Effect of Information Disclosure on Corporate Performance: Evidence from Companies in Pharmaceuticals and Chemicals Industry Sectors of Dhaka Stock Exchange

Khaleda Khatun[*]
Tamanna Tabassum[**]

Abstract: *In this study we examined if level of corporate disclosure (mandatory, voluntary, and combined) has any impact on firms' performance (measured in terms of ROA, ROE and stock return) in case of Bangladeshi listed firms. The data from 15 listed companies of pharmaceuticals and chemicals sectors is used covering study period of 10 years (2009-2018). The dataset is analysed using both descriptive statistics and random effect model following the models used by similar studies in other countries. Beside indices of disclosure, some other control variables like sales growth, age of firm, size of firm, leverage ratio, total asset turnover and industrial category of the firm (pharmaceuticals or chemicals) are used in three different models as proxy for returns. The results indicate that firms with higher level of mandatory or combine disclosure have higher ROE or ROA.*

Keywords: *Leverage Ratio (LR), Mandatory Disclosure (MD), Corporate Performance, Return on Assets (ROA), Return on Equity (ROE), Stock Return (SR), Voluntary disclosure (VD), Weighted Index of Disclosure (WID)*

1. Introduction

It is exceedingly difficult for any general investors (stockholders) to predict manager's (or the controlling shareholders') motivations behind any abusive earnings management that arises due to asymmetry in information. This abusive earning management eventually hurt firm performance and reduce shareholder wealth. To avoid this problem and ensure better protection of the interest of investors, many stock market authorities introduce regulations for mandatory disclosure of different financial and operational information to improve transparency and compliance by listed companies (Elshandidy, Fraser, & Hussainey, 2013). Although several studies are carried out on disclosure in Bangladesh, but most of those papers primarily examined the relationship between disclosure and different compliance issues. However, Akhtar and Rouf while exploring the relationship between corporate governance, cultural factors and voluntary disclosure practices of selected Bangladeshi firms

---

[*] Khaleda Khatun is the corresponding author and Professor, Department of Finance, University of Dhaka, Bangladesh, E-mail: khaleda.khatun@du.ac.bd

[**] Tamanna Tabassum is a former student of Department of Finance, University of Dhaka

found evidence of strong correlations between firm's profitability (ROA) and disclosure levels (Akhtaruddin & Rouf, 2012, p. 56). Our paper exclusively examined the disclosure practices of selected listed Bangladeshi firms and found evidence to support the hypothesis that statistically significant positive correlation exists between performance measured in terms of ROE with disclosure practices of the selected firms.

Researchers observe that firms with higher risk or growth potentials typically are making low levels of mandatory disclosure and create higher level of information asymmetry. Lobo & Zhou (2001) observed that, companies increase their disclosure to mitigate the conflicts between shareholders and managers. Samir et al., (2003) states that there exists positive relationship between company's profitability and level of disclosure. Kusumawati however found that voluntary disclosure affects profitability negatively in case of Indonesian firms (Kusumawati, 2006). On the other hand, mandatory disclosures are influenced positively by firm size, dividend-yield, and board independence and negatively by high leverage (Elshandidy, Fraser, & Hussainey,). They also observed that managers of firms exhibiting greater disclosure compliance with mandatory regulations and have a greater propensity to make voluntary disclosures.

The concept of mandatory disclosure centers around requirement of Institute of Chartered Accountants and that of Bangladesh Securities and Exchange Commission. The voluntary disclosure on the other hand refers to additional information delivered by firms beside the mandatory information. In corporate arena, voluntary disclosure in the annual reports and in other information media has been one of the rapidly growing research areas. In case of Bangladesh, a study on 94 listed companies observed that over 66 percent of these firms comply with the basic mandatory disclosure requirements as required by the regulators (Akhtaruddin, 2005). Voluntary disclosure on the other hand is significantly and positively influenced by the links to institutional or foreign ownership. Large companies and companies with high debt voluntarily disclose more information. In contrast, board leadership structure, liquidity, profitability, and type of external audit firm do not have a significant influence on the level of voluntary disclosure by companies in Kenya (Barako, Hancock, & Izan, 2006).

1.1 Objectives of the Study

This study is an approach to understand the current level of disclosure in corporate annual reports of selected companies listed with Dhaka Stock Exchange (DSE). The objective of this study is to find out the if there exists statistically significant relationship between levels of disclosure and company's performance. Studies in the case of many developed markets as well in some developing markets shows that disclosures practices positively related with the indicators of return of the companies. These results suggest that firms with more disclosure level are having better performance in terms of different indicators of performance in terms of returns. Therefore, the objectives of this paper are:

- To measure the level of disclosure made or published by the companies on their annual report.

- To find out the impact of mandatory and voluntary corporate disclosure on company's performance measured in terms of ROE (Return on Equity), ROA (Return on Assets), and SR (Stock Market Return)

- To find out the extent of impact of various levels of disclosure to the performances of the firms.

Given the core objectives, the structure and the remainder of this paper is as follows. We begin by reviewing the domain of corporate disclosure issues in the light of organizational performance. This domain stretches across a diversity of disclosure issues to construct the role of financial disclosure and organizational performance, both can be complex and multidimensional by reviewing relevant literature on the measures available. Based on these literatures necessary guidance on methodology for linking practices of disclosure with performance is constructed underscoring the importance of the agenda for further research, that seeks to validate these outcomes.

2. Literature Review

Contemporary studies shows that the more disclosures are provided by the firms, investors experience greater benefits through reduction of agency cost, reduced bid-ask equity spreads, higher stock market liquidity, lower variations in stock prices and higher stock returns. A well-regarded disclosure policy reduces information asymmetry and hence increases liquidity in equity markets. According to the Three Factor Model investors perception of risk is one of the three factors determining corporate valuation (Fama & French, 1992). Studies established that, disclosure of required information enhances investor's confidence on the firm's performance, as there is reduced risk of company failure and transparency is satisfactorily ensured, (Ferrell, 2007), (CFA Institute, 2013). However, Singhvi and Desai in an early seventies study argued that while enough disclosure of information reduces ignorance on the stock market as well as for reducing the variations in stock prices of securities (Singhvi & Desai, 1971), to supply information there are cost of gathering, processing, and presenting information, which affect cash flows. This identifies that the degree of disclosure is a function of cost and benefit.

Abu Nassar et al., observed that, a single definition of disclosure is unattainable as it is an abstract concept that is impossible to measure directly (Abu-Nassar & Rutherford, 1995). He added that disclosures do not possess inherent characteristics by which we can define its intensity or quality of it. Additionally, attempts for conceptualizing and measuring disclosure

is not resulted into a universal approach to the researchers. They defined disclosure as a clear way of reporting facts or conditions on the financial statements, including the footnotes, audit reports etc. Accordingly, disclosure can be viewed as a whole array of different forms of information produced by companies.

Al-Zarouni, in his doctoral dissertation observed that the concept of corporate disclosure is not static one and it covers a vast area (Al-Zarouni, 2008). It does not confine itself into the corporate annual reports, rather discussion of competition, analysis of company and economic statistics are also incorporated in it. He defined mandatory disclosure as the company's obligation to disclose at least a minimum set of information in its corporate reports where voluntary disclosure is a provision of additional information in excess of the statutorily required disclosure. If mandatory disclosure does not provide the real condition of firm's value and its manager's performance, voluntary disclosure is a provision to make up the gap.

Financial disclosure has captured more attention to the researchers in recent years. It is extremely critical issues in research for the functioning of capital market and the implications of it in the stocks return of the companies and more importantly to the managers, who are interested to disclose more information on their annual report about the firm to support their position and promotion and to give a positive signal to the investor in the market. According to Sternberg, however the perception has several shortcomings (Sternberg, 1997). Firstly, this does not clarify the type of incentives for making accounting choices. Secondly, it does not necessarily explain all accounting practices, maximum practices remained unexplained. Thirdly, for the implementation of the disclosure or principles of accounting choices are only affected by transactional cost. Finally, she observed that accounting theory only focuses on the supply side of disclosure not the user's perspectives, for which theoretically disclosure failed to be an influential factor for its decision-making usefulness (Sternberg, p. 8).

Cooke (1989) tried to explain the variance in the extent of disclosures by Swedish firms. To capture disclosure scores, he created an index of 224 items encompassing financial history and information, budgetary projections, segmental information .and social responsibility accounting disclosures of a firm. Craig et.al examined on a similar set of disclosures related to financial and social and non-financial aspects of firms in ASEAN region (Craig & Diga, 1998). The study observed that social and non-financial disclosures were superficially disclosed by representative sample of 145 companies chosen from seven industry groups from Thailand, Singapore Malaysia, The Philippines, and Indonesia. They used a disclosure checklist and a model to analyze disclosure practices. The results from the reinforced and extended other international studies of disclosure practices.

Wang et al also scrutinized the relationship between corporate philanthropy and firm financial performance and observed an inverted U-shape which they explained is due to fact

that, companies incur more direct and indirect costs if they disclose more information to the public (Wang, 2008). They found negative linear association between corporate disclosure and firm performance occurs due to costs associated. Though stakeholder theory states that information asymmetry gets reduced with more disclosure, reducing the estimation risk of the distribution of returns accordingly enables companies to reinforce the trust of investors and stakeholders (Gelb, 2001, p. 4). As a result, the firms will achieve resources driven by the stakeholders for example financial capital human capital. Undefined relationship between corporate disclosure and firm performance in prior studies continues to be rich area for future research.

Jiao in a paper found a positive relationship between rankings of disclosure and both stock returns and corporate value of a firm. She used disclosure rankings used in AIMR data base[1] and future earnings surprises with performance indicator measured in Tobin's Q. She found a positive correlation between disclosure ranking and performance (Jiao, 2011). Bushee et al. also observed higher transparency and better corporate performances are positively related (Bushee & Noe, 2000). After analyzing the transparency and disclosure issue in the context of developed market context, we can look at emerging markets. In these markets, the studies found mixed results. Some of the studies found a positive relationship between the information disclosure rankings and stock prices or Tobin's Q (price-to-book ratios), implying that investors prefer firms with higher transparency, whereas some studies found opposing results.

Li et al., in a recent study on Taiwan's Information Disclosure and Transparency Ranking System (IDTRS) observed that the pre-IDTRS performance and post-IDTRS performance of companies are significantly different (Li, Liu, & and Hsu, 2014). The government of Taiwan introduced the system in 2003 to strengthen its corporate governance practices. According to their study, assigning adequate number of rankings systems helped to improve corporate performance they also found positive relationship between disclosure levels and ROA, ROE, and Tobin's Q as measurement of corporate performance. Their study proposes that the policy makers should oblige firms to disclose more information in restraining earning management.

Modugu attempted to find relationship between three types of disclosure practices with two types of performance indicators for the post IFRS adoption period of Nigerian firms (Modugu K. P. 2017). In another study he along with Modugo and Eboigbe, found mixed results regarding the direction and significance of the association between the combined effects of

---

[1] AIMR stands for Association for Investment Management and Research of CFA Institute

profitability and liquidity and the extents of corporate disclosure in annual reports of listed companies in Nigeria. In this paper, they used three indices of disclosure to determine level of disclosure for the two types of disclosure namely mandatory, voluntary and combined the results into the third index. (Modugu & Eboigbe, 2017). They concluded that statistically insignificant positive correlation between profitability (measured in terms of ROA and ROE) with three disclosure indices exist. However, significant positive relationship between liquidity of the firms' stock with the duo of mandatory and combined disclosure indices observed in their findings upon the stocks in Nigeria. Disagreeing with other researchers they proved that improved performance of companies does not necessarily encourage the companies to disclose more and more information.

According to another recent study conducted on Kuwait securities market, evidence for statistically significant linear relationship between aggregate, mandatory and voluntary disclosure and firm performance is not found (Dawd & Charfeddine, 2019). The researchers however, found some form of evidence for nonlinear relationship between the disclosure types and firm performance proxies. A U-shaped behaviour was found which suggests that there is increasing effect of disclosure on firm performance after a certain threshold. The researchers conclude that the firm size does not affect the disclosure practice. Disclosure variables like types of audit, firm's liquidity and leverage are found significant at 5% under all specification with dependent variables ROE at 1% significance.

Nidhi et al. also used similar indices of disclosure for Indian listed companies. They extended the indices further by including additional categories of variables like voluntary total disclosures (VTDX), voluntary financial disclosures (VFNDX) and voluntary non-financial disclosures (VNFDX) by a firm (Nidhi & Verma, 2017). They concluded that correlations between stock returns and corporate disclosure have not been found to be different between manufacturing and non-manufacturing firms. However, when both sectors were taken together correlations between stock returns and VTDX and VNFDX became significantly positive in recent years.

In case of Bangladesh only a few studies were found to have been conducted in the area of links between the Financial Performances and corporate disclosure practices. Most of the available works were focusing on corporate governance and other compliance issues. Karim is one of the pioneering researchers in Bangladesh who examined unweighted index of level of voluntary disclosure of 146 Bangladeshi listed firms. He used 91 voluntary information items and found that the companies disclose an average of 26% of the selected 91 voluntary information items (Karim, 1998). Akhtaruddin conducted several studies on the listed non-

financial companies (Akhtaruddin, 2005), and observed existence of positive and direct relationship between profitability and combined disclosure (Akhtaruddin & Rouf, p. 114). Finally, it can be concluded despite many findings among the researchers, all of them have agreed to the point that corporate disclosure and corporate performance has linkage.

3. Research Method

Based on the above review and observations, the present research is designed to study the relationship between corporate disclosure practices and corporate performance indicators. Our research design contains the following segments:

3.1 Sample Size and Data Collection

To test the impact of corporate disclosure on firm performance, sample of 15 pharmaceutical and chemical companies listed on Dhaka Stock Exchange (DSE) has been chosen. 10 years data is required for the study. Sample of firms was selected based on the availability of their annual reports. A total of 15 listed pharmaceutical and chemical companies having at least 10 years of listing history were selected from the list of companies under the sector. More firms could not be selected due to the constraint of less than 10 years data availability. However, 10 years data for 15 corporation enabled us to gather 150 data period for the study.

3.2 Hypothesis and Expected Results discussion

The question of the relationship between the disclosure level and firm performance is diagnosed in this paper by estimating a multiple regression model. In this study, several proxies of performance have been used and different types of disclosure are considered.

The general specification of the models to be estimated under each hypothesis is given by,

$$\textbf{Performance} = f\left(WDISCLOSU_{it}, FIRM\ Size_{it}, Firm\ Age_{it}, LEVRage_{it}, Total\ Asset\ Turnover_{it}, SGrowth_{it}, IndCategory_{it}\right)$$

Three models are proposed to investigate the Null hypothesis that no significant correlation do exists between corporate disclosure practice and corporate performance as presented here. Moreover, each hypothesis is investigated using three different estimations where the dependent variable - corporate performance, takes one of the three firm performance proxies namely return on assets, return on equity and stock return. The determinant and control variables are same for all models.

3.2 Description of Variables

To investigate the effects of disclosure level on firm performance, three types of performance proxies have been used, return to asset (ROA), return to equity (ROE) and stock return (SR). These three variables are employed as dependent variables for three different models. As independent variables representing disclosure level three disclosure indices were prepared in line with Modugu and Eboigbe methodology (Modugu & Eboigbe, pp. 43-44). We also followed Sharma and Nidhi's work for other controlling variables like the size of the firm, the leverage factor, capital intensity, sales growth and the age of the firm have been used. For better understand the relationship between the disclosure level and firm performance, three types of disclosure have been distinguished:

- Mandatory
- Voluntary
- Combined

3.3 Dependent Variables

In this paper we have constructed 3 initial models for the three-different performance indicators. These performance indicators or the dependent variables to measure of profitability of the firms are namely Return on Assets (ROA), Return on Equity (ROE) and holding period return on stocks return (SR). All these variables are calculated by using required information. Table 3.1 describes the model used to determine impact of disclosure on return.

Like most of the recent empirical studies we have also used book value instead of market value for our model. However, to measure the stock return we had to use market value of the stocks. To calculate stock return we used month end price, cash dividend and stock dividend data for the selected companies. After getting the monthly stock return of the company we converted it to annualized return.

3.3.1 Disclosure Index and Other Independent Variables

In this study the content analysis approach involving the construction of disclosure checklist from a list of annual report items is used. A disclosure index has been developed from the checklist and used for this study, which were used by Cerf in his 1961 book, who as a pioneering researcher, conducted an empirical study on corporate disclosure using a disclosure index (Cerf, 1961). In this study, we also followed approach of Cook (1989), Modugu and Eboigbes (2017), Sultana, et al., (2018) approach to construct our disclosure index. Cooke (1989) developed a disclosure scoring plan to capture the level of disclosure

and used a binary reporting procedure. Accordingly, he assigned to each of the mandatory disclosure items a scores of 'one' if the firm disclosed it otherwise gave a score of 'zero' if not disclosed. Items not mentioned in the annual reports were also presumed as not disclosed and accordingly scored as 'zero'. The ratio of the actual score to total maximum score formed the disclosure index. These indices have been prepared from the information provided in the annual report of each of the selected companies. The present study selected fifteen companies from the Pharmaceuticals and Chemicals Industries Sector of Dhaka Stock Exchange with at least ten years of available data in the form of Annual Report. For other dependent and the control variables as described below, have been selected from the previous literatures including the works of Modugu (2017) and Nidhi et al., (2017) to find out residual relationship between independent and dependent variables.

In determining disclosure score items and weighted disclosure, we applied the most common weighted approaches gathered in the works of Marston and Shrives, where they reviewed a large numbers of similar disclosure indices (Claire L. Marston, 1991) and was used by Cook, (1989) (Modugu K. P., 2017) and Sultana, (2018). The disclosure index used in this study is constructed using the following formula:

Disclosure Index $= \sum_{i}^{n} WD_i = 1 \frac{s_i}{n_i}$

Where; $s_i = \{1$ *if the item was disclosed}, 0, and*

n = total number of items that is being investigated

In the work of Sultana et al. a total of 120 mandatory disclosure items were used. In our study, the total number of items is equal to 155 for the aggregate disclosure, of which, 59 are the mandatory disclosure and 96 are voluntary disclosure.

3.3.2 Other Independent Variables

Disclosures Index as measured for this study is considered subjective variable in nature, which is extracted from contents presented in the annual reports of the firms. To measure it in numerical way, we prepared disclosure index as proxy to know the quality and level of disclosure of the firms. The expected sign for this variable is positive with respect to profitability of the companies as observed in the findings of Bruslerie and Gabteni who conducted extensive studies on French firms after introduction of IFRS disclosure requirements and observed positive relationship between disclosure and performance (Bruslerie & Gabteni, 2014). Samir EL-Gazzar et al., also found similar result in a 2003 working paper published in 2008 (EL-Gazzar, Ornaro, & Jacob, 2008).

The following independent variables were used as control variables to exclude their impacts on dependent variable.

3.3.2.1 Leverage: Financial leverage is negatively associated with return of assets and equity, which shows that firms borrow less, while market-to-book ratio shows positive profitable association with firms. Leverage measures the portion of debt and equity the company uses to finance its assets. Both debt and equity can be used to finance a firm's investments. Therefore, the debt-to-equity ratio is considered negatively related to firms' performance as evidenced in a recent study on Bangladeshi listed securities (Rahman, Sarker, & Uddin, 2019).

3.3.2.2 Capital Intensity and Sales Turnover Ratio: Being more capital intensive may increase business or firm risk since significant fluctuations in an operation's profitability are more likely for highly capital-intensive businesses or firms (Shapiro & Titman, 1986). Consequently, their firm's value will be elevated. It is expected that there will be a negative relation observed for capital intensity represented by Total Asset-Turnover Ratio and performance of the firms.

3.3.2.3 Size of the Firm: Past studies have found the effect of the size of the firm on firm's disclosure practice. Researchers have found that the larger firm are more interested in voluntary disclosure. In a study on large UK companies, Geroski et al., found that there is statistically significant positive relationship between current period of growth rate and long run profitability (Geroski, Machin, & Walters, 1997). We have used natural log of total assets as proxy of firm's size. The expected sign of firm's size with respect to performance is positive.

3.3.2.4 Age of Firm: We expected negative sign of firm's age with respect to performance of the company as evidenced in case of Turkish listed companies (Akben-Selcuk, 2016)**,** where findings suggests that firms tend to perform better as they get older. To find the age of the firm, we used the difference from the current year and year of establishment of the firm. From Bangladesh perspective we expected the age and performance be related positively.

3.3.2.5 Sales Growth: As the firms experience higher turnover over years, the increased revenue results into higher profitability. Such hypothesis is also documented in a recent study (Lazar, 2016). Our study also expects similar result for Bangladeshi firms.

The variables identified in literature review section and further discussed for construction above are summarized in the following table (Table 3.1).

Table 3.1: Selected Variables with their expected Signs in the Models

Variables	Measurement	Expected sign
Disclosure index of the companies (*DISIN*)	Disclosure Index constructed as explained in three forms of disclosure as explained below	+/-
Mandatory Disclosure (WMD)	A score of 1 is assigned if a firm discloses a mandatory item. A score of 0 is assigned if it does not. For each firm, a disclosure index was computed as the ratio of the actual score of firms divided by maximum possible score obtainable	+/–
Voluntary Disclosure (WVD)	A score of 1 if a firm discloses Voluntary item and a score of 0 if it does not. For each firm, a disclosure index was computed as the ratio of the actual score divided by maximum score obtainable	+/–
Combined Disclosure (WCD)	MD +VD	+/–
Return on Asset (ROA)	Net income after tax /Total Assets	N/A
Return on Equity (ROE)	Net income after Tax /Shareholders' Equity	N/A
Stock Return (SR)	Geometric Mean Return (using capital gain, dividend yield and adjustments for stock dividend) -1	N/A
Firm's Size (FS)	Logarithm of the total assets	+
Firm's Age (FG)	Considered Current Year - Year of Incorporation	+
Leverage Ratio (LEVR)	Total debt (liabilities) to Shareholders' equity	–
Capital Intensity (TAT)	Total asset to Sales or Total Asset/Sales	–
Sales Growth (SG)	Sales Growth or changes in sales (Current Sales-Previous Sales)/ Previous Sales	+
Industry Category (*IndCat*)	Industry category, a dummy variable, where pharmaceutical industry =1 and chemical industry =0	+/-

3.4 Econometric Models

The Model 1 considering ROA as performance indicator considered hypothesis to examine whether the disclosure index related with the profitability of the firm and other controlling variables that explain profitability of firm have any significant impact and how much influence on return on asset. Dataset is based on 15 listed pharmaceuticals and chemicals companies having 10 years data.

$$ROA_{it} = \alpha_0 + \beta_1 WD_{it} + \beta_2 FS_{it} + \beta_3 FG_{it} + \beta_4 LEVR_{it} + \beta_5 TAT_{it} + \beta_6 SG_{it} + \beta_7 IndCat_{it} + \epsilon_{it} \dots\dots. (i)$$

Model 1: Testing First Hypothesis

We used the following set of hypotheses to observe if the model's specifications indicate statistically significant results.

$$H_0 = \beta_1 WD_{it} = \beta_2 FS_{it} = \beta_3 FG_{it} = \beta_4 LEVR_{it} = \beta_5 TAT_{it} = \beta_6 SG_{it} = \beta_7 INDCat_{it} = 0$$

$$H_1 = All\ the\ beta\ coefficients\ of\ the\ model\ are\ different\ from\ 0$$

The second model to examine whether the disclosure index related with the profitability of the firm and other controlling variables that explain profitability of firm have impact and how much influence on return on equity. Dataset is based on 15 listed pharmaceuticals and chemicals companies having 10 years data.

$$ROE_{it} = \alpha_0 + \beta_1 WD_{it} + \beta_2 FS_{it} + \beta_3 FG_{it} + \beta_4 LEVR_{it} + \beta_5 TAT_{it} + \beta_6 SG_{it} + \beta_7 IndCat_{it} + \epsilon_{it} \dots\dots. (ii)$$

Model 2: Testing Second Hypothesis

We used the following set of hypotheses to observe if the model's specifications indicate statistically significant results.

$$H_0 = \beta_1 WD_{it} = \beta_2 FS_{it} = \beta_3 FG_{it} = \beta_4 LEVR_{it} = \beta_5 TAT_{it} = \beta_6 SG_{it} = \beta_7 INDCat_{it} = 0$$

$$H_1 = All\ the\ beta\ coefficients\ of\ the\ model\ are\ different\ from\ 0$$

The last hypothesis is to examine whether the disclosure index related with the profitability of the firm and other controlling variables that explain profitability of firm have impact and how much influence on stock return. Data set is based on 15 listed pharmaceuticals and chemicals companies having 10 years data.

$$SR_{it} = \alpha_0 + \beta_1 WD_{it} + \beta_2 FS_{it} + \beta_3 FG_{it} + \beta_4 LEVR_{it} + \beta_5 TAT_{it} + \beta_6\ SG_{it} + \beta_6 SG_{it} \\ + \beta_7 IndCat_{it} + \epsilon_{it} \dots \dots (iii)$$

<div align="center">

Model 3: Testing Third Hypothesis

</div>

We used the following set of hypotheses to observe if the model's specifications indicate statistically significant results.

$H_0 = \beta_1 WD_{it} = \beta_2\beta_3 FG_{it} = \beta_4 LEVR_{it} = \beta_5 TAT_{it} = \beta_6\ SG_{it} = \beta_7 INDCat_{it} = 0$

$H_1 = All\ the\ beta\ coefficients\ of\ the\ model\ are\ different\ from\ 0$

4. Descriptive Statistics on Basic Data Characteristics

Descriptive statistics are short description of a given data set. Descriptive statistics include measures of central tendency like the mean and measures of variability including the standard deviation, the minimum and maximum values etc.

<div align="center">

Table 4: The descriptive statistics of the variables

</div>

	ROA	ROE	SR	WCD	WMD	WVD
Mean	10.5285	.3446	.0413	.5991	.6077	.5855
Sd. Dev.	.1211	1.361	.1293	.0696	.0689	.0797
Median	.0950	.1842	.0121	.5975	.6039	.5798
Min	-.3336	-2.4133	-.1091	.4417	.4276	.4632
Max	.5593	16.1185	.7493	.8017	.7905	.8279
Skewness	1.0723	10.4449	3.6129	.4603	.2002	.7070
Kurtosis	6.9728	122.159	17.9277	3.1430	3.1091	3.0493
	FS	FG	LEVR	TAT	SG	IndCat
Mean	21.0953	26.5000	2.2590	1.1454	2.1042	.5933
Sd. Dev.	2.3016	14.5255	4.3703	.9537	21.004	.4929
Median	21.2469	28	.9147	.8652	.1012	1
Min	14.1247	7	0	.0518	.9991	0
Max	24.6847	69	36.4896	5.9322	255.9341	1
Skewness	-1.0158	.9129	4.9253	2.2558	11.8938	-.3800
Kurtosis	4.0911	3.7978	32.9697	10.1882	144.1183	1.1444

The table 4.1 describes the key statistics for the selective variables for the sample companies in terms of their performance proxies (ROA, ROE and SR) along with other independent

variables (CD, MD, VD, FS, FG, LEVR, TAT, SG and IndCat) for the sample period. There exists noticeable difference between the mean and median for all performance indicators (ROA, ROE and SR), and for independent variables LEVR and SG. This indicates there is existence of some extreme values in Return on Assets, Return on Equity, Leverage Ratio and sales growth data. From the tables it is observed that the variability of data (standard deviation) of the variables is significant for ROA, FS and FG. The skewness and kurtosis statistics of the calculated values are also far from the standard values of the normal distributions.

4.1 Correlation Between Variables

A linear correlation coefficient is used to investigate the degree of association between variables. The Table 4.2 below shows a matrix of the estimated pair-wise correlation coefficient between all variables. The correlation matrix clearly identifies that other than the weighted disclosure indices (CD, MD and VD) which are inter dependent by construction, other variables do not show statistically significant high level of association or influence upon each other.

Table 4.1: The Correlation Matrix for Selected Variables

	ROA	ROE	SR	CD	FS	FG
ROA	1.0000					
ROE	0.3895	1.0000				
SR	-0.0324	0.0095	1.0000			
CD (Disc)	0.1416	0.0714	0.0772	1.0000		
FS (size)	0.1013	0.0136	- 0.0379	0.1316	1.0000	
FG (age)	0.0711	0.0050	-0.0270	0.7574	0.2188	1.0000
LEVR (leverage)	-0.0262	0.6477	-0.0312	-0.0093	-0.1316	-0.0226
TAT (Asst TO)	.3739	0.0842	-0.1012	-0.0328	-0.3125	-0.0124
SG (sale growth)	0.1118	-0.0022	-0.0445	-0.0834	-0.0299	-0.1068
IndCat	-0.0906	-0.1333	0.0128	0.0316	0.0390	0.2789
	LEVR	**TAT**	**SG**	**IndCat**		
LEVR	1.0000					
TAT	0.0962	1.0000				
SG	-0.0007	0.1634	1.0000			
IndCat	-0.1873	0.0225	-0.1051	1.0000		

Therefore, it can be concluded that no significant multicollinearity issue affected our model outcome. Further, it is also observed that, most of the correlation coefficients are significantly different from zero except for the correlations between Age of Firm and ROE, Leverage

Ratio and Combined Disclosure, Sales Growth and Return on Equity, and Sales Growth and leverage. This also signifies that, performance of selected Bangladeshi firms for the study do not indicate strong relationship as can are observed in studies on other economies and market environment.

4.2 Unit Root Test and Hausman Test

Unit Root Test enables testing of the dataset for conformity for regression models consistency. If the variables of a dataset have any unit root it does not confirm the regression assumption for randomness and equilibrium. We can only use the dataset when the first difference of the variables of dataset results in stationary. Here among different methods, we used the Hadri's (2000) Lagrange Multiplier (LM) test to understand the data.

We have applied the following hypothesis for testing unit root.

H_0: All panels are stationary.

H_1: Some panel contain unit roots

When P<0.05, reject null hypothesis and accept alternative hypothesis and when P>0.05, cannot reject null hypothesis and accept null hypothesis.

Table 4.2: Results from unit root test

Variables	Condition	Z	P-Value	Comment
ROA	Level	4.7512	0.0000	Panels contain Unit Roots
	First Difference	-2.4775	0.9934	Panels are Stationary
ROE	Level	-1.6194	0.9473	Panels are Stationary
	First Difference	-2.6676	0.9962	Panels are Stationary
S R	Level	0.2185	0.4135	Panels are Stationary
	First Difference	-2.3874	0.9915	Panels are Stationary
WCD	Level	15.3445	0.0000	Panels contain Unit Roots
	First Difference	6.6100	0.1312	Panels are Stationary
FS	Level	14.7758	0.0000	Panels contain Unit Roots
	First Difference	-2.1188	0.9829	Panels are Stationary
FG	Level	2.2164	.0133	Panels contain Unit Roots
	First Difference	2.8092	.0025	Panels are Stationary
LEVR	Level	2.3981	.0082	Panels contain Unit Roots
	First Difference	-2.1042	.9823	Panels are Stationary
TAT	Level	8.7634	0.0000	Panels contain Unit Roots
	First Difference	-1.6020	0.9454	Panels are Stationary
SG	Level	3.0976	0.0010	Panels contain Unit Roots
	First Difference	2.9329	0.0017	Panels are Stationary

As the Table 4.3 above reveals, ROA, CD, FS, FG, LEVR, and SG variables contain unit root at level, but Stationary at first difference. The initial regression models were modified to ensure these characteristics for robust outcome.

There are several models to run regression. To decide which model is appropriate for this analysis Hausman Test is performed. According to Hausman test

$H_0 = Random\ Effect\ Model\ is\ Appropriate$
$H_1 = Fixed\ Effect\ Model\ is\ Appropriate$

If p>0.05, we should accept null hypothesis that Random Effect Model should be applied otherwise if p<0.05, we should reject null hypothesis and accept alternative that means Fixed Effect Model should be applied.

After performing Hausman Test for three dependent variables, the results are as below.

Table 4.3: Results from Hausman Test

Dependent Variable	Prob>chi2	Comment
ROA	0.1450	Random Effect Model
ROE	0.0000	Fixed Effect Model
SR	0.1924	Random Effect Model

As the Hausman Test result shows, we applied Random Effect Model for all the variables, although ROE indicates that Fixed Effect Model could be used for this variable.

4.3 Result Discussion

The results of model run and testing the hypothesis show the following outcome on the indicators of firm performance caused by different disclosure indices and other variables has. The following tables (Tables 4.5.1, show the regression results of the effect of corporate disclosure, measured in terms of weighted disclosure indices, on firm performance. As can be observed, three performance indicators (ROA, ROE and SR) were regressed on disclosure indices along with other independent variables.

4.3.1 Results Considering Combined Disclosure Index

The model output for three performance indicators ROA, ROE and SR are shown below with significance of the model indicated by R^2 - the measure indicating portion of variance of explained by a model for each performance indicators through the model's determinant variables. It is considered one of important parameter to understand effectiveness of the

model. Further the 'Chi-Square' (χ^2) or goodness of fit test determines how well theoretical distribution fits the empirical distribution. The probability of the F ratio for individual coefficients explain if the standard error estimation for the coefficient is significantly high or not. High standard error makes the estimation statistically not significant estimator.

Model Output: Equation 1

$$ROA_{it} = -.3561 + .5312\,WCDit + .00362\,FS_{it} - .00066\,FG + .00607\,LEVR_{it} + .0566\,TAT_{it} + 0.00035\,SG_{it} + .0084\,IndCat_{it} + \epsilon_{it} \dots\dots (i)$$

$$ROE_{it} = -3.5579 + 3.3846\,WCDit + .07676\,FS_{it} - .01358\,FG_{it} + .2098\,LEVR_{it} + .0916\,TAT_{it} - .00496\,SG_{it} + .06366\,IndCat_{it} + \epsilon_{it} \dots\dots (ii)$$

$$SR_{it} = -.09772 + .45686\,WCD_{it} - .00349\,FS_{it} - .001984\,FG_{it} - .0056\,LEVR_{it} - .0150\,TAT_{it} + .00020\,SG_{it} - .17276\,IndCat_{it} + \epsilon_{it} \dots\dots (iii)$$

The summary of the statistical significance of individual coefficients and overall regression output in terms of the p-values of all the variables from the model on combined disclosure model are shown in Table 4.5.1. The table also shows the R-square for ROE based model indicating degree of variance explained by the independent variables upon dependent variable – here firm performance. The table reveals that, most of the variables are indicating desired signs for this model. The ROA based model shows significant positive relationship between combined discloser (WCD) performance, while ROE based performance is also somehow statistically associated with combined disclosure index.

Table 4.3.1: Relationship between Combined Disclosure and Companies' Profitability

Variables and Test Statistics	ROA	ROE	SR
WCD	0.5312 (0.030) **	3.385 (0.091) *	0.4569 (0.062) *
FS	0.0036 (0.668)	0.0768 (0.067) *	-0.0035 (0.489)
FG	-.00066 (0.729)	-.0136 (0.186)	-.00198 (0.112)
Lever	0.00607 (0.005) ***	0.2098 (0.000) ***	-0.00057 (0.822)
TAT	.0566 (0.000) ***	0.0916 (0.347)	-0.0150 (0.209)
SG	0.000347 (0.328)	-0.00049 (0.905)	-0.0002 (0.770)
IndCat	0.0084 (0.847)	0.0637 (0.750)	0.0173 (0.472)
Intercept	-.3561 (0.086) *	-3.5579 (0.013) **	-0.0977 (0.0574) *

R- Square	0.0920	0.6400	0.0175
Chi Square	37.90	114.26	6.09
Prob>Chi-Square	*0.000****	*0.0000****	*0.5295*

Notes: * Indicates the test statistics is significant at 10% level,
** Indicates the test statistics is significant at 5% level and
*** Indicates the test statistics is significant at 1% level

For the combined disclosure model, it is observed that the coefficient of determination (R^2) is 0.09 for ROA, 0.64 for ROE and 0.018 for SR. These values suggest that the model taking ROE as the performance indicator explains 64% of systematic variations after controlling for relevant degrees of freedom. The probability of Chi-square is also less than 0.05 for both ROA and ROE based performance indicators but not significant for SR. For individual variables, it is observed that CD is significant at 5% while LEVR and TAT at 1% level. For ROA similar variables are found statistically significantly related.

4.3.2 Results Considering Mandatory Disclosure Index

The summary of model output using Mandatory Disclosure Index as given as under:

Model Output: Equation 2

$$ROA_{it} = -.4041 + .5895\,WMD_{it} - .00443\,FS_{it} - .00081\,FG_{it} + .0066\,LEVR_{it} - .05581\,TAT_{it}$$
$$ + 0.00041\,SG_{it} + .0046\,IndCat_{it} + \epsilon_{it} \ldots \ldots (i)$$

$$ROE_{it} = -4.0902 + 4.307\,WMD_{it} + .0767\,FS_{it} - .0162\,FG_{it} + .2163\,LEVR_{it} + .0871\,TAT_{it}$$
$$ - 0.00016\,SG_{it} + .0657\,IndCat_{it} + \epsilon_{it} \ldots \ldots (i) \ldots (ii)$$

$$SR_{it} = -.0482 + .3627\,WMD_{it} - .0038\,FS_{it} - .0015\,FG_{it} - .0001\,LEVR_{it} - .01581\,TAT_{it}$$
$$ - 0.00013\,SG_{it} + .0126\,IndCat_{it} + \epsilon_{it} \ldots \ldots (iii)$$

The F-test for the model is critical to understand the model significance. F-value in one-way ANOVA helps identifying statistical significance of the two populations' variance between the means. The F statistics in the ANOVA test also determines the p value; - the probability of getting a result being observed - justifying the null hypothesis is true. Table 4.5.2: shows the p-value relationship between mandatory disclosure and companies' profitability.

Table 4.3.2: Model output on Relationship between Mandatory

Disclosure Index and Companies' Profitability

Independent Variables	ROA	ROE	SR
MD	0.5895 *(0.009)* ***	4.3071 *(0.024)* **	0.3628 *(0.125)*
FS	0.0043	0.0768	-0.0038

Independent Variables	ROA	ROE	SR
	(0.606)	*(0.064) **	*(0.456)*
FG	-0.0008	-0.0162	-0.0015
	(0.647)	*(0.092) **	*(0.197)*
LEVR	0.0066	0.2164	-0.0001
	(0.003) ***	*(0.000) ****	*(0.975)*
TAT	0.0558	*0.0871*	-0.0158
	(0.000) ***	*(0.367)*	*(0.188)*
SG	0.0004	-0.0001	-0.0001
	(0.245)	*(0.978)*	*(0.805)*
IndCat	0.0046	0.0657	0.0126
	(0.913)	*(0.736)*	*(0.596)*
Intercept	-0.4041	-4.0903	-0.0482
	(0.048) **	*(0.003) ****	*(0.779)*
R- Square	0.1230	0.6437	0.0156
Chi Square	40.56	118.2	4.95
p>Chi Square	*0.000****	*0.000****	*0.6661*

Notes: * Indicates the test statistics is significant at 10% level,
      ** Indicates the test statistics is significant at 5% level and
      *** Indicates the test statistics is significant at 1% level			

In the above table (Table 4.5.2) the R^2 for the Equation 2 based on different performance indicators show that, it is 0.123 for ROA, 0.643 for ROE and 0.0156 for Stock Return based model. Therefore, in case of ROA, around 12% variation of ROA is explained by independent variable and in case of ROE, around 64% variation of ROE is explained by independent variable while that for SR is less than 2%. The probability for F statistics is less than .05 in case of ROA and ROE and therefore, as per model hypothesis, these models are acceptable at 5% and 1% respectively.

In case of ROA, the Weighted Index of Mandatory Disclosure, leverage ratio (LEVR) and capital intensity (TAT) are significant variable. For ROE, Indicator of Mandatory Disclosure Index, firm size (FS), firm age (FG), and leverage ratio (LEVR) are found significant. For stock return none of the variables was found significant.

In equation 1, the disclosure index and leverage ratio show positive relationship as per estimation and significant at 1% level of significance, but size and capital intensity became negatively related. In equation 2 all the variables provided the expected sign as described in Table 4.5.2.

4.3.3 Results Considering Voluntary Disclosure Index

In equation 3, age of firm, leverage ratio and disclosure agreed to the estimated sign, but size, sales growth and capital intensity did not agree. None of these were significant at any level.

4.3.4 Results Considering Voluntary Disclosure Index as Independent Variable

Model Output: Equation 3

$$ROA_{it} = -.1873 + .1732WVD_{it} + .0041\,FS_{it} + .0012\,FG_{it} + .0052LEVR_{it} + .05431\,TAT_{it} \\ + 0.0003\,SG_{it} - .0009IndCat_{it} + \epsilon_{it} \ldots\ldots(i)$$

$$ROE_{it} = -2.1844 + .9028WVD_{it} + .0733FS_{it} - .0041 + .2053LEVR_{it} + .0881\,TAT_{it} \\ - 0.00074SG_{it} - .0030IndCat_{it} + \epsilon_{it} \ldots\ldots(ii)$$

$$SR_{it} = -.0527 + .3789WVD_{it} - .0033FS_{it} - .0018FG_{it} - .0015LEVR_{it} - .0142TAT_{it} \\ - 0.0002\,SG_{it} + .0183IndCat_{it} + \epsilon_{it} \ldots\ldots(iii)$$

The p-values from the model output are shown in Table 4.5.3.

Table 4.3.4: Relationship between Voluntary Disclosure and Profitability

Independent Variables	ROA	ROE	Stock Return
WVD	0.1732 (0.379)	09027 (0.586)	.3789 (0.061) *
FS	0.0041 (0.638)	0.0733 (0.081) *	-.0033 (0.507)
FG	0.0012 (.521)	-.0041 (0.675)	-.0018 (0.123)
LEVR	.0052 (0.015) **	.2053 (0.000) ***	-.0015 (0.555)
TAT	.0540 (0.000) ***	0.0881 (0.370)	-.0142 (0.236)
SG	0.0003 (0.459)	-0.0007 (0.859)	-.0002 (0.701)
IndCat	-.0009	-.0030	0.0183

Independent Variables	ROA	ROE	Stock Return
	(0.989)	*(0.988)*	*(0.448)*
Intercept	-0.1873	-2.1843	-.0527
	(0.342)	*(0.089)**	*(0.735)*
R- Square	0.0758	0.6174	0.0151
Chi Square	33.27	109.54	6.12
p>Chi Square	*0.000****	*0.000****	*0.5254*

Notes: * Indicates the test statistics is significant at 10% level,
** Indicates the test statistics is significant at 5% level and
*** Indicates the test statistics is significant at 1% level

In the above table (Table 4.5.3) this can be noticed that R^2 are 0.0758 for ROA, 0.6174 for ROE and 0.0151 for Stock Return. Therefore, the ROE based model explains around 62% variation by independent variables. The probability of Chi-square or *p* statistics is less than .05 in case of ROA and ROE and the models are accepted at 5% and at 1% respectively.

In case of ROA leverage ratio and capital intensity are significant variables. For ROE, leverage ratio and firm size are statistically significant. For stock return none of the independent variables was found as significant variable.

5. Summary of Findings and Conclusions

The study observed that disclosure practice of firms along with some firm characteristics like, leverage, capital intensity, firm's age (or maturity) and firm size measured in terms of asset influence the profitability in case of randomly selected pharmaceutical and chemical companies listed in Bangladesh. It is observed that, for the selected firms there exists statistically significant influence with mandatory and combined disclosure practices upon ROA and ROEs of the firms. However, we did not find such strong relationship with level of voluntary disclosure for ROA and ROE which can also be observed in a study on listed firms in Kuwait (Dawd & Charfeddine, 2019). Our study found some positive relationship between stock market return and level of voluntary disclosure (only at 10% level of significance). This finding is consistent with one of the hypotheses of our study and is also consistent with the findings observed in case of studies on Nigeria (Modugu K. P., 2017), Taiwan (Li, Liu, & and Hsu, 2014), and different US firms (Ferrell, 2007), and some ASEAN market studies (Jiao, 2011). However, our findings show some difference with the findings in one Indian study, where no statistically significant relationship was found between voluntary disclosure and firm performance (Nidhi & Verma, 2017) and is in complete contrast to the findings of another study conducted on Indonesian market (Kusumawati, 2006). Therefore, we can conclude that, Bangladeshi listed companies with improve level of disclosure are better

corporate performers. This can be considered as a major finding of our study as, capital market reacts positively to better corporate disclosure and hence firms should be encouraged to adopt the practice of more disclosure beyond their mandatory disclosure obligations (Singhvi & Desai, 1971). Since this is the first known empirical work on relationship between corporate earnings and disclosure practice in Bangladesh, further studies involving larger sample size can explore if such findings are similar across the industry as in this study. Given the findings we can conclude that the listed companies can be encouraged to improve their voluntary disclosure practice, which will enhance their transparency and operational efficiency and thus performance in the long run.

References

Abu-Nassar, M. & Rutherford, B. (1995). Preparers' attitude to financial reporting in less developed countries with moderately sophisticated capital markets: The case of Jordan. *International Journal of Accounting, 30*, 129-138.

Akben-Selcuk, E. (2016). Does Firm Age Affect Profitability? Evidence from Turkey. *International Journal of Economic Sciences, 3*, 1-9.

Akhtaruddin, M. (2005). Corporate manadatory disclosure practices in Bangladesh. *International Journal of Accounting, 40*(4), 399-422.

Akhtaruddin, M. & Rouf, A. (2012). Corporate governance, cultural factors and voluntary disclosure, evidence from selected companies in Bangladesh. *Corporate Board: Role, Duties & Composition, 8*(1), 46-58. Retrieved from https://www.virtusinterpress.org/-Corporate-Board-Role-Duties-and-Composition-.html

Al-Zarouni, A. (2008). Corporate Disclosure in Emerging Markets: the Case of the UAE. *Doctoral Dissertation submitted to Griffith University,* UK (unpublished). Griffith.

Baltagi, B. H. (2005). *Econometric Analysis of Panel Data (3rd ed).* West Sussex: John Wiley and Sons.

Barako, D. G., Hancock, P. & Izan, H. Y. (2006). Factors influencing voluntary disclosure by Kenyan companies. *Corporate Governance, 14*(2), 107-125.

Bruslerie, H. d. & Gabteni, H. (2014). Voluntary disclosure of financial information by French firms: Does the introduction of IFRS matter? *Advances in Accounting, 30*(2), 367-380.

Bushee, B. J. & Noe, C. F. (2000). Corporate disclosure practices, institutional investors and stock return volatility. *Journal of Accounting Research, 37*, 171-202.

Cerf, A. R. (1961). *Corporate Reporting and Investment Decisions.* Barkley: Public Accounting Research Program, Institute of Business and Economic Research, University of California. Retrieved from https://www.coursehero.com/file/p1dac9m/Cerf-A-R-1961-Corporate-Reporting-and-Investment-Decisions-University-of/

CFA Institute. (2013). *Financial Reporting Disclosure.* Retrieved from cfainstitute.org: https://www.cfainstitute.org/-/media/documents/article/position-paper/financial-reporting-disclosures-investor-perspectives-on-transparency-trust-volume.ashx

Claire L. Marston, P. J. (1991). The use of disclosure indices in accounting research: A review article. *The British Accounting Review, 23*(2), 195-210.

Cook, T. (1989, June). Voluntary Corporate Disclosure by Swedish Companies. *Journal of Interntional Finance and Accounting, 1*(2), 171-195.

Craig, R. & Diga, J. (1998). Corporate Accounting Disclosure in ASEAN. *Journal of International Financial Management and Accounting, 9*(3), 246-274.

Dawd, I. & Charfeddine, L. (2019). Effect of aggregate, mandatory and voluntary disclosure on firm performance in developing market: the case of Kuwait. *International Journal of Accounting, Auditing and Performance Evaluation, 15*(1), 31-56.

EL-Gazzar, S. M., Ornaro, J. M., & Jacob, R. A. (2008). An Examination of the Determinants and Contents of Corporate Voluntary Disclosure of Management's Responsibilities for Financial Reporting. *Journal of Accounting, Auditing and Finance, 23*(1), 95-114.

Elshandidy, T., Fraser, I. & Hussainey, K. (2013, December). Aggregated, voluntary, and mandatory risk disclosure incentives: Evidence from UK FTSE all-share companies. *International Review of Financial Analysis*, 320-333.

Fama, E. F. & French, K. R. (1992). The Cross Section of Expected Stock Returns. *The Journal of Finance, 47*(2), 427-439.

Ferrell, A. (2007). Mandatory Disclosure and Stock returns - Evidence from the Over-the-Counter Market. *Journal of Legal Studies, 43*(2), 213-251.

Gelb, D. a. (2001). Corporate Social Responsibility and Financial Disclosure: An Alternative Explanation for Increased Disclosure. *Journal of Business Ethics, 33*, 1-13.

Geroski, P. A., Machin, S. J. & Walters, C. F. (1997). Corporate Growth and Profitability. *The Journal of Industrial Economics, 45*(2), 171-189.

Jensen, M. &. (1984). The Theory of Corporate Finance: A Historical Overview. In M. &. Jensen, *The Modern Theory of Corporate Finance (edt)* (pp. 2-20). New York: McGraw-Hill Inc.

Jiao, Y. (2011). Corporate disclosure, market valuation and firm performance. *Finance Management, 40*(3), 647-676.

Karim, A. (1998). Financial Reporting in Bangladesh: The Regulatory Framework. *Journal of Business Administration, 1*(2), 57-88.

Kusumawati, D. (2006, December). Profitability and corporate governance disclosure: an Indonesian study. *Simposium Nasional Akuntansi Padahg,* 23-26 Augusts (pp. 1-19). Jakarta: SSRN.

Lazar, S. (2016). Determinants of Firm Performance: Evidence from Romanian Listed Companies. *Review of Economic and Business Studies, 9*(1), 53-69.

Li, Y.-Y., Liu, Y.-C. A. & and Hsu, A.-C. (2014). The Effect of Information Disclosure on Corporate Performance: The Case of Taiwan. *Information Technology Journal, 13*(1), pp. 2079 - 2089.

Modugu, K. P. (2017). Firm Performance and Corporate Disclosure Level of Listed Companies in Nigeria. *Asian Journal of Finance & Accounting, 9*(2), 71-87.

Modugu, K. P. & Eboigbe, S. U. (2017). Corporate Attributes and Corporate Disclosure Level of Listed Companies in Nigeria: A Post-IFRS Adoption Study. *Journal of Finance and Accounting, 5*(2), 44-52.

Nidhi, S. S. & Verma, A. (2017). Corporate Disclosures and Financial Performance of Selected Indian Manufacturing and Non- Manufacturing Companies. *Accounting and Finance Research, 6*(1), 119-132.

Rahman, M., Sarker, M. & Uddin, M. (2019). The Impact of Capital Structure on the Profitability of Publicly Traded Manufacturing Firms in Bangladesh. *Journal of Applied Economics and Finance, 6*(2), 1-5.

Shapiro, A. & Titman, S. (1986). An Integrated Approach to Corporate Risk Management. In J. Stern, & D. Chew, *The Revolution in Corporate Finance (Eds.)* (pp. 215-229). Oxford: Blackwell Publishers Ltd.

Singhvi, S. S. & Desai, H. V. (1971). An empirical analysis learning of the quality of corporate financial disclosure. *Accounting Review, 46*, 129-138.

Sternberg, E. (1997). The Defects of Stakeholder Theory. *Corporate Governance: An International Review, 5*(1), 4-10.

Sultana, N. M. (2018). Disclosure Practices by Financial Sector Companies-Evidence from Bangladeshi Listed Companies. *Dhaka University Journal of Business Studies: Special International Edition, 3*(2), 1-32.

Wang, H. C. (2008). To little or too much? Untangling the relationship between corporate philanthropy and firm financial performance. *Organization Science, 19*(1), 142-159.

Wilner, B. (2000). The exploitation of relationships in financial distress: The case of trade credit', *Journal of Finance, 55*(1), 153-163.