countries. In contrast, Carkovic and Levine (2002) investigate whether the growth effect of FDI depends on the host country's absorptive capacity for a panel of 72 developed and developing countries from 1960 to 1995. They find that FDI does not exert a positive impact on economic growth in the host country and that it is not conditional on its absorptive capacity.

Considering these matters, it is natural to find such interest in investigating the growth effects of FDI in developing countries. The main purpose of this paper is to examine the growth effect of FDI in a selected sample from Asian, African and Latin American countries. The sample is selected from the top ten recipients of FDI inflows in each region from 1970 to 2005. This paper focuses mainly on the role played by the host country's absorptive capacity in the growth effect of FDI. The paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions?

Recent empirical studies suggest that the ability of host countries to exploit FDI efficiently depends on a set of absorptive capacities within these countries, which may help in explaining the ambiguity in the previous empirical studies. This paper contributes to this debate by presenting a deeper insight into the host country conditions that might affect the FDI-growth nexus. This deeper insight is needed, because the majority of previous empirical studies focus on the interaction between FDI and one of the host country characters (e.g. human capital development, financial market development, technology gap, infrastructure development, trade openness, etc). This paper investigates the impact of a set of these factors simultaneously on the FDI-growth relationship. This paper also contributes to the existing literature by determining the threshold value of absorptive capacity in the host country that positively correlates FDI with growth.

The rest of the paper is structured as follows: Section two presents an overview of existing empirical studies. Section three is the empirical specification. Section four describes the data, variables set, and estimation method used for empirical tests. Section five is the empirical results. Section six is the sensitivity analysis and section

seven is the summary of this paper.

### **An overview of existing empirical studies**

The majority of empirical studies on the impact of FDI on economic growth present controversial evidence. The impact of FDI on host country economic growth comes from the fact that FDI inflow is the most important channel for technology diffusion. The diffusion of technology considered as the main source of conditional convergence between countries and achieving sustainable development (Elmawazini et al., 2008). The literature appears to offer a thoughtful assessment of the impact of the host country's absorptive capacity on the dynamic relationship between FDI inflows and economic growth. Many of these studies argue that the degree of technology transfer or externality generating from FDI inflows to the host economy depends on the host country's absorptive capacity. The term "absorptive capacity" takes account of factors such as the level of human capital development, the level of technology gap, the level of financial development, the degree of trade openness, the level of institution quality, etc. The majority of empirical studies show that host countries do indeed need to pass a certain level of absorptive capacity, known as a development threshold, to be able efficiently exploit FDI.

Recent growth theories argue that the availability of human capital quality plays an essential role in economic growth. The quality of human capital is also crucial for a host country in absorbing the FDI externalities. These externalities are the transfer of skills from MNCs to domestic firms through labour mobility or learning-by-doing. Borensztein et al. (1998) investigate the effect of FDI inflows on economic growth in 69 developing countries using cross-country and cross-section regressions. They apply panel data for two decades (1970-79 and 1980-89). Both regressions show that host countries must pass a threshold value of human capital development to benefit from FDI inflows. Xu (2000) also obtains similar results for 40 countries (20 DCs and 20 LDCs) from 1966 to 1994. By applying the panel data, two stages least square (2SLS) method, he finds that developing countries (DCs) benefit positively from technology transfer provided by US MNCs but not in less developing countries (LDCs). He concludes that LDCs do not reach the minimum human capital threshold required. In contrast, Blomstrom et al. (1992) investigate the impact of FDI on economic growth for 101 countries over the period from 1960 to 1985. They find that education level is not essential to achieve an FDI growth effect (Carkovic and Levine, 2002). In addition, Blomstrom et al. (1992) find that the host country must pass a certain

threshold of economic development to benefit from FDI.

In turn, Colen et al. (2008) argue that the impact of FDI on economic growth expected to depend on the technology gap between the home and host countries. A large technology gap might slow down the knowledge and technological spillovers. If the technology gap is too wide to bridge, the spillovers may not easily spread to the domestic economy. Castellani and Zanfei (2005) also argue that a higher technology gap may in principle increase the possibility that MNCs tend to crowd out domestic suppliers and competitors.

Absorptive capacity of the recipient economy measured by the technology gap used in many empirical studies. Kokko (1994) uses the technology gap between foreign and domestic firms, as a proxy for absorptive capacity in 216 Mexican manufacturing industries. He finds that domestic firms can benefit from the technology diffusion from foreign firms if the technology gap between them is small. Li and Liu (2005) reach a more specific conclusion on the role played by the technology gap in the host economy to obtain the FDI growth effect. They find that for the host country to benefit from attracting FDI, it must have a certain level of technological development. They argue that for a country above a certain level of technology gap, FDI inflows will no longer benefit the host economy.

Despite the numerous empirical studies on the growth effect of FDI, the literature on the FDI-growth nexus seems to have ignored the importance of the role not only of the financial development but also of other factors, such as infrastructure development, trade openness and institutional development. The level of financial development is crucial because a lack of financial market development might be preventing the foreign and domestic investors from accessing the financial resources required (Massoud, 2008). Alfaro et al. (2004) and Hermes and Lensink (2003) argue that countries with a better financial system can exploit FDI more efficiently. Hermes and Lensink (2003) provide some explanations on the role of financial system development in exploiting FDI inflows efficiently to promote economic growth in the host country. They argue that financial institutions can help to reduce the risks of investment related to upgrading or adopting new technologies, which affect the speed of technological innovation. Financial systems also determine partly the ability of domestic firms to finance their investment plans in the case of external finance needed. Therefore, the quality of financial system may influence the impact of FDI on the diffusion of technology in the host country. Using cross-country data for two samples (49 and 71 countries) from 1975 to 1995, Alfaro et al. (2004) find that FDI played an important part in contributing to economic growth, and those countries with

well-developed financial markets gained significantly from FDI. Using panel data for Arab countries from 1975-2000, Sadik and Bolbol (2003) also find that a certain threshold of financial market development must be reached to benefit from FDI inflows.

Many studies of economic growth define infrastructure as an essential factor behind economic growth (Barro and Sala-i-Martin, 1995; Munnell, 1992; Sanchez-Robles, 1998). Munnell (1992) points out that good infrastructure can increase the productive capacity of the economy, by increasing resources and encouraging the productivity of existing resources. Therefore, the idea is that host economy may benefit from FDI only if it has appropriate infrastructure development. Kinishita and Lu (2006) and Yamin and Sinkovics (2009) argue that a good infrastructure is not the only FDI inflows driver but also a pre-requisite for positive spillovers from FDI to the host economy. Kinishita and Lu (2006) investigate the effects of FDI on economic growth when a host country has a sufficient level of infrastructure development for 42 non-OECD countries. They find that technology spillovers via FDI take place only when the host country has a certain level of infrastructure development.

Economic literature also recognises the importance of trade openness as one factor in host country's absorptive capacity. Frankel and Romer (1999) argue that trade openness can help to facilitate more efficient production of goods and services through shifting production to economies that have comparative advantages. Grossman and Helpman (1990) also argue that an open trade regime significantly related with good investment climates, technology externalities and learning effects. Therefore, FDI and trade motivate advancing economies to be more innovative and allow developing ones to draw upon the stock of knowledge of more advanced countries. Adhikary (2011) also cites that FDI can increase the technological spillover benefits to the host country through widening the scope of international competition and strengthening the supply side capabilities for producing and selling goods and services. These effects lead to a fostering of economic growth as pointed out by Pugel (2007). Edwards (1998) also argues that a country with a greater degree of openness can absorb the new technology brought by FDI at a faster rate than a country with a lower degree of openness. Empirically, Balasubramanyam et al. (1996) and Makki and Somwaru (2004) find that the effect of FDI inflows on economic growth is dependent on the degree of openness.

Although a number of studies investigate the impact of FDI on economic growth, they do not consider the role played by institution quality in determining investment efficiency and economic growth, including, for example, that of Alfaro et al. (2004), Balasubramanyam et al.

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(1996), Borensztein et al. (1998), Carkovic and Levine (2002) and Li and Liu (2005).

Olofsdotter (1998) argues that the ability to absorb the new technology provided by FDI inflows can be emphasised in countries with better institution quality. Empirically, Olofsdotter (1998) finds that the strong positive impact of FDI on economic growth reached in countries that have high institution quality. Similarly, Edwards (1998) examines the role played by institution quality in determining the effects of FDI on economic growth for 80 countries from 1979 to 1998. He finds that FDI inflows are more beneficial in countries with higher levels of institutional (as measured by business regulation index and property rights index). Edwards (1998) also finds that the host country that passes a minimum threshold of institution quality enjoys a positive impact of FDI on economic growth. In line with the same argument, the authors in (5) examine the effect of institution quality measured by economic freedom index components, on economic growth in 58 countries from 1975 to 1990. Their findings indicate that economic freedom index has a positive impact on economic growth. They point out that reports on economic freedom suggest that economic growth increased with reduced direct involvement of government in economic activities.

The above review suggests that the growth effect of FDI remains extremely controversial. This may be due to the use of different samples and data by different authors, and partly because of various methodological problems. Moreover, a number of studies do not take into account the role of different factors of host country absorptive capacity on the growth effect of FDI, and the certain level of absorptive capacity required to benefit from FDI. Overall, the above discussion shows that previous empirical studies are sensitive to the measure of absorptive capacity used. To overcome these limitations, this paper investigates a set of factors, as measures of host country absorptive capacity in selected sample from developing countries. This may help to explain the ambiguities in the literature of the contribution of FDI or in exploiting FDI more efficiently to promote economic growth.

### **Empirical specification**

To investigate the hypothesis of this paper empirically, the growth rate of real GDP per capita of the host economy will be used as a dependent variable. Furthermore, since the data available in DI already included the flows of FDI, so DI will not be controlled in the growth equation (Bengoa and Sanchez-Robles, 2003; Carkovic and Levine, 2002; Kinishita and Lu, 2006; Li and Liu, 2005 Li

and Liu, 2005). Alfaro et al. (2004) and Bengoa and Sanchez-Robles (2003) do not control DI in their growth equation to avoid the collinearity of DI with FDI. Conversely, one could argue that FDI can have a positive impact on growth, because DI is not controlled in the growth equation. Therefore, for further robustness, DI will be added to the list of independent variables in the growth equation in the sensitivity analysis section.

For enlarging the sample size, the choice of countries and the time-period determined by the availability of the data on the top ten recipients of FDI inflows in Asian, African and Latin American countries. All data were sampled at five-year intervals for 36 years from 1971 to 2005, that is, 1971-1975, 1976-1980, 1981-1985, 1986-1990, 1991-1995, 1996-2000, and 2001-2005. Thus, data permitting, there are seven observations per country. Transforming data from annual observations to five-year averages has several advantages. For example, it may assist in limiting the influence of business cycles on the estimated coefficient such as FDI. Net FDI inflows vary widely from year to year, resulting in large fluctuations that may make the effect of persistent factors ambiguous (Bengoa and Sanchez-Robles, 2003).

This paper follows the contributions of Romer (1990), and extends the hypothesis of Borensztein et al. (1998) who are the first authors to examine the absorptive capacity of the host country. The paper includes in the Growth equation not only human capital as a proxy of host country's absorptive capacity but also the technology gap, financial market development, infrastructure development, institution quality and trade openness. This paper also considers most of the explanatory variables in the Growth equation that have been used in previous studies, such as FDI inflows, human capital development (HC), the technology gap between host and home country (TG), the financial market development (MS), infrastructure development (IFR), institution quality (EFW) and trade openness (DOP). The theory predicts that these variables positively related to Growth, except TG that is negative. In addition to these explanatory variables, the empirical model includes a set of control variables that are likely to affect economic growth in developing countries. These variables are also included for testing the hypothesis of this paper and for the robustness of the results.

Among this set of variables, the empirical model includes macroeconomic stability (IFL), government size (GS), black market premium (BMP) and two dummy variables, one for African countries (Africa) and another one for Latin American countries (Latin). These variables also include the interaction term of FDI inflows with both of these variables, the human capital, the technology gap, the financial market development, infrastructure

development, and trade openness and institution quality. The theory predicts that inflation rate, government size, black market premium variables negatively related to economic growth.

By considering all of these explanatory variables in the Growth equation, the model used in this paper has the following formula:

$$L\text{Growth}_{i,t} = \alpha_0 + \alpha_1 \text{Lagged Growth}_{i,t} + \alpha_2 \text{LFDI}_{i,t} + \alpha_3 \text{LHC}_{i,t} + \alpha_4 \text{LTG}_{i,t} + \alpha_5 \text{LIFR}_{i,t} + \alpha_6 \text{LMS}_{i,t} + \alpha_7 \text{LDOP}_{i,t} + \alpha_8 \text{L}(1+\text{IFL})_{i,t} + \alpha_9 \text{LGS}_{i,t} + \alpha_{10} \text{L}(1+\text{BMP})_{i,t} + \alpha_{11} \text{LEFW}_{i,t} + \alpha_{12} \text{Afric}_{i,t} + \alpha_{13} \text{Latini}_{i,t} + \alpha_{14} (\text{LFDI} * \text{ABS})_{i,t} + \eta_i + \varepsilon_{i,t} \quad (1)$$

Since, it is not simple to measure the technology gap between leading country and following one, a measure of the productivity gap can be used, as in (33, 35, 36). The technology gap measured as the ratio of the gap between US GDP per capita as the world's technological leader country and host country GDP per capita, relative to host country GDP per capita at constant US dollars. Therefore,

$$\text{TG}_{i,t} = (\text{Y}_{\text{maxt}} - \text{Y}_{i,t}) / \text{Y}_{i,t} \quad (2)$$

Where,  $\text{Y}_{\text{maxt}}$  is the GDP per capita of United States, and  $\text{Y}_{i,t}$  is the GDP per capita of the host economy.

Note that all the variables are in the natural logarithm.

$\eta_i$ : unobserved country-specific effect;  $\varepsilon$ : The disturbance term;  $i$  and  $t$ : Country and time period, respectively.

( $\text{LFDI} * \text{ABS}$ ): The multiplication of FDI by the host country's absorptive capacity variables, which capture the interaction terms of FDI with host country's absorptive capacity factors. This variable allows for testing the hypothesis that the impact of FDI on economic growth determined by the host country's absorptive capacity. The term "ABS" includes LHC, LTG, LIFR, LMS, LDOP and LEFW variables.

From the model specification, three possible results can assess the role played by the host country's absorptive capacity factors in determining the contribution of FDI in economic growth.

1. If  $\alpha_2$  and  $\alpha_{14}$  both have a positive (negative) sign in the growth equation, then FDI inflows have an unambiguously positive (negative) effect on economic growth.
2. If  $\alpha_2$  is positive, but  $\alpha_{14}$  is negative, then FDI inflows have a positive effect on growth, and this effect diminishes with the improvements in the host country's absorptive factors.

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3. If  $\alpha_2$  is negative and  $\alpha_{14}$  is positive, then this means that the host country has to achieve a certain threshold level (in terms of absorptive capacity developments) for FDI inflows to have a positive impact on economic growth.

The threshold of the host country's absorptive capacity calculated by finding the partial impact of FDI on Growth as follows:

$$(\partial \text{Lgrowth} / \partial \text{LFDI}) = \alpha_2 + \alpha_{14} \text{ABS} = 0, \text{ then the threshold of host country's absorptive capacity (ABS) } = -\alpha_2 / \alpha_{14} \quad (3)$$

The sensitivity of the growth model specified is tested by controlling for other determinants of economic growth, by including a set of host country's absorptive capacity variables and by applying panel of GMM estimations. To gain some robustness, the list of countries is expanded, changing the time-period and removing the observations outlier also carried out in the next section.

#### Data, variables and estimation method

The empirical test is based on 24 developing country recipients of FDI inflows selected from three regions; Asia, Africa and Latin America over the period from 1971 to 2005. The choice of countries and the time-period determined by the availability of data. This paper identifies countries with high-FDI flows over the entire thirty-six year sample period. The motivation for employing the size of FDI flows is to examine the hypothesis of this paper within successful developing countries. A list of the economies integrated in the sample, the variables used in the empirical test and the data sources themselves are presented in Appendix.

To gain robustness results, the paper uses the method of GMM-in-System estimator of Blundell and Bond (1998). This technique can help to overcome the endogeneity problem of some regressors, especially FDI, which leads to inconsistent estimations. So far, endogeneity is dealt with by using lagged period of endogenous variables as effective instruments in panel dynamic techniques (Arellano and Bond, 1991). The Hansen and Sargan tests were also used to approve the validity of the overall appropriateness of the instruments used. The Arellano-Bond test also was used for testing second-order serial correlation in residuals<sup>1</sup>.

#### EMPIRICAL RESULTS

Column 1 of Table 1 reports the results of the Growth equation. As expected all the explanatory variables have a right sign and are statistically significant. This column shows that countries with low level of initial GDP per capita grow faster as shown by the negative sign of the lagged GDP per capita growth rate (Lagged Growth)<sup>2</sup>.

Column 1 also shows that FDI inflows significantly and positively related to economic growth, which is

**Table 1.** The effect of FDI on economic growth and the importance of host country characteristics; 1970-2005 (two-step system GMM, Dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged growth	-0.25** (0.029)	-0.34** (0.023)	-0.42*** (0.095)	-0.36** (0.012)	-0.29** (0.030)	-0.36* (0.003)	-0.54* (0.008)
LFDI	0.01*** (0.059)	-2.38 (0.501)	3.58 (0.940)	-1.26 (0.741)	-2.08 (0.233)	-1.85 (0.868)	-9.21 (0.860)
LHC	0.57** (0.017)	0.45** (0.018)	0.76** (0.020)	0.14** (0.045)	0.64** (0.043)	0.34** (0.030)	0.08*** (0.089)
LGS	-0.17** (0.040)	-0.08** (0.049)	-0.36*** (0.057)	-0.61*** (0.075)	-0.99*** (0.055)	-0.22*** (0.056)	-0.48** (0.036)
L(1+BMP)	-0.03** (0.041)	-0.16** (0.026)	-0.12** (0.047)	-0.05 (0.823)	-0.05** (0.040)	-0.16** (0.022)	-0.14 (0.764)
Africa	-0.04** (0.048)	-0.41** (0.043)	-0.21*** (0.052)	-0.47** (0.040)	-0.31** (0.021)	-0.21 (0.706)	-0.37** (0.048)
Latin	-0.02** (0.012)	-0.09** (0.040)	-0.45** (0.031)	-0.31 (0.516)	-0.15** (0.018)	-0.22 (0.711)	-0.34** (0.019)
LFDI*LHC		0.74** (0.013)					
LTG			-0.99*** (0.075)				
LFDI*LTG			-0.42** (0.010)				
LIFR				0.37** (0.026)			
LFDI*LIFR				0.39** (0.026)			
LMS					0.28** (0.039)		
LFDI*LMS					0.67** (0.030)		
LDOP						0.14** (0.031)	
LFDI*LDOP						0.48** (0.040)	
LEFW							0.49** (0.014)
LFDI*LEFW							5.53** (0.019)
L(1+IFL)	-0.26*** (0.071)						
constant	3.52** (0.047)	4.17* (0.000)	-1.14** (0.010)	3.54** (0.018)	1.59** (0.046)	2.63** (0.034)	1.26*** (0.063)
Threshold Value		3.21	8.52	3.23	3.10	3.85	1.66
No. Observations	126	130	130	130	130	130	124
No. Instrument variables	19	19	19	19	19	19	19
P-Arellano-Bond test for AR(2) in first diff.	0.245	0.462	0.137	0.481	0.304	0.537	0.135
P-Hansen test of over id. restrictions	0.159	0.076	0.187	0.145	0.157	0.101	0.279
P-Sargan test of over id. restrictions	0.193	0.241	0.235	0.173	0.221	0.138	0.363

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. \*, \*\*, \*\*\* denote significance at 1%, 5%, and 10%, respectively.

consistent with the empirical literature and economic growth theory, stating that FDI inflows in general have a positive impact on economic growth. The coefficient on LHC, the measure of human capital development, also positively and significantly related to growth as reported in column 1. This result highlights the importance of education in the growth process of these economies<sup>3</sup>. The government size proxy has a negative and significant impact on economic growth, suggesting that a higher government spending to GDP ratio leads to lower economic growth. The black market premium is also negatively and significantly related to economic growth, where higher international price distortions lead to lower economic growth. The two dummy variables also significantly and negatively relate to economic growth. These results suggest that African and Latin American countries tend, *ceteris paribus*, to grow more slowly than Asian countries. This finding is not surprising given the fact that Africa and Latin America countries suffer the most from slower economic growth, compared to Asia economies. Column 1 also shows that the inflation rate has a right sign, but statistically significant at lower (10%) confidence level, confirming the findings of Borensztein et al. (1998)<sup>4</sup>.

Column 2 presents the estimated results for testing the growth effect of FDI through a well-educated workforce by including the interaction term of FDI with the human capital development proxy (LFDI\*LHC)<sup>5</sup> in the growth equation. Column 2 shows that FDI has a negative impact on economic growth, while the interaction term of FDI with human capital significantly and positively relate to economic growth<sup>6</sup>. These facts suggest that a minimum level of human capital is required for FDI to contribute positively to growth, confirming the results of Borensztein et al. (1998). This suggests that all economies with gross ratio of secondary school enrolment<sup>7</sup> above 24.77 will benefit positively from FDI inflows. In this case, by taking the average value of gross ratio of secondary school enrolment in each country for the period from 1971 to 2005, 20 out of 24 countries satisfy this threshold. Note that there are four countries below the minimum estimated threshold including Pakistan, Angola, Congo and Madagascar.

Column 3 presents the estimated results for testing the growth effect of FDI through the effect of the technological gap between developing countries and developed ones by including the technology gap variable along with the interaction term of FDI with the technology gap proxy (LFDI\*LTG)<sup>8</sup> in the growth equation. This column shows that the technology gap (LTG) variable appears to have a significant negative impact on economic growth. This implies that a wide technology gap between home and host country tends to slow down economic growth of the host country, as suggested by a number of empirical

studies, such as those by Krogstrup and Matar (2005), Li and Liu (2005) and Lim and McAleer (2002). Column 3 also shows that the coefficient of FDI is positive and the coefficient of the interaction term of FDI with technology gap is significantly and negatively related to economic growth. This suggests that a certain level of technological development is required for FDI to contribute positively to growth<sup>9</sup>, confirming Li and Liu (2005)'s findings. Column 3 shows that not all economies will benefit positively from attracting FDI when the technology gap level is above 5014.05<sup>10</sup>. The sample suggests that 5 out of 24 countries can no longer exploit the positive impact of FDI on growth<sup>11</sup>.

Column 4 tests the hypothesis that the contribution of FDI to economic growth is conditional on the levels of infrastructure development. Column 4 confirms the hypothesis that the relation between FDI and growth is contingent on the level of infrastructure development. This suggests that host country must reach a certain level of infrastructure development to benefit positively from FDI. This confirms previous findings of empirical studies, such as that of Kinishita and Lu (2006), Bernstein (2000), Lumbila (2005) and Munnell (1992). From column 4, the certain level of pre-infrastructure required equals 25.27. In this case, 17 out of 24 countries can satisfy a requested pre-telephone network requirement to exploit the positive impact of FDI on growth over the average of the period<sup>12</sup>.

Column 5 shows that the financial market development has a significant positive impact on economic growth in line with Alfaro et al. (2004), Barro (1991), King and Levine (1993), Mankiw et al. (1992) and Romer (1993). Column 5 also shows that the certain level of financial development is required to benefit positively from FDI equals 22.19, confirming the findings of Alfaro et al. (2004) and Durham (2004). Generally, 8 out of 24 countries cannot satisfy a requested M2 as a share of GDP requirement to exploit the positive impact of FDI on growth are the average of the period under consideration<sup>13</sup>.

Column 6 also shows that trade openness is significantly and positively related to economic growth, confirming empirical studies on the impact of trade openness on economic growth (Balasubramanyam et al., 1996; Makki and Somwaru, 2004; Yanikkaya, 2003). Column 6 also shows that a threshold of degree of openness equals to 46.99. Thus, 12 out of a selected sample that can satisfy a requested degree of trade openness requirement to reap the positive impact of FDI on growth over the average of the period.

Column 7 examines whether economies with better institutional quality can exploit FDI more efficiently. In line with the literature, as can be seen in Column 7, the result confirms that a higher quality of institution positively

affects economic growth in these economies. The calculated threshold for the economic freedom index is 5.25, thus practically any improvement in the EFW index above this threshold would yield a positive growth effect of FDI. The estimated threshold shows that 11 out of 23 economies 14 do not pass this threshold.

### Sensitivity analysis

The empirical results presented above based on a small sample of 24 top developing countries that are successful in attracting FDI inflows in three regions; Asian, African and Latin American regions. The reason for using that sample is to test the hypothesis of this paper within successful countries. As a result, the findings might be sensitive to the sample choice. Thus, the robustness of the results tested by using a larger country sample. To enlarge the sample size, the choice of countries and the time-period determined by the availability of the data on most developing countries. Since the majority of developing countries have started attracting FDI inflows from the early 1980s, the time-period of this section covers 1981 to 2005. All data were sampled at five-year intervals for 25 years from 1981 to 2005, that is, 1981-1985, 1986-1990, 1991-1995, 1996-2000, and 2001-2005, thus data permitting there are five observations per country. These changes increase the sample size from 24 to 76 countries and the number of observations from 168 to 380. A list of the economies integrated in the sample and used in the empirical investigation presented in Appendix.

Economic growth literature shows that the rate of physical capital formation positively affects economic growth, as concluded, for example, by Barro, (1991), Kormendi and Meguire (1985) and Li and Liu (2005). Thus, the robustness of the results is also tested by including domestic investment (DI)<sup>15</sup> in the growth equation and by reducing omitted variables biases. This section also examines the outliers observed to gain some robustness. A common statistical test is Cook's distance measure, which provides an overall measure of the influence of an observation on the estimated regression coefficient. The higher the value of the Cook's D the more frequent outliers are the observations, and lowest value of the Cook's D, zero or near-to-zero is the assumed. The potential critical value is  $4/\text{number of observations}$ . Appendix includes a table that shows the outliers result of Cook's D test, which obtained from regression all explanatory variables in the growth equation by applying OLS estimation. The multicollinearity check among explanatory variables also reported in Appendix. The test shows that the problem of multicollinearity does not

exist and estimated coefficients are stable.

Table 2 presents the results of the growth equation obtained by applying the GMM estimator. As can be seen from column 1 of Table 2, FDI still has a positive and significant impact on growth, confirming previous findings of this paper. Column 1 also shows that the impacts of HC, IFL, GS and BMP on economic growth confirmed. Column 1 also shows that two dummy variables have a right sign and are statistically significant. Columns (2, 3, 4, 5, 6 and 7) show that the hypothesis that the relation between FDI inflows and economic growth is contingent on the host country's absorptive capacity confirmed. The results indicate that FDI inflows contribute positively to economic growth, only if the host countries have reached a certain level of human capital development, technological gap, infrastructure development, financial system development, degree of trade openness and institutional development.

These results suggest that changing the sample size and omitted variables do not affect the main findings of this paper. Namely, FDI contributes positively to economic growth of the host countries, but the magnitude of this effect depends on the host country absorptive capacity.

To gain more robustness results, we re-estimated the growth equation after excluding outliers in observations. The results of GMM estimators presented in Appendix. The results indicate that there is a threshold level of host country's absorptive capacity development, and the countries gain the most from FDI spillovers, if they reach this threshold.

### Conclusion

A large number of empirical studies examine the growth effects of FDI in developing countries. However, the results of these studies fail to confirm whether FDI helps to improve economic growth in the host countries. Thus, the main purpose of this paper is to examine the growth effect of FDI on the host economies in selected samples, from Asian, African and Latin American countries, for the data from 1971 to 2005. The paper investigates firstly this hypothesis among the most successful countries, and then in most of Asian, African and Latin American countries 1981 to 2005. Particularly, the paper examines the following specific research question: Does FDI contribute to economic growth in developing countries alone or does it depend on its initial conditions?

The results of this paper confirm the numerous empirical studies and economic growth theories studying the growth effect of FDI, stating that FDI has in general a positive impact on economic growth. The results of this

**Table 2.** The effect of FDI on economic growth and the importance of host country characteristics; 1980-2005 (two-step system GMM, dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged growth	-0.41* (0.000)	-0.40* (0.000)	-0.25** (0.015)	-0.31* (0.001)	-0.15** (0.015)	-0.36* (0.001)	-0.31** (0.024)
LDI	0.65** (0.024)	0.18** (0.017)	0.55* (0.009)	0.63** (0.032)	0.55*** (0.065)	0.49** (0.048)	0.85** (0.028)
LFDI	0.32** (0.029)	-0.64 (0.842)	2.25 (0.316)	-1.13 (0.795)	-0.73 (0.883)	-0.85 (0.922)	-2.81 (0.294)
LHC	0.11** (0.030)	0.91*** (0.066)	0.39** (0.022)	0.13*** (0.059)	1.08** (0.016)	0.69** (0.022)	0.55** (0.047)
LGS	-0.37** (0.036)	-1.33** (0.022)	-1.53** (0.013)	-0.62** (0.017)	-0.58 (0.592)	-1.19** (0.028)	-0.80** (0.032)
L(1+BMP)	-0.53** (0.011)	-0.55** (0.019)	-0.47** (0.022)	-0.82*** (0.064)	-0.79** (0.013)	-0.76* (0.003)	-0.15*** (0.055)
Africa	-0.08*** (0.086)	-0.42** (0.037)	-0.58** (0.046)	-0.60*** (0.067)	-0.72*** (0.066)	-0.34 (0.576)	-0.29** (0.031)
Latin	-0.04** (0.036)	-0.04** (0.033)	-0.45** (0.014)	-0.53** (0.017)	-0.29 (0.544)	-0.60 (0.129)	-0.25*** (0.054)
LFDI*LHC		0.18** (0.022)					
LTG			-0.50** (0.018)				
LFDI*LTG			-0.29** (0.028)				
LIFR				0.18** (0.048)			
LFDI*LIFR				0.23** (0.023)			
LMS					0.91** (0.014)		
LFDI*LMS					0.21** (0.040)		
LDOP						1.36** (0.014)	
LFDI*LDOP						0.23** (0.015)	
LEFW							5.21** (0.014)
LFDI*LEFW							1.63** (0.032)
L(1+IFL)	-0.12** (0.029)						
constant	4.88** (0.039)	3.84** (0.023)	8.00** (0.030)	0.02*** (0.099)	0.59*** (0.060)	4.96** (0.034)	-7.06** (0.034)
Threshold Value		3.55	7.75	4.91	3.47	3.69	1.72
No. Observations	277	284	284	284	284	284	284
No. Instrument variables	23	23	23	23	23	23	23
P-Arellano-Bond test for AR(2) in first diff.	0.348	0.296	0.265	0.292	0.207	0.274	0.114
P-Hansen test of over id. restrictions	0.378	0.405	0.062	0.265	0.522	0.084	0.069
P-Sargan test of over id. restrictions	0.110	0.660	0.476	0.816	0.893	0.673	0.982

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. \*, \*\*, \*\*\* denote significance at 1%, 5%, and 10%, respectively.

paper clearly show that domestic investment, human capital, infrastructure development, financial market

development, trade openness, and institution quality positively related to economic growth. In contrast, the technology gap, government size, black market premium and the inflation rate negatively related to economic growth. The result of this paper also shows that African and Latin American countries are, assuming other factors remaining fixed, more likely to grow less than Asian countries.

The main finding of this paper is that FDI can have a positive impact on economic growth, but its magnitude depends on the host country conditions, as suggested by the significant impact of the interaction terms of FDI with a set of host country characteristics. These findings suggest that a certain level of absorptive capacity is required for FDI to be beneficial to the host economy. These findings are in line with many empirical studies on this topic, although it is contrary to the findings of Carkovic and Levine (2002) for panel data, Blomstrom et al. (1992) for cross-section data, and Herzer et al. (2008) for time series data. Furthermore, change in applied techniques, omitted variable, sample countries used or observations outlier influences the results of this paper.

Overall, the findings of this paper support the fact that policies considered to attract more FDI are not satisfactory in generating spillovers for economic growth. Improving the investment environment through developing the host country's absorptive capacity factors should be a priority for policymakers in these countries to exploit FDI efficiently.

This investigation suggests that further empirical studies and researches are required to re-examine which type of foreign capital inflows fosters economic growth in the host country. However, this claim requires further analysis to empirically test whether such a specific capital inflow forms exist, and if so, how significant it is.

## Conflict of Interests

The author has not declared any conflict of interest.

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## Notes:

1. The reported P-value of Arellano-Bond test shows that the second-order serial correlation is not significant. In addition, the reported p-value of Hansen and Sargan tests indicate that the set of moment conditions is not rejected.
2. The idea is that poor economies should grow faster than rich economies (Rork and Elmslie, 2008).
3. 14, De Gregorio, and Lee (1998) obtain the same results for developing countries, 35 (2005) for developed and developing countries, and 23, Rork, and Elmslie (2008) for the US.
4. 14, De Gregorio, and Lee (1998) find that inflation rate is insignificant and negatively related to growth. They argue that the reason for this result is that the sample countries used do not include developed countries.
5. LFDI \*LHC is an interaction term meant to capture the effect of a well-educated workforce is likely to have on the absorptive capability of the flow of foreign assets (technology, knowledge, etc.).
6. 14, De Gregorio, and Lee (1998), 23, Rork, and Elmslie (2008) and 50 (2000) argue that FDI will no longer benefit the host countries, if they do not meet the threshold requirement for absorbing technology.
7. By taking the derivative of the growth equation with respect to LFDI, setting them equal to zero. By solving it for the level of human capital (LHC) required, the total effect of FDI on growth is positive. This is yielding the education threshold, equal to 3.41. By taking the exponential of this value, the certain level of education will equal 24.77. This calculation will applied for all threshold levels of other host country absorptive capacity variables.
8. FDI \*Technology is an interaction term meant to capture the effect a size of the technology gap is likely to have on the absorptive capability of the FDI inflows.
9. 31 (1994) hypothesizes that spillovers are negatively related to the size of the technology gap between foreign and domestic firms. Therefore, a certain technology gap is necessary for those spillovers that occur as local firms copy MNC technology or benefit from the MNC's training of local employees. 31 (1994) finds that the coefficient of FDI becomes positive and statistically significant when interacting FDI with technology gap variable included in the regression, suggesting that spillovers of FDI are more important where foreign and domestic firms are in direct competition with each other. Thus, the competitive pressure exerted by the foreign firms may force domestic firms to operate more efficiently and introduce new technologies. 31 (1994) also points out that the highly significant of the negative interaction term of foreign investment with the technology gap indicates that a large technology gaps may impede spillovers of FDI inflows into the host economy. 35 (2005) demonstrate that FDI will no longer benefit for the receiving economies above threshold value of technology gap.
10. By taking the exponential of the value (8.52), the certain level of the technology gap equals 5014.05.
11. The five countries above the maximum estimated threshold include Congo, India, Pakistan, China and Madagascar, while 19 additional countries below the estimated threshold, which provided the requirement to absorb the externalities of FDI in the average of the period 1971-2005.
12. The seven countries below the minimum estimated threshold of infrastructure development including Angola, Cameroon, Congo, Ecuador, Pakistan, India and Madagascar, while 17 additional countries passed the estimated threshold over the average of the period 1971-2005.
13. These countries are Angola, Congo, Morocco, Madagascar, Mexico, Ecuador, Peru and Cameroon.
14. These countries are Brazil, Madagascar, Congo, Pakistan, Turkey, Morocco, Colombia, Ecuador, Peru, Argentina and China.
15. Definition of this variable and the source of the data are listed in Appendix

## Appendix.

**Table 1.** Definition of variables, theoretical expected sign and the data sources.

<b>Variables</b>	<b>Proxy</b>	<b>Data sources</b>
Real GDP per capita growth rate	Growth	World Bank, WDI
FDI net inflows as % of GDP	FDI	World Bank, WDI
Gross ratio of secondary school enrolment	HC	World Bank, WDI; UNESCO, statistical year-book, differed issues; ADB 2008
Host country GDP per capita	TG	World Bank, WDI
U.S. GDP per capita	TG	World Bank, WDI
M2 as % of GDP	MS	World Bank, WDI
Mobile and fixed-line telephone (per 1000 people)	IFR	World Bank, WDI
Export of goods and services + import of goods and services as % of GDP	DOP	World Bank, WDI
GDP deflator (annual %)	IFL	World Bank, WDI
Interaction terms of FDI with education	FDI*HC	
Interaction terms of FDI with technology	FDI*TG	
Interaction terms of FDI with financial	FDI*MS	
Interaction terms of FDI with infrastructure	FDI*IFR	
Interaction terms of FDI with trade openness	FDI*DOP	
Real GDP per capita at the start of each period	Initial GDP pc	World Bank, WDI
Government consumption as a % of GDP	GS	World Bank, WDI
Index of difference between official exchange rate and black market rate, 0-10 scale	BMP	EFW, 2009 annual report. Fraser Institute, the
Index of economic freedom world	EFW	Fraser Institute, the
Gross of fixed capital formation as % of GDP	DI	World Bank, WDI
Dummy variable takes 1 if the country from African region and 0 otherwise	Africa	
Dummy variable takes 1 if the country from Latin American region and 0 otherwise	Latin	

**Table 2.** List of countries included in the empirical analysis (the small sample).

<b>Africa</b>	<b>Asia</b>	<b>Latin America</b>
Angola	China	Argentina
Cameroon	India	Bolivia
Congo Dem. Rep	Korea	Brazil
Egypt	Malaysia	Chile
Madagascar	Pakistan	Colombia
Morocco	Thailand	Ecuador
South Africa	Turkey	Mexico
Tunisia		Peru
		Venezuela

**Table 3.** List of countries included in the empirical analysis (the large sample).

Middle East and North Africa	Latin America and Caribbean		East Asia and Pacific	South Asia	Sub-Saharan Africa	
Algeria	Argentina	Guatemala	China	Bangladesh	Angola	Lesotho
Bahrain	Bahamas	Guyana	Fiji	India	Benin	Malawi
Egypt	Barbados	Honduras	Indonesia	Nepal	Botswana	Mali
Iran	Belize	Jamaica	Korea	Pakistan	Burundi	Mauritania
Jordan	Bolivia	Mexico	Malaysia	Sri Lanka	Cameroon	Mauritius
Morocco	Brazil	Nicaragua	Papua Guinea	New Turkey	Central Africa	Mozambique
Oman	Chile	Panama	Philippines		Chad	Niger
Tunisia	Colombia	Paraguay	Thailand		Congo, Rep	Rwanda
	Costa Rica	Peru			Côte d'Ivoire	Senegal
	Dominican Rep.	Trinidad and Tobago			Ethiopia	Sierra Leone
	Ecuador	Uruguay			Gabon	South Africa
	El Salvador	Venezuela			Ghana	Togo
					Guinea Bissau	Uganda
					Kenya	Zambia
					Madagascar	Zimbabwe

**Table 4.** List of UNDP (United Nations Development Programme) country codes.

Country	code	Country	Code	Country	Code
Algeria	DZA	Ethiopia	ETH	Niger	NER
Angola	AGO	Fiji	FJI	Oman	OMN
Argentina	ARG	Gabon	GAB	Pakistan	PAK
Bahamas	BHS	Ghana	GHA	Panama	PAN
Bahrain	BHR	Guatemala	GTM	Papua New Guinea	PNG
Bangladesh	BGD	Guinea-Bissau	GNB	Paraguay	PRY
Barbados	BRB	Guyana	GUY	Peru	PER
Belize	BLZ	Honduras	HND	Philippines	PHL
Benin	BEN	India	IND	Korea	KOR
Bolivia	BOL	Indonesia	IDN	Rwanda	RWA
Botswana	BWA	Iran	IRN	Senegal	SEN
Brazil	BRA	Jamaica	JAM	Sierra Leone	SLE
Burundi	BDI	Jordan	JOR	South Africa	ZAF
Cameroon	CMR	Kenya	KEN	Sri Lanka	LKA
Central African	CAF	Lesotho	LSO	Thailand	THA
Chad	TCD	Madagascar	MDG	Togo	TGO
Chile	CHL	Malawi	MWI	Trinidad and Tobago	TTO
China	CHN	Malaysia	MYS	Tunisia	TUN
Colombia	COL	Mali	MLI	Turkey	TUR
Congo	COG	Mauritania	MRT	Uganda	UGA
Costa Rica	CRI	Mauritius	MUS	Uruguay	URY
Côte d'Ivoire	CIV	Mexico	MEX	Venezuela	VEN
Dominican Rep.	DOM	Morocco	MAR	Zambia	ZMB
Ecuador	ECU	Mozambique	MOZ	Zimbabwe	ZWE
Egypt	EGY	Nepal	NPL		
El Salvador	SLV	Nicaragua	NIC		

**Table 5.** The results of multicollinearity test among explanatory variables.

. collin lnfdi lndi lnhc lnifr lnms lndop lnfw lnifl lngs lnbmp africa latin, corr  
(obs=346)

Collinearity Diagnostics

Variable	VIF	SQRT VIF	Tolerance	R- Squared
lnfdi	1.56	1.25	0.6410	0.3590
lndi	1.04	1.02	0.9616	0.0384
lnhc	3.48	1.87	0.2875	0.7125
lnifr	3.10	1.76	0.3222	0.6778
lnms	2.39	1.55	0.4186	0.5814
lndop	1.69	1.30	0.5901	0.4099
lnfw	2.02	1.42	0.4940	0.5060
lnifl	1.59	1.26	0.6272	0.3728
lngs	1.29	1.14	0.7723	0.2277
lnbmp	1.62	1.27	0.6179	0.3821
africa	2.24	1.50	0.4469	0.5531
latin	1.62	1.27	0.6189	0.3811

Mean VIF 1.97

	Eigenval	Cond Index
1	3.5890	1.0000
2	1.9239	1.3658
3	1.4595	1.5681
4	0.9922	1.9019
5	0.9123	1.9834
6	0.7259	2.2235
7	0.6643	2.3244
8	0.5798	2.4880
9	0.3965	3.0087
10	0.3290	3.3030
11	0.2637	3.6893
12	0.1639	4.6791

Condition Number 4.6791  
Eigenvalues & Cond Index computed from deviation sscp (no intercept)  
Det(correlation matrix) 0.0144

**Table 6.** The results of Cook's D outliers test of predictor variables used in specification model.

	lngrowth	lnfdi	lnhc	lng	lnfr	lnms	lnop	lnifl	lngs	lnbmp	lnidi	lnefw	country	cooks
12.	2.146269	1.775417	4.271526	6.509952	2.256774	4.897882	2.77642	7.043939	3.473393	0	2.754686	1.647951	BOL	.012765
13.	2.277378	1.777325	4.237989	6.610278	2.568816	4.71778	2.804005	3.43025	3.647017	0	2.861501	1.863675	BOL	.0202763
14.	2.226896	1.781521	4.412086	6.677427	3.337698	5.34617	3.107386	-9.267914	3.691242	0	2.925673	1.902697	BOL	.0230163
41.	2.007053	1.844748	4.058971	7.72742	1.101226	3.152795	3.881727	.	2.110292	2.282382	2.978168	1.382151	ECU	.
42.	2.127597	1.980378	4.043048	7.747235	1.375652	2.947985	4.07879	.	2.346363	1.94591	3.054734	1.567946	ECU	.
44.	2.07986	2.241623	4.026472	7.708443	2.356565	3.171807	4.011751	.	1.962524	.8754687	2.979053	1.72361	ECU	.
72.	2.007053	1.952312	3.987193	8.711648	4.034047	2.704163	3.575094	4.345473	2.149352	2.261763	24.85201	1.732243	MEX	.0111533
126.	.3037188	1.855876	4.511155	4.984739	2.691171	3.956434	5.34565	1.846952	2.92278	2.397895	3.616258	1.873414	BHR	.0198528
127.	1.954526	1.699944	4.568977	5.26089	2.918729	4.262142	5.23916	.	3.216719	2.397895	3.159901	1.917999	BHR	.
139.	2.299155	1.670939	3.395172	5.507755	3.908203	4.255807	4.712712	1.373926	3.06581	2.379546	2.926995	1.728289	BRR	.0139754
146.	2.52259	2.203348	3.337593	7.297335	-16.31582	3.120811	4.79747	2.410062	3.216476	1.88707	3.396775	1.629648	BWA	.0153239
147.	2.674733	2.063183	3.684921	7.071073	.3695394	3.161254	4.72861	2.700033	3.190922	2.261763	3.39211	1.691012	BWA	.0239904
149.	2.492007	1.789849	4.333547	6.839688	2.310804	3.073511	4.512344	2.384339	3.263164	2.397895	3.238683	1.973032	BWA	.0145843
152.	2.562392	2.112738	4.193964	7.082825	1.937479	3.657557	4.816606	1.698689	2.810175	1.791759	3.193992	1.738157	BLZ	.0119987
166.	2.523749	1.767051	1.79896	9.582004	-3.725124	2.582191	3.600504	2.109991	2.118769	2.379546	1.431206	1.565522	TOC	.020256
170.	2.950674	3.369521	2.760458	9.689847	.0658393	2.309611	4.565725	1.878303	1.880484	2.397895	3.633929	1.709853	TOC	.1268168
177.	1.251261	1.644505	3.011112	8.243542	-.5689103	3.402555	4.130342	.	2.816358	2.322388	2.466262	1.694926	CIY	.
201.	.9191666	1.574047	3.657742	9.365031	-1.174276	2.488235	2.653281	4.051946	2.022614	0	1.899056	.9119891	GHA	.0299811
206.	.9066706	1.686701	2.951388	7.294282	.3507752	3.181368	3.432686	2.261565	2.024579	0	2.608145	1.551119	GTM	.0135708
211.	2.345478	1.783376	2.305937	9.584374	-.8410346	3.306524	3.975749	3.320578	3.150511	1.648659	3.430703	.5481214	GNE	.0890397
218.	2.551975	3.126817	4.274839	8.271148	1.554583	4.022943	5.484894	3.652408	2.754176	2.322388	3.691952	1.554919	GUY	.0198307
257.	2.063643	1.53555	1.99463	9.589211	-2.217304	3.107779	3.925664	.	2.640684	2.322388	3.113046	1.559268	MLI	.
262.	2.53118	1.751463	3.968332	6.983137	1.566032	3.983128	4.862191	2.450877	2.493567	2.24071	3.262597	1.803064	MUS	.0164587
272.	-.3372982	1.548278	3.593642	8.163301	.1408788	3.421353	4.108937	8.482541	3.537873	2.197225	3.077404	.8891913	NIC	.0276187
276.	-.065086	1.557928	1.641877	9.282331	-2.17241	2.646582	3.983664	2.100473	2.389214	2.379546	2.728406	1.665277	NER	.0115886
277.	1.729101	1.674611	1.818802	9.522039	-2.139091	2.920877	3.715654	.	2.621121	2.322388	2.502988	1.556224	NER	.
281.	2.743682	1.848062	3.149204	5.703903	.5556915	3.066525	4.545553	.	3.265213	2.397895	3.256331	1.853365	OMN	.
283.	2.135126	1.694027	4.187414	5.662385	1.990299	3.30043	4.373384	.	3.218187	2.397895	2.828869	1.950975	OMN	.
293.	2.487586	2.095863	2.453401	8.27419	-.1468305	3.438599	4.555147	1.959516	3.070515	2.261763	3.104661	1.872617	PNG	.0282123
301.	.8040846	1.569544	4.198657	7.797671	-.0722206	3.238092	3.879098	3.096437	2.099194	2.261763	3.255557	1.560686	PHL	.0157028
317.	1.558794	.0599016	2.866346	9.270143	-1.07968	2.751369	3.751857	4.489875	2.014024	0	2.256798	1.338498	SLE	.0574561
319.	.400439	1.779137	3.277588	9.895267	-.7064087	2.543269	3.763735	3.038378	2.41412	1.791759	1.952124	1.62453	SLE	.0116769
320.	2.754066	2.043988	3.543038	9.723485	.7043536	2.841711	4.03892	2.144667	2.729104	2.397895	2.534933	1.739116	SLE	.0205927
331.	.8247345	1.869113	4.3484	5.587232	1.832746	3.660923	4.269223	1.986057	2.994988	1.163151	3.229269	1.48569	TTO	.0125983
341.	.5616298	1.543998	4.275465	5.925812	2.133168	3.82673	3.742219	3.848464	2.677157	2.397895	2.79023	1.682377	URY	.0138623
348.	.6791787	2.057514	3.200197	9.022897	-.1234932	2.663146	4.327567	4.625562	2.931818	2.341806	2.52034	1.481105	ZMB	.0133928
355.	-.4340681	1.668148	3.713295	8.848614	1.744716	3.429532	4.232212	5.482152	3.022561	0	2.76195	1.084439	ZWE	.0194508

**Table 7.** The effect of FDI on Economic Growth and the Importance of Host Country Characteristics For the period (1980-2005); (two-step system GMM, Dependent variable: real GDP per capita growth).

	1	2	3	4	5	6	7
Lagged Growth	-0.30*	-0.20***	-0.28*	-0.28**	-0.20**	-0.31*	-0.23*
	(0.000)	(0.087)	(0.004)	(0.014)	(0.021)	(0.000)	(0.009)
LDI	0.34**	0.78**	0.32**	0.25**	0.19***	0.95*	0.55**
	(0.034)	(0.042)	(0.026)	(0.042)	(0.079)	(0.001)	(0.044)
LFDI	0.83**	-5.04	3.36	-1.01	-2.58	-0.78	-8.31
	(0.023)	(0.324)	(0.509)	(0.393)	(0.327)	(0.895)	(0.944)
LHC	0.09**	1.99**	0.09**	0.50**	0.34*	0.22**	0.48*
	(0.037)	(0.039)	(0.018)	(0.035)	(0.005)	(0.027)	(0.007)
LGS	-1.05**	-0.26**	-0.18*	-1.30**	-0.60***	-0.72**	-1.41**
	(0.018)	(0.032)	(0.002)	(0.045)	(0.068)	(0.048)	(0.033)
L(1+BMP)	-0.51**	-0.36***	-0.06**	-0.07**	-0.08***	-0.29**	-0.59**
	(0.043)	(0.068)	(0.046)	(0.042)	(0.089)	(0.048)	(0.047)
Africa	-0.16**	-0.15**	-0.05***	-0.31*	-0.49**	-0.10***	-0.20**
	(0.048)	(0.031)	(0.078)	(0.007)	(0.027)	(0.062)	(0.028)
Latin	-0.04**	-0.008***	-0.004***	-0.14**	-0.22**	-0.01***	-0.16**
	(0.018)	(0.089)	(0.093)	(0.014)	(0.038)	(0.098)	(0.026)
LFDI*LHC		1.21**					
		(0.043)					
LTG			-1.14**				
			(0.032)				
LFDI*LTG			-0.45**				
			(0.013)				
LIFR				0.61*			
				(0.008)			
LFDI*LIFR				0.26***			
				(0.055)			
LMS					0.54***		
					(0.078)		
LFDI*LMS					0.76*		
					(0.001)		
LDOP						1.03**	
						(0.023)	
LFDI*LDOP						0.22**	
						(0.018)	
LEFW							9.60**
							(0.015)
LFDI*LEFW							4.65**
							(0.020)
L(1+IFL)	-0.01						
	(0.154)						
constant	5.49***	-4.21**	10.74**	6.81**	-2.17**	6.42**	-1.61**
	(0.056)	(0.010)	(0.014)	(0.022)	(0.049)	(0.045)	(0.040)
Threshold Value		4.16	7.46	3.88	3.39	3.54	1.78
No. Observations	260	260	260	260	260	260	260
No. Instrument variables	23	23	23	23	23	23	23
P-Arellano-Bond test for AR(2) in first diff.	0.481	0.869	0.966	0.723	0.679	0.993	0.752
P-Hansen test of over id. restrictions	0.690	0.888	0.657	0.747	0.788	0.392	0.913
P-Sargan test of over id. restrictions	0.589	0.545	0.732	0.835	0.811	0.291	0.199

P-values reported in parentheses. The system includes a time dummy variable for each five-year period to account for period-specific effects. \*, \*\*, \*\*\* denote significance at 1%, 5%, and 10%, respectively.

*Full Length Research Paper*

# Relative consequences due to absence of corporate governance in nationalized and private commercial banks in Bangladesh

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This study produces weak and ineffective corporate governance practices in both state owned and privately owned commercial banks in Bangladesh. The paper presents key aspects requiring reforms: the role, constitution and accountability of board, risk management, and transparency. To analyze the corporate governance practices of the private commercial banks (PCBs) and State owned commercial (SCBs), this study focused on four aspects of corporate governance namely; board size, board meeting frequency, audit committee composition, audit committee meeting frequency. Banking performance has been measured through Return on Equity (ROE) and Return on Assets (ROA). To find out the variability in corporate governance, coefficient of variation of the governance indicators of SCBs and PCBs was calculated. The descriptive statistics show that in case of board size greater variability in PCBs but for board meeting frequency and audit committee meeting frequency greater variability exists in SCBs. The trend in write-off of bad debt of PCBs during the period from 2009-2013 is not rising like SCB. On an average, SCBs induce write-off of Tk. 53.16 billion per year whereas PCB decelerates write-off of Tk. 5.52 billion per year. Taken together, our findings suggest that the inferior performance of SCBs in our analysis during the period of 2008–2012 can best be explained corporate governance theory on state ownership of firms and contestable markets perspectives of banking policy mistakes. This paper also brought out some recommendations that need to be improved. Enforcement and monitoring became the main hurdles in establishing the good corporate governance. The accountability of auditors was recommended to ease the corporate governance and financial reporting matter.

**Key words:** Corporate governance, accountability, state owned commercial bank, private commercial bank, regulatory compliance, non performing loan, write-off.

## INTRODUCTION

Corporate governance describes the interaction of government regulators, shareholders, boards of directors, independent observers, auditors, accountants and managers to provide quality information to shareholders, the

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market, and society at large. Each stakeholder plays an important part to creating an environment where transparency and accountability are encouraged, enforced, and rewarded. Corporate governance is the manner in which power is exercised in the management of a country's economic and social resources for development. Key elements of good corporate governance principles include honesty, trust and integrity, openness, performance orientation, responsibility and accountability, mutual respect, and commitment to the organization.

For Bangladesh, the first step in strengthening the role of stakeholders in corporate governance is raising their awareness regarding these issues. For companies to have sufficient motivation to disclose information and improve governance practices, the relevant stakeholders must place a value on that information and there must be consequences for corporate governance practices. Since the banking sector provides the primary source of capital to business organizations in Bangladesh, any examination of corporate governance practices must examine the role that banks can play in enforcing better corporate governance. In Bangladesh, financial sector is dominated by banks. In terms of share in Gross Domestic Product (GDP), total asset of the banking sector was 65.5 percent of GDP in 2010. The banking sector has flourished during the last three decades or so as a result of increased demand of the growing economy. During this period the banking sector has also undergone several reforms and fallen under the jurisdiction of a number of acts in a bid to improve the efficiency of this sector. However, the sector is yet to improve its performance in terms of trust and confidence of people as shocks hit the sector from time to time in a major way. It has been estimated that the cost of banking inefficiency to the size of the Bangladeshi economy is 1.18% of GDP (using independent estimates of recapitalization requirements).

The most recent development of Bangladesh banking sector include i) Automation and Technological development, ii) Institutional development and iii) Regulatory development. Banking sector experienced remarkable progress in respect of automation in functioning in last several years. For the pro-active and forward-visioning approach of Bangladesh Bank, numbers of automation initiatives have been implemented. Through the Central Bank Strengthening Project, there have been a good number of achievements regarding the institutional development in Bangladesh banks including implementation of Enterprise Resource Planning (ERP), establishment of Enterprise Data Warehouse, Internal networking system etc. Banking industries of Bangladesh have also experienced diversified regulatory developments over last few years, for instance, full implementation of Basel-II (International capital adequacy standard), Guidelines on Environmental and Climate Change Risk Management for banks, Guidelines on Stress Testing for banks etc. All these advancements have been implemented from 2006 to 2012.

Higher credit expansion, increased profitability, lower non-performing assets and increased financial inclusion have contributed to an improved banking system during the past decade. The regulatory framework has supported this growth to a large extent. It is from this ground that the central bank and other regulators frameworks and standards for the financial system of a political economy so that the constituents and participants of the system generate more transparency, accountability, and oversight. Commercial banking sector is very crucial type of participant of the financial system and their compliance to standards and guidelines under the policy frameworks constitute regulatory compliance. On the other hand, such compliance procedures tend to strengthen corporate governance of the banks. For instance, audit standards require banks to submit key information about their financial statement so as to improve the transparency and accountability in the private sector banking industry. Against this backdrop, nonperforming loan is an outbreak of corporate moral hazard that not only proves corporate governance failure but also regulatory governance failure. The empirical results in Dinç (2005) indicate that state-owned commercial banks (SCB) increase their lending in election years relative to private banks in major emerging markets in the 1990s, and these actions are influenced by political motivations other than differences between privately-owned commercial banks (PCB) and SCBs in efficiency and objective.

## LITERATURE REVIEW

There is a growing body of research in the economics and management literatures that link general governance factors, such as the pattern and amount of stock ownership and board characteristics, with strategic decisions (Bruton et al., 2003; Filatotchev et al., 2002; Hambrick and Jackson, 2000; Tihanyi et al., 2003), and, eventually, corporate performance (Dalton et al., 2003; Daily et al., 2003; Demsetz and Lehn, 1985; Hansmann, 1996). Little is known about which laws and regulations enhance the governance of banks although many argue that banks are extraordinarily complex and opaque (Morgan, 2002; Caprio et al., 2007). From this perspective, investor protection laws alone may not provide a sufficiently powerful corporate governance mechanism to small shareholders. Official bank regulations may arise in part to stop bank insiders from expropriating or misallocating bank resources as argued in Caprio and Levine (2002). Thus, effective regulation towards more institutional shareholding might augment investor confidence and boost market valuations. On the other hand crisis, volatility and corruption in the banking sector have been found to have negative implications for the growth of the banking industry (Park, 2012; Moshirian and Wu, 2012; Lin and Huang, 2012; Serwa 2010). The US financial crisis has been proved to have occurred due to regulatory



governance failures (Anwar, 2009). As opposed to such havocs, the usual good times are generally characterized by opaqueness of either regulatory measures or the corporate management at all levels. Such opaqueness are also termed as failure from two related perspectives corporate governance failure when one or a few firms of an industry are devoid of transparency, accountability, monitoring and oversight of their own managerial practices, and regulatory governance failure when such opaqueness are industry-wide, given that ultimate accountability to the stakeholders remains with the regulators.

In the banking sector corporate governance is the way of business and affairs of the bank by the management and the board, affecting how they define the objectives and goals, lead current bank activities, fulfill the obligation of accountability to shareholders and take into account the interests of stakeholders and apply the requirement to operate safely and to ensure a good financial situation and compliance with applicable regulations; protect the interests of depositors and other clients and creditors. In 1986, the National Commission for Money, Banking and Credit submitted a list of recommendations to address problems in the banking sector that included supervisory handicap and non-performing loan (NPL) criteria set by Bangladesh Bank (BB). In 1990, the Financial Sector Reform Project (FSRP) was initiated to assist BB in implementing the reform measures such as liberalize interest rate, enhance the capacity of loan classification and provisioning, capital restructuring and risk analysis, strengthening central bank and improving the legal system and framework for loan recovery (Bangladesh Bank, 2002). Both the measures have been undertaken on the perspective that the ongoing industrial loan defaults and inherent loan losses have become regular phenomena in Bangladesh and such other developing economies (Hoque and Hossain, 2009). Government dictated the credit disbursement in the late 1990s that has been messed up mainly by political influence on loan approval procedures. Besides, state-owned enterprises (SOEs) also borrowed from the banking sector and these loans were never fully repaid. As Shleifer and Vishny (1997) point out, state-owned firms are technically controlled by the public; they are run by political bureaucrats who can be thought of as having extremely concentrated control rights, but no significant cash flow rights. That is, cash flow rights are dispersed among many taxpayers in a particular country. Political bureaucrats have goals that are often dictated by political interests but in conflict with social welfare improvements and firm value maximization. This theory suggests that the performance of SCBs is inferior to that of PCBs predominantly because of the perverse incentives of managers/bureaucrats of state-owned banks.

A bank's failure to follow good practices in corporate governance and lack of effective governance are among the most important internal factors which may endanger the solvency of a bank. Banks are subject to special

regulations and supervision by state agencies (monitoring activities of the bank are therefore mirrored); supervision of banks is also exercised by the purchasers of securities issued by banks and depositors; problem in principal-agent is more complex in banks, among others due to the asymmetry of information not only between owners and managers, but also between owners, borrowers, depositors, managers and supervisors.

### **Firm's corporate governance emblems**

BB regulates the operation of banks and financial institutions on the basis of powers vested by the Bangladesh Bank Order 1972 and the Bank Company Act 1991 (as amended to date). It is from this ground that BB, the nation's central bank generates more transparency, accountability, and oversight. Regulatory governance thus becomes a crucial setting for sound functioning of the banking system to protect the interest of shareholders and depositors and ultimately to monetary policy stability. It is a general belief that good corporate governance enhances a firm performance. A study by Kyereboah-Coleman (2008) shows the effect of corporate governance on performance of firms. An empirical analysis in Kenya examines the relationship between ownership structure and bank performance (Barako and Tower, 2007). Good corporate governance leads to increased valuation, higher profit, higher sales growth and lower capital expenditure. The good governance in bank may comprise the followings:

#### **Board Size**

Usually larger boards are better for firm value because they have a range of expertise to help make better decisions, and are harder for a powerful CEO to dominate. However, some authors have advocated for smaller boards. Fama and Jensen (1983) argue that large boards are less effective and are easier for the CEO to control. When a board gets too big, it becomes difficult to coordinate, encourages free riding and poses problems. Smaller boards, however, reduce the possibility of free riding, and increase the accountability of individual directors. Hence there will be a positive or negative relationship between board size and firm value.

#### **Board diversity**

People with a different gender, ethnicity, or cultural background might raise questions that would not come from directors with more traditional backgrounds, then diversity increases board independency. A more diverse board might be a more militant board because outside directors with nontraditional characteristics could be considered the ultimate outsider. However, a different perspective

may not necessarily result in more effective monitoring because a militant board members may be marginalized.

### **Board meeting frequency**

In the arguments of Fama and Jensen (1983), they propose a very important role for the board as a mechanism to control and monitor managers. The role of the board in an agency framework is to resolve agency problems between managers and shareholders by setting compensation and replacing managers that do not create value for the shareholders. The linkage between board activity and the degree of monitoring is difficult to isolate. Fama and Jensen (1983) argue that boards of well-functioning firms should be relatively inactive and exhibit few conflicts. Frequently scheduled meetings generate costs including managerial time, travel expenses, administrative support and directors' meeting fees.

Board meeting frequency potentially carries important governance implications as it is less costly to adjust the frequency of its board meetings to attain better governance of the firm, than to change the composition of its board or ownership structure. The association between board meeting frequency and firm value remains unclear. In addition, as a firm's performance declines, boards are likely to become more actively scrutinized by shareholders and are likely to meet more often to cope with the declining value. The benefits to increased board activity will include more time for directors to confer, set strategy and monitor management.

### **Audit committee**

The growing global acceptance of the Audit Committee (AC) as a relevant governance structure can be linked to claims made in professional and governmental reports about AC benefits on a number of aspects of corporate governance. ACs influence the balance of power in accountability and audit relationships. ACs are perceived as effective mechanisms for reducing agency costs. Some studies (Pincus et al., 1989; Adams, 1997) have found a significant positive relationship between company size and AC formation; others using similar definitions of size have not found any significant relationship (Bradbury, 1990; Collier, 1993; Menon and Williams, 1994). Size has been found to be significant in explaining firms' decisions to include a separate AC report in the annual report to shareholders but interestingly other agency variables were not found to be associated with such voluntary reporting (Turpin and DeZoort, 1998). Recent studies have reported that independent and active ACs are associated with a decreased likelihood of both fraud and non-fraudulent earnings misstatements, but also that AC size and AC expertise are not significantly related to reduced earnings misstatements (Abbott et al., 2000). It is clear that there is no automatic relationship between

the adoption of AC structures or characteristics and the achievement of particular governance effects. AC characteristics are valuable and worthy of promotion but caution may be needed over expectations that greater standardization will deliver guaranteed standard governance contributions (Turley and Zaman, 2004).

### **Firm performance**

Performance may also refer to the development of the share price, profitability or the present valuation of a company. Bank performance is the bank profitability and productivity in banking. Velnampy and Nimalathan (2008) examined firm size on profitability between Bank of Ceylon and Commercial Bank of Ceylon in Sri Lanka during ten years period from 1997 to 2006 and found that there is a positive relationship between firm size and profitability in Commercial Bank of Ceylon Ltd., but there is no relationship between firm size and profitability in Bank of Ceylon. The existing literature on corporate governance practices has used accounting-based performance measures, such as return on equity (ROE) and return on assets (ROA).

### **METHODOLOGY**

This research is characterized as exploratory and descriptive in nature. This paper aims to present the specificity of the corporate governance of banks and indicates the main deficiencies in the bank governance system. The main research methods used in the study are the review and critical analysis of literature and study of the regulations; based on that, a method of logical deduction has been applied; the analysis of numerical data presented (based on case studies retrieved from literature and financial analysis of banks' aggregate data) allow for an illustration of the issues discussed. The methodologies of the present study are outlined below.

### **Sample**

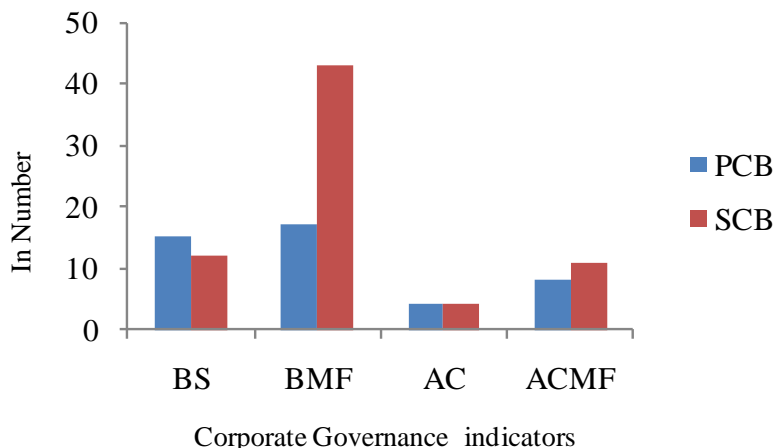
The sample for this study is the state and private sector banking organizations of Bangladesh. For the research study three state banks (Agrani Bank Ltd., Janata Bank Ltd. and Rupali Bank Ltd.) and three private banks (Prime Bank Ltd. Dutch Bangla Bank Ltd. and Dhaka Bank Ltd.) have been selected as per the convenient sampling. Other private commercial banks were not included in this study due to insufficient information regarding the research topic of this study.

### **Data sources**

In order to meet the objectives and hypotheses of the study, data are collected from secondary source mainly from financial report of the selected banks as the sources of samples data for the sample period of the year 2013. Furthermore, this research only focuses on the directors' reports, balance sheet, and income statements in their annual reports which are regularly updated in the official websites of the respective institutions.

### **Mode of analysis**

In the present study, we have analyzed our data by calculating



**Figure 1.** Average board size (BS), board meetings frequency (BMF), audit committee composition (AC), audit committee meetings frequency (ACMF) of PCBs and SCBs.

**Table 1.** Corporate governance coefficient of variation of SCB and PCB in terms of board size (BS), board meetings frequency (BMF), and audit committee meetings frequency (ACMF).

Coefficient of variation (CV)	BS	BMF	ACMF
CV <sub>SCB</sub>	3.81%	20.33%	71.55%
CV <sub>PCB</sub>	28.8%	14.41%	35.38%

covariance of different corporate governance indicators. For testing hypothesis we have calculated standard deviation and standard error of ROE of both SCB and PCB. Time series analysis of write-off bad debt loans of SCB and PCB (from 2009 to 2013) was also done.

## RESULTS AND DISCUSSION

To analyze the corporate governance practices of PCBs and SCBs, we look at the pattern of governance changes of countable indicator *i.e.* in board size, board meetings frequency, audit committee composition, audit committee meetings frequency as shown in Figure 1.

There are two crucial deviations in governance of PCBs in Bangladesh, viz, appointment of independent directors, and setting the audit committee absent with directors. Of the sample of PCBs, no board has independent director(s) appointed from outside the organization. Moreover, the audit committee of every PCB is headed by one or two directors of the firm. It has long been recognized that board composition is very important with respect to the ability to monitor and is related to the reduction of agency costs (Fama and Jensen, 1983). Although there is a controversy surrounding the efficacy of outside directors in exercising effective corporate oversight (Byrd and Hickman, 1992), outsiders have the potential to exercise devil's advocacy and to use dialectic enquiry approaches towards more crucial decisions aided

and guided by fresh ideas, independence (lack of cohesiveness), objectivity, and expertise gained from their own fields (diversity).

To find out the variability in corporate governance coefficient of variation of the governance indicators of SCBs and PCBs have been calculated. The results of the analysis are summarized in the Table 1.

The descriptive statistics produced in Table 1 show that in case of BS greater variability in PCBs but for BMF and ACMF greater variability exists in SCBs. Since these variables are explanatory governance variables, directors' remuneration growth is very high followed by institutional shareholding. The reason(s) underlying so high remuneration volatility is ambiguous. From the annual reports of the respective banks it has been found that the members in all the audit committees are also members of their board for which good governance is in doubt.

### Hypotheses development

H<sub>0</sub> = Corporate governance failure does not affect the performance of the bank

H<sub>a</sub> = Corporate governance failure affect the performance of the bank.

To test the hypothesis, we calculate standard deviation and standard error of ROE of Both SCB and PCB from the year 2008 to 2012. The data of ROE are shown in Table 2.

From the above data,

$$\bar{X}_{SCB} = 0.7 \text{ and } \bar{X}_{PCB} = 1.52$$

$$\sigma_{SCB} = 0.68 \text{ and } \sigma_{PCB} = 0.39$$

Standard error (SE) of the difference in the mean of two

**Table 2.** Return on equity by type of bank (ROE)\*.

Bank type	2008	2009	2010	2011	2012
SCB	0.7	1.0	1.1	1.3	-0.6
PCB	1.4	1.6	2.1	1.6	0.9

\*Source : Bangladesh Bank, the value is in %.

**Table 3.** Write-off bad debt by type of banks\*.

Bank type	2009	2010	2011	2012	2013
SCBs	64.5	70.5	82.5	72.9	107.2
PCBs	54.7	69.6	77.1	64.9	109.7

\*Source: Bangladesh Bank, the amount in Billion Taka.

samples is,

$$SE(\bar{X}_{SCB} - \bar{X}_{PCB}) = \sqrt{\frac{\sigma^2_{SCB}}{N_{SCB}} + \frac{\sigma^2_{PCB}}{N_{PCB}}}$$

i.e. the difference in the mean of two samples is = 2.34  
Since, the difference is more than 1.96 SE (at 5% level of significance), it does not support the hypothesis i.e. corporate governance failure affects the performance of the bank.

### Write-Off condition of bad debts in SCBs and PCBs

Write-off bad debt conditions by SCBs as well as PCBs of our study are shown in Table 3.

From the time series analysis we get the equation as follows:

$$Y_{SCB} = 53.16 + 8.78t$$

$$Y_{PCB} = -5.52 + 23.93t$$

where, Y = write-off (in Billion Tk.), t = Time (Year)

The above equation means that on an average SCBs induced write-off of Tk. 53.16 billion per year. The inter year variation in write-off by SCBs is measured in terms of Billion Tk. 8.78. There has been rising trend in write-off of bad debt during the period from 2009-2013 by considering the base year 2008 and sustain positive trend during the period.

In case of PCBs, it averagely decelerates write-off of Tk. 5.52 billion per year. The inter year variation in write-off by the PCBs is measured in terms of Billion Tk. 23.93. The trend in write-off of bad debt during the period from 2009-2013 by considering the base year 2008 is not rising as it does in SCBs.

Usually it is anticipated that non-performing loans should decrease if corporate governance is effective. However, from the analysis of our study, it is ascertained that NPL of SCBs increase every year in a large volume. Although it was the lowest in 2011, it got the highest position in 2013; whereas in PCB the tendency is increasing but the rate is not as high as SCB (Figure 2). The way committees of the banks are been constituted, members of audit committee in Bangladesh are mixed, that is both finance and none finance members constitute the committee. This can affect the way the committee discharges its functions. The reason for sacking the Managing Director/Chief Executives and Executive Directors of the banks by the Central Bank of Bangladesh that the banks' officials were removed due to high level of non-performing loans in the banks which was attributable to poor corporate governance practices, lax credit administration processes, and absence or non-adherence to the banks' credit management practices.

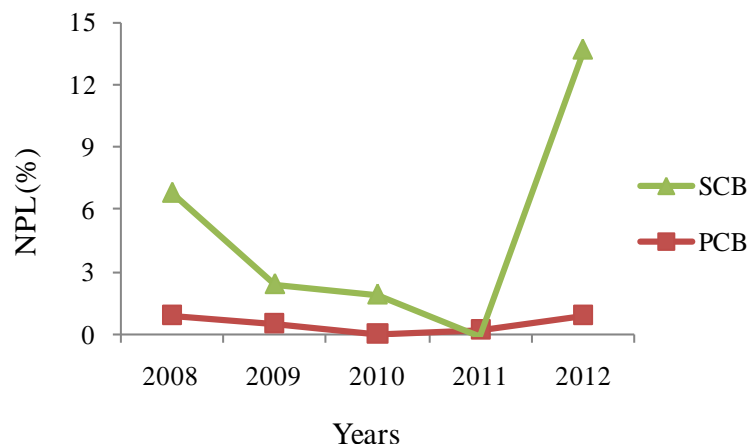
### Soundness indicator of SCB and PCB

Soundness of the banking sector, which basically reflects on the quality of performance of the sector, is measured by indicators such as capital adequacy, asset quality, management quality, earnings and liquidity position.

From Table 4 the soundness indicators of these two types of banks show that the performance of the SCBs is weaker than PCBs. Even though there have been improved performances the SCBs continue to be grappled with problems of inefficiency and solvency. Thus the seemingly good performance does not capture the reality which raises elements of doubts as regards the real health of SCBs.

The major findings as revealed from the study are as under:

1. A number of unwanted and abnormal cases by the board of the bank have been identified including pressure exerted by powerful sections, corrupted alliance between senior managers of the bank and clients, lack of supervision from the head office, and absence of oversight.
2. As the state is more powerful and does not adequately share information with minority shareholders, independent directors have significant influence on the decision making process of the board in case of SCBs.
3. PCBs relied more on loans than SCBs to generate interest income which is alike our study similar to the findings of Dinç (2005).
4. The performance of SCBs is relatively of lower rank of importance due to the perverse incentives of their managers.
5. The current system in Bangladesh does not provide sufficient legal, institutional or economic motivations for the stakeholders to encourage and enforce good



**Figure 2.** Ratio of net non performing loan (NPL) to total loans of SCBs and PCBs.

**Table 4.** Some soundness indicator of SCBs and PCBs\*.

Soundness indicator	Calculation parameter	Bank type	2008	2009	2010	2011	2012
Capital Adequacy	Capital to risk-weighted assets	SCB	6.9	9	8.9	11.7	8.1
		PCB	11.4	12.1	10.1	11.5	11.4
Asset Quality	NPL to total loans	SCB	5.9	1.9	1.9	-0.3	12.8
		PCB	0.9	0.5	0	0.2	0.9
Management	Expenditure - Income ratio	SCB	89.5	75.6	80.7	62.7	73.2
		PCB	88.4	72.6	67.6	71.7	76
Profitability	Return on Asset	SCB	0.7	1	1.1	1.3	-0.6
		PCB	1.4	1.6	2.1	1.6	0.9
	Return on Equity	SCB	22.5	26.2	18.4	19.7	-11.9
		PCB	16.4	21	20.9	15.7	10.2
Liquidity position	Liquid Assets	SCB	32.9	25.1	27.2	31.3	29.2
		PCB	20.7	18.2	21.5	23.5	26.3
	Excess Liquidity	SCB	14.9	17.6	8.2	12.3	10.2
		PCB	4.7	5.3	4.6	6.6	9.5

\*Source: Bangladesh Bank web site in 2013, amount is in %.

corporate governance practices.

6. The combination of banking practices and legal inefficiencies with regard to financial issues has put the condition of the banking sector in serious doubt.

7. It is noteworthy that statutory and prudential regulations for good corporate governance have been circulated in the banks. However, widespread misappropriation by the directors of PCBs in taking loans and other illegal benefits from the bank is still prevalent.

8. Illegally opened local back to back L/Cs and provided acceptance to documents raised by different banks in favour of non-existent organization.

The banking sector is now more discreet and vivacious. It is shown that the central bank cannot identify or take action against cheats unless the audit departments convey their findings properly.

## RECOMMENDATIONS

Corporate governance is concerned with the structures and processes associated with, for example, production, decision-making and control within an organisation. Accountability, which is a sub-set of governance, involves the monitoring, evaluation and control of organisational agents to ensure that they behave in the interests of shareholders and other stakeholders (Keasey and Wright, 1993).

Most government accountability methods have been limited to external control methods aimed at securing compliance in the legal, political and hierarchical dimensions (Dicke and Ott, 2002). To ensure accountability and to provide good governance in the banking sector in Bangladesh following proposal can be suggested:

1. It is the time to strengthen the regulatory capacity in order to bring stability in the banking sector by empowering the central bank.
2. It is important to strengthen the risk management policy, making the board of directors free from political influence, providing more autonomy to the central bank and demanded exemplary punishment to the persons responsible for the scam and to take measures to recover the embezzled fund immediately.
3. Fortifying the inspection and audit department and better coordination among audit, inspection and surveillance department of the central bank are required.
4. A separate department to deal with financial crimes is required.
5. The PCBs should not sign the improper internal control and compliance reports before sending it to the Bangladesh Bank.
6. Strengthening the surveillance activities on the boards of directors of the scheduled banks by the Bangladesh Bank is suggested.
7. Targeted reforms in institutions or sectors can begin to provide the internal and external motivation for transparency and accountability that will lead to better corporate governance.
8. To achieve the required level of compliance, the Bangladesh Bank should issue instructive circulars and develop a training module for bank personnel.
9. International Accounting Standard (IAS-30) has to be adopted quickly as completely as possible for better disclosure of information.
10. Monitoring and follow-up of loans should be strengthened and the borrowers should be given early signals before the problem goes out of controls.

These suggestions are made to ensure a sound and sustainable growth of the banking sector of the country. Three essential actions can be taken to improve corporate governance in Bangladesh. First, a high powered committee including members from government, regulatory agencies, companies, and ICAB should write a code for corporate governance in Bangladesh. Second, amendments to existing laws should be adopted to enforce corporate governance norms. Third, academic and professional institutions should include corporate governance principles in their syllabi. In addition, the author encourages institutional investors to exercise their influence and discourage nominee directors from the Government of Bangladesh and financial institutions.

## Conclusion

To move from the agriculture based economy to an industry-based one, Bangladesh needs its banking sector, which is the single largest element of the financial sector, to operate at its best with utmost efficiency. Sound corporate governance remains to be a key requirement for efficient and stable banking system. Better gover-

nance helps lower poverty and improves living standards. Usually SCBs take a more active role in financing the government itself relative to PCBs. Over the last few years the banking sector of Bangladesh has made significant progress with regard to corporate governance indicators. However, a collective performance of the indicators for SCBs and PCBs shows that the performance of the SCBs has been weaker than PCBs. Even though there have been improved performances the SCBs continue to be grappled with problems of inefficiency and solvency. Thus the seemingly good performance does not capture the reality which raises elements of doubts as regards the real health of SCBs. The application of good corporate governance practices to the state owned enterprises could, therefore, have a significant effect on the economy, but at present the concept or practice of corporate governance is almost non-existent in state owned enterprises as well as in private companies. Each corporate governance stakeholder should play an important part to create an environment where transparency and accountability are encouraged, enforced, and rewarded. The report is a diagnostic tool from which a consensus can emerge regarding the way forward for corporate governance in Bangladesh. To make the corporate governance mechanisms work, we need to establish an enabling environment first, and this is only possible through top-level commitment to provide good governance in the corporate level. Equal treatment and rights of all shareholders would bring about much positive disciplinary change in the banks.

## Conflict of Interests

The author has not declared any conflict of interest.

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