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# Ownership Structure and Firm Performance: Evidence from Pharmaceutical and Chemical Industry of Bangladesh

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## Abstract

**Purpose:** The main purpose of this study is to find out the impact of ownership structure on firm performance in the pharmaceutical and chemical industry of Bangladesh. **Research design, data and methodology:** The study has been conducted on 28 listed pharmaceutical and chemical companies from 2012 to 2020. Return on Assets (ROA) and Tobin's Q are selected as indicators of internal and market performance of the firms respectively whereas institutional ownership, directors' ownership and foreign ownership are selected as proxies of ownership structure. Panel analysis using random effects, lag method and time dummy method is used to analyse the relationship. **Results:** The study has found the existence of highly concentrated directors' ownership, a low percentage of institutional ownership and a very insignificant proportion of foreign ownership in the industry. The regression results show that directors' ownership has a positive and significant impact on firm performance, supporting the concept of agency theory. The study has also found a positive and significant impact of foreign ownership on firm performance. Unfortunately, the impact of institutional ownership is found to be insignificant. **Conclusions:** Directors' ownership and foreign ownership decreases agency cost that ultimately increases firm performance. However, the role of institutional investors is not significant enough to improve firm performance. It is suggested that institutional investors should be more active and involved in monitoring the activities of the organisations to improve performance.

**Keywords :** Corporate Governance, Ownership Structure, Firm Performance, Institutional Ownership, Directors' Ownership, Foreign Ownership.

**JEL Classification Code:** G23, G32, G34.

## 1. Introduction

Corporate governance is viewed as a very important medium for understanding the characteristics of an organisation. One of the main reasons behind the growing number of corporate scandals in recent years is the failure of corporate governance mechanisms in the companies. Because of the separation of management from ownership,

opportunities arise for the managers to trail their own interests by ignoring the interests of the owners. However, hostile takeover, debt market, and managerial labour market, among others, can restrain management from taking such opportunities. A group of powerful shareholders, for the sake of protecting their investment, can effectively prohibit management from their self-serving activities. The degree of their monitoring of the management depends on the

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extent of their interest in the organisation and their effectiveness in monitoring the management (Douma et al., 2003). Investors owning a larger portion of shares tend to be more active in monitoring the management as compared to those owing a minor portion of shares. Thus, the ownership structure is regarded as an important part of corporate governance.

Many studies conducted to analyse the impact of ownership structure have found a significant influence of institutional, managerial and foreign ownership on the performance of the firm. Most of these studies have been conducted in developed countries characterised by strong corporate governance, diffused ownership and efficient capital market. However, in most of the developing countries, the scenario is different. Dominance of family ownership, existence of insufficient or weak institutional shareholders and ineffectiveness of corporate governance structure have created a more complex environment in these countries. Due to these dissimilarities, ownership structure of the developing countries may not have a similar impact on firm performance.

The main purpose of this study is to analyse the effects of ownership structure on firm performance in the pharmaceutical and chemical industry of Bangladesh. The study explores the impact of institutional ownership, directors' ownership and foreign ownership on two performance indicators: ROA and Tobin's Q. Leverage, firm size and firm age are considered as the control variables in the study. The reason why government ownership was not considered is that only a few firms had government ownership and the percentage was very insignificant.

The pharmaceutical and chemical industry is one of the most important industries in Bangladesh. Almost 97 percent requirement of the local market is met by this industry. Although pharmaceutical companies and chemical companies form different industries, the Dhaka Stock Exchange (DSE) has categorized these companies under one industry. The Directorate General of Drug Administration (DGDA) and The Pharmacy Council of Bangladesh (PCB) are the two regulators of pharmaceutical companies whereas Bangladesh Chemical Industries Corporation (BCIC) is the regulator of chemical companies. According to the Export Promotion Bureau of Bangladesh (EPB), this industry has earned almost \$169 million from export in the fiscal year of 2020-21. Considering its importance in the national economy of Bangladesh, the author has chosen the pharmaceutical and chemical industry as the sample industry for the study.

This study will have its contribution to the field of literature in many ways. Although there exist some prior researches regarding this area in Bangladesh, no study was conducted exclusively in the pharmaceutical and chemical industry to the best knowledge of the authors. Lima and Hossain (2018)

conducted a similar study on both textile and pharmaceutical industries but the study focused only on managerial ownership. The studies of both Imam and Malik (2007) and, Farooque et al. (2007) considered all listed companies of Dhaka Stock Exchange (DSE) in their study. So, this study will provide an insight into the impact of ownership structure in this specific industry and fill up the gaps in the existing research.

The rest of the study is organized as follows: Section 2 describes the theoretical framework. Section 3 comprises of literature review and hypotheses development for the variables used in the study. Section 4 describes the research methods: sample size, data collection and the research models used. Section 5 describes the results of descriptive statistics, bivariate analysis and multivariate analysis. Finally, Section 6 draws a conclusion of the overall study.

## 2. Theoretical Framework

Agency theory is perhaps the most relatable theory in terms of explaining the affiliation between ownership structure and performance of the firm. According to this theory, the separation of management from ownership can result in agency costs as management may overlook owners' interest for obtaining their interest (Jensen & Meckling, 1976). According to their study, this agency cost can be reduced by increasing managerial ownership. Besides, large outside shareholders like institutional shareholders can play a crucial role in effectively monitoring the management to increase firm performance (Shleifer & Vishny, 1986). Alternatively, firms with high ownership concentration can often lead to the extraction of the resources of the firm by the dominant owners at the price of minor ones (Bebchuk, 1999).

Another important and relatable theory is the stewardship theory. Introduced by Davis et al. (1997), this theory proposes that management, when separated from ownership, will act in a pro-organized manner rather than in an individualistic manner. This is the opposite of agency theory. This theory assumes directors and managers as stewards of the organisation. They will try to protect and enhance their reputation in the market. In order to do so, they will operate the organisation in such a way that will maximize firm performance and returns to the shareholders. It is because the performance of the firm directly implies the ability of the management in operating the organisation (Bathula, 2008).

### 3. Literature Review and Hypothesis Development

#### 3.1. Institutional Ownership

In general, banking and non-banking financial institutions are the institutional owners of a firm. These institutional owners own a huge number of shares and thus, have more influence in the firm (Alam & Masoom, 2016). Unlike individual owners, institutional owners can monitor the management more effectively and prohibit the management from any kind of opportunistic behaviour (Rahman, 2016). According to Healy (2003), increased institutional ownership implies effective monitoring that can lead to increased performance by the firms. Increased block holders' ownership helps in mitigating the agency problem of an organisation and increasing performance (Hartzell & Starks, 2003). Davis and Steil (2001) found that institutional investors are more effective in absorbing and processing information, leading to lower information asymmetry and higher monitoring. Besides, institutional investors are more eager to see their firms do well as they put a lot of money and exhibit a strong fiduciary relationship (Chung & Zhang, 2011). Some other previous studies have also found a positive and significant association between institutional ownership and performance of the firm (Kao et al., 2019; Ahmed & Hadi, 2017; Aggarwal et al., 2011; Connelly et al., 2010). Based on the previous findings, the following hypothesis is drawn:

**H1:** *Ceteris paribus*, there is a positive association between institutional ownership and firm performance.

#### 3.2. Directors' Ownership

Different studies have found that board members owning shares of a firm are more active regarding corporate decisions and try to monitor the management more efficiently for reducing the agency cost of the firm. Increased director ownership implies increased interest of the directors in the firm. Although studies conducted by Berle and Means (1932), and Fama and Jensen (1983) suggested that diffused ownership will enhance professionalism and improve the proficiency of management, Jensen and Meckling (1976) opposed this view. According to their study, there will be a conflict of interest if ownership is separated and this conflict can be solved by increasing the ownership of the agents. According to Masum and Khan (2019), increased ownership of the directors will support in the alignment of interest between stockholders and management. Besides, other studies have also found a positive relationship between directors' ownership and firm performance (Kao et al., 2019; Alabdullah, 2018; Vu et al., 2018; Lima & Hossain, 2018;

Abbas et al., 2013; Fauzi & Locke, 2012; Hayes et al., 2004). Based on the above discussion, the following hypothesis can be drawn:

**H2:** *Ceteris paribus*, there is a positive association between directors' ownership and firm performance.

#### 3.3. Foreign Ownership

Most of the previous works have found a positive association between foreign ownership and firm performance. Foreign investors tend to invest in firms with a good governance structure that ultimately leads to enhanced performance of the firms (Imam & Malik, 2007). The reputation and value of a firm are enhanced by foreign ownership (Yilmaz & Buyuklu, 2016). According to Stulz (1999), foreign investors are more experienced monitors as they deal with mitigating agency problems and restricting managerial opportunism in different national and cultural settings. And the monitoring and control by experienced investors can help firms to access better managerial and technical talents and get many investment benefits from the government (Lau & Tong, 2008). Previous studies have also found a positive and significant association between foreign ownership and firm performance (Kao et al., 2019; Abdallah & Ismail, 2017; Musallam, 2015; Jalila & Devi, 2012). In Bangladesh, the amount of investment by foreigners is very low. So there remains doubt regarding how much foreign investors can affect firm performance. However, based on the findings of previous studies, the following hypothesis can be drawn:

**H3:** *Ceteris paribus*, there is a positive association between foreign ownership and firm performance.

#### 3.4. Control Variables

Three control variables have been considered for this study: leverage, firm size and firm age. Prior studies have found mixed results while investigating the relationship between firm performance and leverage. Leverage can significantly develop firm performance because the yields earned from the investment are often larger than the interest expense of the debt (Abor, 2005; Robb & Robinson, 2009; Modigliani & Miller, 1958). On the other hand, leverage can have a negative influence on firm performance if it exceeds a certain limit (Cheng et al., 2010; Lin & Chang, 2011; Pratomo & Ismail, 2006). In the case of firm size, most of the studies have found a positive relationship between these two variables. Larger firms have more capacity to diversity and invest in large and profitable projects compared to smaller firms (Jonsson, 2007; Lee 2009). Finally, most of the previous works have found a positive association between firm performance and firm age. Older firms generally have a better reputation compared to younger

firms and can reduce the cost to achieve efficiency (Ang et al., 2000; Rashid et al., 2010).

## 4. Research Methods

### 4.1. Sample and Data

For the purpose of the study, pharmaceutical and chemical companies listed in Dhaka Stock Exchange (DSE) were selected. Currently, there are 32 listed companies in this sector in DSE. However, 3 of those companies were listed in 2018 and 1 was listed in 2019. So, data were collected for 28 companies for the years 2012 to 2020, resulting in 252 firm years. However, data of 20 firm years were not available and for this, the final sample size was narrowed down to 232 firm years. All the data were collected from secondary sources, mostly annual reports of the companies. The list of sample companies is given in Table 1 below:

**Table 1:** List of Sample Companies

Name of the Company	Name of the Company
1. ACILimited	15. Imam Button Industries Limited
2. ACI Formulations Limited	16. JMI Syringes & Medical Devices Limited
3. The ACME Laboratories Limited	17. Keya Cosmetics Limited
4. Active Fine Chemicals Limited	18. Kohinoor Chemicals Company (Bangladesh) Limited
5. AFC Agro Biotech Limited	19. Libra Infusions Limited
6. Ambee Pharma Limited	20. Marico Bangladesh Limited
7. Beacon Pharmaceuticals Limited	21. Orion Infusion Limited
8. Beximco Pharmaceuticals Limited	22. Orion Pharma Limited
9. Beximco Synthetics Limited	23. Pharma Aids Limited
10. Central Pharmaceuticals Limited	24. Reckitt Benckiser (BD) Limited
11. Far Chemical Industries Limited	25. Renata Limited
12. Global Heavy Chemicals Limited	26. Salvo Chemical Industry Limited
13. GlaxoSmithKline (GSK) Bangladesh Limited	27. Square Pharmaceuticals Limited
14. The IBN SINA Pharmaceutical Industry Limited	28. Wata Chemicals Limited

Source: Dhaka Stock Exchange (DSE)

### 4.2. Research Model

In order to test the hypotheses, three different types of methods were used namely panel analysis using random effects model, lag method and time dummy method. As the p-value was insignificant in the Huasman test, the random effects model was used. The lag method was used to observe whether there is any impact of independent variables of the previous year on the dependent variable of the next year. As there were two major reforms in the corporate governance related guidelines (Corporate Governance Guidelines, 2012 and Corporate Governance Codes, 2018), the time dummy method was used to see whether there is any significant effect of any particular time period (year). For the dependent variable, firm performance, two indicators namely ROA and Tobin's Q were considered. ROA generally indicates the operating performance whereas Tobin's Q indicates the market performance of a company. Three independent variables namely institutional ownership, directors' ownership and foreign ownership were considered. Finally, leverage, firm size and firm age were taken as control variables. Using these variables, the following equations are developed:

$$ROA_{it} = \beta_0 + \beta_1 INSOWN + \beta_2 DIROWN + \beta_3 FOROWN + \beta_4 LEV + \beta_5 LNFZ + \beta_6 LNFAGE + \varepsilon \quad (1)$$

$$TOBINSQ_{it} = \beta_0 + \beta_1 INSOWN + \beta_2 DIROWN + \beta_3 FOROWN + \beta_4 LEV + \beta_5 LNFZ + \beta_6 LNFAGE + \varepsilon \quad (2)$$

The definitions of the variables are given in Table 2 below:

**Table 2:** Definition of Variables

Variable Name	Symbol	Explanation	Expected Relation
<b>Firm Performance (Dependent Variable)</b>			
Return on Asset	ROA	Ratio of Net Profit Before Tax to Average Total Assets	
Tobin's Q	TOBIN'S Q	(Book Value of total debt + Market Value of equity) / Book Value of Total Asset	
<b>Ownership Structure (Independent Variable)</b>			
Institutional Ownership	INSOWN	Per cent of Institutional Ownership	+
Directors' Ownership	DIROWN	Per cent of Directors' Ownership	+
Foreign Ownership	FOROWN	Per cent of Foreign Ownership	+
<b>Firm characteristics</b>			
Leverage	LEV	Ratio of Book value of Total Debt to Total Assets	+/-
Firm Size	LNFZ	Natural Logarithm of Book Value of Total Assets	+

Firm Age	LNAGE	Natural logarithm of number of years since firm's inception.	+
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Source: The Author

## 5. Analysis of the Results

### 5.1. Descriptive Statistics

The results of the descriptive statistics of both dependent and independent variables are shown in Table 3. One of the

dependent variables, ROA has a mean value of 10.14 per cent with a maximum value of 74.54 per cent and a minimum value of -57.98 per cent. Mean ROA has declined from 9.34 per cent in 2019 to 6.85 per cent in 2020. It indicates that, just like most of the industries, pharmaceutical and chemical industry was adversely affected by the COVID-19 pandemic. Tobin's Q has a mean value of 2.45, ranging from 0.36 to 13.90. It indicates that the shares in the industry are slightly overvalued. The mean value has increased from 1.73 in 2019 to 2.37 in 2020 indicating a better market performance by the industry during the COVID-19 pandemic.

**Table 3:** Descriptive Statistics

Variable Name	Symbol	Obs	Mean	Std. Dev.	Min	Max	Mean	
							2019	2020
ROA (%)	roa	232	10.14	14.09	-57.98	74.54	9.34	6.85
Tobin's Q	tobinsq	232	2.35	1.99	0.21	13.90	1.73	2.37
Institutional Ownership (%)	insown	232	16.68	10.73	0.00	49.56	19.2	21.24
Directors' Ownership (%)	dirown	232	44.88	20.58	11.94	90.00	42.5	43.15
Foreign Ownership (%)	forown	232	3.82	8.70	0.00	45.91	3.7	5.54
Leverage (%)	lev	232	44.17	23.52	1.50	109.37	44.04	47.82
Firm Size (in millions)	fz	232	8876.22	13303.29	87.36	81820.14	12930.34	14603.48
Firm Age	fage	232	30	16	1	66	33.23	33.84

Source: The Author

Among the independent variables, institutional ownership has a mean value of 16.68 per cent, ranging from 0 per cent to 49.56 per cent. This shows that institutional directors do not hold a significant portion of shares and thus have lower interest in the organisations. However, the percentage has increased from 19.2 per cent to 21.24 per cent from 2019 to 2020. Directors' ownership has a mean value of 44.88 per cent, ranging from 11.94 per cent to 90 per cent. This shows the concentrated ownership pattern in the pharmaceutical and chemical industry of Bangladesh. And this mean value has increased from 42.5 per cent in 2019 to 43.15 per cent in 2020. Finally, foreign ownership has a mean value of 3.82 per cent only, ranging from 0 per cent to 45.91 per cent. This value is very low and implies the indifference of foreign investors in investing in this industry. However, the good news is the mean value has increased from 3.7 per cent in 2019 to 5.54 per cent in 2020.

Among the control variables, leverage has a mean value of 44.17 per cent, ranging from 1.5 per cent to 109.37 per cent. Firm size has a mean value of BDT 8876.22 million,

ranging from BDT 87.36 million to BDT 81820.14 million. And finally, the mean firm age is 30 years, ranging from only 1 year to 66 years.

### 5.2. Bivariate Analysis

Table 4 represents the correlation matrix of all the variables used in the model. From the table, it can be seen that there is a positive and significant correlation (0.749) between the dependent variables, ROA and Tobin's Q. This is a good sign as it implies that the operating performance and the market performance are heading in the same direction. That means investors are investing in companies with higher operating performance.

ROA is positively correlated to directors' ownership (0.402) with a significance level of 1 per cent. ROA has a positive but insignificant correlation with foreign ownership (0.078) and firm age (0.095), and a negative but insignificant association with institutional ownership (-0.189) and leverage (-0.056). Tobin's Q is positively and significantly correlated to directors' ownership (0.520),



leverage (0.232) and firm age (0.139). However, it has an adverse and significant correlation with institutional ownership (-0.298). Finally, it has a negative but insignificant association with foreign ownership (-0.007) and firm size (-0.173). According to Gujarati (2003), in the

case of multivariate analysis, the correlation between variables is not considered harmful if it is under 0.8. In this case, the highest correlation value among the independent variables is 0.40 which is not harmful.

**Table 4:** Correlation Matrix

	roa	tobinsq	insown	dirown	forown	lev	lnfz	lnfage
roa	1							
tobinsq	0.749**	1						
insown	-0.189	-0.328**	1					
dirown	0.402**	0.520*	-0.342**	1				
forown	0.078	-0.007	-0.005	-0.151*	1			
lev	-0.056	0.232**	-0.123	0.394**	-0.086	1		
lnfz	0.095	-0.173**	0.333**	-0.046	0.400**	-0.204**	1	
lnfage	0.104	0.139*	0.141*	0.108	0.180**	0.329**	0.156*	1

Source: The Author

\*p < 0.05, \*\*p < 0.01

Table 5 represents the variance inflation factor (VIF) for the independent variables and control variables. The VIF test is performed to check whether there is any presence of multicollinearity problem among the variables in the regression model. If the mean VIF is more than 10, it is a sign of the existence of a multicollinearity problem (Neter, 1996). On the other hand, if the mean VIF is less than 1, there is a possibility of bias in the regression equation (Bowerman & O'Connell, 1992). In this study, the mean VIF is 1.5 which indicates the absence of both multicollinearity problem and bias.

**Table 5:** Variance Inflation Factor (VIF)

Variable	Symbol	VIF	1/VIF
Institutional Ownership (%)	insown	1.49	0.672
Directors' Ownership (%)	dirown	1.52	0.656
Foreign Ownership (%)	forown	1.36	0.735
Leverage	lev	1.42	0.703
Firm Size (ln)	lnfz	1.54	0.651
Firm Age (ln)	lnfage	1.25	0.800
<b>Mean VIF</b>		<b>1.5</b>	

Source: The Author

### 5.3. Multivariate Analysis

Table 6 represents the regression results of the equations using random effects, lag and time dummy method. As stated before, two models were developed based on two dependent variables. Model-1 shows the relationship of ROA (operating performance) with the independent and control variables. On the other hand, Model-2 shows the relationship of Tobin's Q (market performance) with the independent and control variables.

The first independent variable, the percentage of institutional ownership, has insignificant relationships with both ROA and Tobin's Q in all the three methods of regression equations used. This result is consistent with the findings of AL-Najjar (2015), Imam and Malik (2007), Farooque et al. (2007), Lee (2008), Faccio and Lasfer (2000), Sanchez-Ballesta and Garcia-Meca (2007). One probable reason behind this insignificant impact is that percentage of institutional ownership in the pharmaceutical and chemical industry is very low with a mean value of only 16.68 per cent. As a result, institutional shareholders do not have enough power to monitor and influence the operations of the investee companies for achieving better performance. Another reason can be the existence of weak institutional investors resulting in ineffective monitoring of the firms. Besides, institutional ownership can act as a double-edged sword, having some disadvantages as well. It can cause a conflict of incentive resulting from the parting of ownership

of institutional portfolio of the stocks from the supervision of those portfolios. Management of institutional portfolios may build up a strong relationship with the investee for personal benefit (Chen et al., 2008). As a result, they will

become indifferent in monitoring the activities of the investee. Thus, the result does not support Hypothesis 1.

**Table 6:** Regression Results of the Random Effect (RE), Lag and Time Dummy Model

Variable	Symbol	Expectation	Model-1 (ROA)			Model-2 (Tobin's Q)		
			RE	Lag	Time Dummy	RE	Lag	Time Dummy
Institutional Ownership (%)	insown	+	-0.1302	0.0034	-0.0705	-0.9524	-2.2601	-1.8729
(p-value)			(0.158)	(0.974)	(0.429)	(0.421)	(0.145)	(0.168)
Directors' Ownership (%)	dirown	+	0.1744***	0.3902***	0.3426***	2.4340***	5.4839***	4.8497***
(p-value)			(0.017)	(0.000)	(0.000)	(0.010)	(0.000)	(0.000)
Foreign Ownership (%)	forown	+	0.0601	0.2698***	0.1754**	1.5701	3.170***	2.839**
(p-value)			(0.651)	(0.009)	(0.013)	(0.357)	(0.003)	(0.003)
Leverage	lev	-	-0.1449***	-0.1484	-0.1691**	0.5470	-0.7835	-0.3534
(p-value)			(0.000)	(0.271)	(0.002)	(0.271)	(0.201)	(0.498)
Firm Size (ln)	lnfz	+	0.0160	-0.0058	0.0015	-0.3926	-0.3063	-0.2672
(p-value)			(0.138)	(0.205)	(0.833)	(0.375)	(0.613)	(0.451)
Firm Age (ln)	lnfage	+	-0.0141	0.0240*	0.0271*	0.5890*	0.4539**	0.3417**
(p-value)			(0.554)	(0.058)	(0.053)	(0.058)	(0.011)	(0.041)
Observation			232	203	232	232	203	232
R-square			0.5243	0.5713	0.6310	0.5275	0.5627	0.5571

Source: The Author

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01

The second independent variable, the percentage of directors' ownership has a positive and substantial effect on firm performance (both ROA and Tobin's Q) in all the three methods used. It is consistent with the studies conducted by Masum and Khan (2019), Lima and Hossain (2018), Abbas et al. (2013), Fauzi and Locke (2012), and Imam and Malik (2007). Increased directors' ownership can mitigate agency costs by aligning the interests of management and owners which will lead to better firm performance. In Bangladesh, the percentage of directors' ownership is very high with a mean value of 44.88 per cent. It is mainly due to the existence of family-dominated ownership where the majority of the directors are chosen from the family members (Muttakin et al., 2015). As a result, the directors try to monitor and operate the business effectively so that a better performance can be achieved that will ultimately increase their personal benefits. Thus, the regression result

supports Hypothesis 2.

The third independent variable, percentage of foreign ownership has a positive association with both ROA and Tobin's Q in each of the three methods. However, the association is significant in both lag and time dummy methods. It is consistent with the studies conducted by Abdallah and Ismail (2017), Musallam (2015), and Imam and Malik (2007). It implies that the inclusion of foreign investors in the ownership structure in one year will increase the operating and market performance of the firm in the next year. This may happen due to effective monitoring and pressure by the foreign investors on management to improve the performance of the firm. Although the percentage of foreign ownership is very low in the pharmaceutical and chemical industry of Bangladesh, unlike institutional investors, it seems the foreign investors are more active and influential in improving the performance of the firms.

Among the control variables, leverage is adversely and significantly related to ROA in both random effects and time dummy methods. One possible reason is that higher leverage results in higher interest expense. And if the investment from the debt capital cannot achieve higher returns than the interest, performance will go down. However, in the case of Tobin's Q, the relationship is insignificant in every method used. The impact of firm size on performance is insignificant in both models. Finally, firm age has a positive influence on performance in most of the equations. This is because older firms have more experience and reputation in the market that aids them in investing in the right places and increasing performance.

## 6. Conclusion

The study examined the influence of ownership structure on the performance of the firms in the pharmaceutical and chemical industry of Bangladesh. The study used two proxy variables of firm performance, namely ROA and Tobin's Q and, three proxy variables of ownership structure namely institutional ownership, directors' ownership and foreign ownership.

The outcomes of this study showed that the majority portion of the shares in this industry is owned by the directors. This is mainly because of the family-concentrated ownership pattern in most of the companies. Institutional ownership in Bangladesh is still very low compared to other developing countries in the world (AL-Najjar, 2015; Wahla et al., 2012). However, the percentage is following an increasing pattern. Finally, the percentage of foreign ownership is negligible, indicating the unwillingness of foreign investors in investing in these companies. This can be attributed to an ineffective share market, poor corporate governance structure and unstable socio-economic environment. However, the study found a positive correlation between ROA (operating performance) and Tobin's Q (market performance) indicating the existence of lower information asymmetry in the industry.

The regression results show that institutional investors have an insignificant effect on firm performance. It implies that institutional investors are either weak or ineffective in monitoring and influencing the investee firms. The study has found an affirmative and significant association between directors' ownership and firm performance. This result agrees with the agency theory as greater ownership by the directors aligns their interest with that of other shareholders. So, they try to effectively monitor and control the firm for their betterment that indirectly becomes beneficial to the other shareholders as well. Finally, the study has also found a positive and significant association between foreign ownership and firm performance. Although few in number,

the foreign investors can be more effective and experienced in monitoring and raising their voices in firms.

The study has some limitations. First, the study considered only two performance indicators: ROA and Tobin's Q. Other indicators like return on equity (ROE), net profit, sales growth, Earnings per Share (EPS) were not considered in the study. Second, other ownership patterns like government ownership and family ownership were not considered in the study. Finally, the study focused on the pharmaceutical and chemical industry only. Other industries were not considered in the study.

From the empirical findings of this study, a few things can be recommended. It can be seen that institutional ownership does not have any positive and significant impact on firm performance. One of the main reasons is the very low number of shareholdings by these types of investors. According to previous studies, efforts in monitoring the organisation increase if anyone holds a larger portion of shares. So, in order to have an influential role in the organisations, institutional shareholders should invest more in the organisations. Unlike the general investors, these investors have vast knowledge and experience in the field that can be utilised to improve the performance of the organisations. The study will open the door for further research in this area. Including some other performance indicators for a larger time frame will provide a more comprehensive view of the type of association between ownership structure and performance. Besides, studies can be conducted by including other industries in the country as well. Finally, future research can be done on a cross-national basis to observe the impact of ownership on firm performance in different countries around the world.

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