Copernican Journal of Finance & Accounting

2023, volume 12, issue 1

e-ISSN 2300-3065
p-ISSN 2300-1240

Chakraborty, B. (2023). Does Board Structure and Ownership Structure Influence The Performance of Listed Companies: Evidence from Pharmaceuticals and Chemical Industry of Bangladesh?. Copernican Journal of Finance & Accounting, 12(1), 29–45. http://dx.doi.org/10.12775/CJFA.2023.002

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# DOES BOARD STRUCTURE AND OWNERSHIP STRUCTURE INFLUENCE THE PERFORMANCE OF LISTED COMPANIES: EVIDENCE FROM PHARMACEUTICALS AND CHEMICAL INDUSTRY OF BANGLADESH?

**Keywords:** ownership structure, board structure, two-stage least squares, firm performance.

**J E L Classification:** M14, M41.

**Abstract:** This study examines the influence of board structure and ownership structure on a firm's financial performance in the pharmaceutical and chemical industry of Bangladesh. The data of this study is based on all listed companies in the pharmaceuticals and chemical industry on Dhaka Stock Exchange. Data was collected from the annual reports of the concerned industry from 2015 to 2020. To examine the data, the study has applied descriptive analysis, correlation analysis, VIF test, and the two-stage least squares (2SLS) estimator using Eviews software. Based on existing empirical studies, seven major attributes (board size, board independence, board gender, managerial ownership, institutional ownership, audit committee size, and frequency of audit committee meetings) have been selected to identify their influence on a firm's performance. Findings from the study show that there is an insignificant negative relationship among board size, board gender, frequency of meetings, and the firm's finan-

Date of submission: July 11, 2022; date of acceptance: December 6, 2022.

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cial performance but a significant relationship with board independence, institutional ownership, and frequency of meetings. The study has proposed that board size can be smaller but should be representative. This study will contribute to the literature on corporate governance and profitability in an emerging economy like Bangladesh.

## Introduction

Corporate governance refers to the collection of rules, principles, laws, policies, and regulations which impact the administration, governance, and overall controlling systems of a business. Several empirical studies have claimed that an organization can enhance its market value through good performance and good governance within the organization (Jan, Lai & Tahir, 2021). It is crucial as good governance delivers the ability of a firm to surge the competitive advantage, proficiency, and efficiency of companies (Maher & Andersson, 2005). Firm efficiency largely requires aligning the interest between the stockholders and the executives. Hence, board and ownership characteristics are indispensable elements of the governance mechanism. Because board member's effectiveness plays a critical starring role in controlling the managing body and poring over their decision (Waheed & Malik, 2019). Therefore, the necessity to have empirical studies on corporate governance and its branches has increased in recent times, particularly in emerging countries. The effectiveness and efficacy of the board are influenced by several aspects such as board quality and board structure, size of boards, the duality of CEO/Chairman positions, board diversity and ownership, information maladjustment, and board culture (Kyereboah-Coleman & Biekpe, 2006). Corporate governance could support aligning different parties' interests, such as individuals, shareholders, societies, communities, and other stakeholders, building a fundamental moral basis. In this way, it works for fulfilling the owner's long-lasting tactical goals, in turn boosting up shareholder value and market value. The board generally acts to formulate market-related strategies and resource allocation strategies, which is crucial to surviving in the competitive market. The board also evaluates and approves strategic decisions that drive firm performance along with market-related strategy and resource allocation strategies. Therefore, it's pertinent to understand those board characteristics contributing most to performance (Vairavan & Zhang, 2020).

## Literature review

Corporate governance has been well-known as a very rigorous and divisive area of the business administration literature (Karmańska, 2014). Therefore it is highly needed to be aware of the relationship between governance components and firm performance. The greater boards size is found to be favorable, while the excessive participation of independent directors is claimed to be unfavorable (Waheed & Malik, 2019). Wang, Abbasi, Babajide, and Yekini (2020) has found board size, diversity, independence, and board meetings have an insignificant effect on firm performance. Whereas, Prashar and Gupta (2020) have stated that board size impact significantly and positively firm performance. Similarly, Puni and Anlesinya (2020) have found board size, rate of recurrence of board meetings, and ownership structure positively related to financial performance. On the other hand, Limpaphayom and Connelly (2006) have claimed that there is no connection between board size and firm performance based on their study. As per the governance guidelines of 2006, the ratio of independent directors ought to be at least one-tenth of overall directors. Afterward, in 2012, the proportion has been enlarged to one-fifth of the entire Board of directors (Singla & Singh, 2019). Stewardship theory and agency theory explains the importance of board independence to mitigate conflict between principal and CEO since firm agents act for the amelioration of individual welfare rather than principal (Nawaz Khan, Hussain, Ur-Rehman, Maqbool, Engku Ali & Numan, 2019). Wijethilake, Ekanayake and Perera (2015) have suggested that independent boards are supposed to deliver a level of unbiased and conscientious supervision for companies. The resource dependency theory advocates that independent directors can take exorcism judgments, and it leads to heightened firm performance (Singla & Singh, 2019). The attendance of independent directors acts as improved monitoring of managers' performance to defend the minority stockholders' interest. Perhaps, they can reduce agency costs and deliver resources to the business and management (M & Sasidharan, 2020). Consequently, a higher proportion of independent directors on the board may drive greater financial performance (Prashar & Gupta, 2020) While Al-Matari (2020) has found an insignificant relationship between these. The enhancement of gender variety on the company board structure as a means to expand corporate governance (CG) structure has been incorporated into the agendas of many academic researchers and corporate board member (Fran-

coeur, Labelle & Sinclair-Desgagné, 2008). Numerous preceding studies (Khan, Khidmat, Bin, & Awan, 2021; Ullah Fang & Jebran, 2020; Unite, Sullivan & Shi, 2019) have advocated positive influence of participating female directorship on business's performance. Board diversity might contribute to the argument, discussion of thoughts, and performance of the group. Boards Gender diversity is a disputed theme, which has attained remarkable attention of legislators, academics, and shareholders (Song, Yoon & Kang, 2020). Gender role theory has advised a positive and significant effect of gender diversity on performance. Board Diversity is an important variable in accessing firm performance (Bouteska, 2020; Saini & Singhania, 2018). Pucheta-Martínez and Gallego-Álvarez (2020) have claimed the inclusion of female board members can raise firm earnings. Similarly, (Martín-Ugedo, Mínguez-Vera, & Rossi, 2019) and (Prashar & Gupta, 2020) have shown women's participation has a positive effect on the performance. Likewise, Saleh, Zaid, Shurafa, Maigoshi, Mansour and Zaid (2020) have demonstrated a positive but insignificant effect on gender diversity and firm performance. But Vairavan and Zhang (2020) have found no direct consequence of board diversity on firm performance. Therefore, the connection between women's participation and the efficacy of boards is noteworthy. Whereas, Khan et al. (2021) have elucidated an inverted U-shape relationship between women board members and a bank's performance and claimed that only gender-balanced increase the performance.

Former studies have claimed that high-level executive ownership contributes to achieving both the interests of managers and stockholders and booming firm performance. Generally, it is the responsibility of the Board of directors to advocate and implement the foremost strategies of the company. Puni and Anlesinya (2020) have advocated that both institutional and managerial ownership can expand financial performance (Neffati, Khiari & Lajmi, 2020). The agency theory recommends having managerial ownership in a situation where executives own shares and are directly engaged in the everyday firm's operation. In this way, managerial ownership can abate conflict of interest and the agency problem. Whereas, Al Farooque Buachoom and Sun (2020) have stated the ownership structure has an insignificant effect on performance. Institutional investors are the foremost governance mechanism that plays a key role in augmenting firm performance. Institutional stockholders can play an important role in raising the financial performance, which is compatible with the agency theory that insider ownership supports to protect of the interest of stockholders with those of the executives and therefore increases perfor-

mance (Din, Arshad Khan, Khan & Khan, 2021). Wang et al. (2020) have stated that performance increases with institutional ownership. Whereas, Daryaei and Fattahi (2020) have found an adverse and significant linkage with institutional ownership. Besides firm size have been found to have positive and significant impact in increasing performance (Sanyaolu, Adejumo & Kadiri, 2021). In Bangladesh legal resolution of corporate governance matters is not considered effective compared to developed countries. Therefore, monitoring managers' behavior becomes more crucial. Another component, audit committee is an important component of the interior corporate governance mechanism, which helps to ensure transparency and answerability inside the organization. It is claimed that it is possible to reduce the agency problem by ensuring the effective role of the audit committee (Detthamrong, Chancharat & Vithessonthi, 2017). Because all directors are supposed to be present in the meeting as it is one of the requirements to have re-nomination as a board member. All resolutions are approved through the meetings (Eluyela, Akintimehin, Okere, Ozordi, Osuma, Ilogho & Oladipo, 2018). It is observed that the size of the audit committee is positively related to firm performance (Bowrin, 2013). Eluyela et al. (2018) also have found a positive link between board meeting rate of recurrence and firm performance. Nevertheless, too many meetings are not suggested for an effective board because of the diverse topics of board meetings. Therefore, only the quantity of meetings cannot elucidate good monitoring (Ji, Talavera & Yin, 2020). Likewise, El Mir and Seboui (2008) have claimed that a bigger audit committee can drive to inexpert governance resulting from recurrent meetings, which consequently increase expenses and thus, adversely affects company performance. Thus, along with the frequency of meeting the quality of meeting which indicates the efficacy and effectiveness should be keep in mind.

The pharmaceutical sector is the third developed technology sector among all industries contributing a good portion of government revenues (Mohd Saad, Haniff & Ali, 2020; wikipedia, 2022). The sector affords 98% of the entire medicinal demand of the country as well as exports drugs to international markets, including Europe (Hossan, 2021; (www2)). Thus, the goal of this research is to examine the influence of corporate board structure, Ownership structure, and corporate control on a firm's performance in the pharmaceutical and chemical industry of Bangladesh. From the previous study, we did not catch on the perfect view of the result because of previous studies compared with limited variables. Moreover, there are very few studies conducted on board struc-

ture, and ownership structure of pharmaceuticals industries and most of the studies are conducted in the banking sector. Therefore, the study enhances and contributes to the body of research using data collected on pharmaceutical and chemical companies of Bangladesh and evaluating the impact of board structure and ownership structure on the financial performance of the companies.

## Methodology and the course of the research process

This paper analyses data from the pharmaceuticals and chemical industry listed on the Dhaka Stock exchange (DSE) for five financial years. The study tries to find a relationship between firm performance with board characteristics and ownership structure, and some control variables such as:

1. Board size, 2. Board independence, 3. Board gender, 4. Managerial ownership, 5. Institutional ownership, 6. Audit committee size, 7. Audit committee meeting, 8. Other Control variable like firm size, firm age, growth and leverage.

### Sample selection

This study is conducted on all 20 pharmaceutical and chemical companies listed on the Dhaka Stock Exchange (DSE) under the category of pharmaceutical and chemical industries from 2015 to 2020. The data needed for the research was primarily secondary. The genesis of data includes annual reports and financial statements of the listed companies. Variables such as return on equity (ROE), and return on assets (ROA) (Aifuwa, 2020; Desai & Desai, 2019) are considered and adopted as the indicators of performance. The data regarding board structure, board gender (BG), ownership, and corporate control information was acquired from the Web sites and annual reports of the various companies. A regression analysis was used to establish the presence or otherwise of a significant relationship between the dependent and independent variables while controlling for firm age, firm size, sales growth, and leverage ratio. We have applied the two-stage least squares (2SLS) estimator in Eviews Software for analysis.

**Table 1.** summary of the dependent, independent and control variables

| Name of Variable | Symbol | Explanation |
|---|---|---|
| Return on Assets | ROA | Net income divided by Total Assets |
| Return on Equity | ROE | Net income divided by shareholders equity |
| Board size | BS | Number of directors present in the board |
| Board independence | BI | The proportion of independent directors who are members of the board |
| Board gender | BG | Number of female director on the board |
| Managerial ownership | MIO | The proportion of equity held by the board of directors and other managerial person |
| Institutional ownership | INO | The proportion of equity held by the financial and non-financial companies |
| Audit committee size | ACS | Number of members in audit committee |
| Frequency of audit committee meetings | FM | Frequency of audit committee meetings held |
| Firm size | FS | natural logarithm of total assets |
| Firm Age | AGE | natural logarithm of the number of years since the establishment |
| Sales Growth | Growth | total sales of the current year minus total sales in the previous year divided by total sales in the current year |
| Leverage | LEV | ratio of long term debt to the total assets |

Source: own elaboration.

## Research Model

There are a total of seven independent variables that are applied in the research model, namely board size, board independence, board gender, managerial ownership, institutional ownership, audit committee size, and audit committee meeting frequency. In addition, there are four control variables, firm age, size, growth, and leverage. The association between corporate governance mechanism and firm performance is tested through the following regression model:

$$ROA = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 BG + \beta_4 MIO + \beta_5 INO + \beta_6 ACS + \beta_7 FM + \beta_8 FS + \beta_9 AGE + \beta_{10} GROWTH + \beta_{11} LEV + \varepsilon \quad (1)$$

$$ROE = \beta_0 + \beta_1 BS + \beta_2 BI + \beta_3 BG + \beta_4 MIO + \beta_5 INO + \beta_6 ACS + \beta_7 FM + \beta_8 FS + \beta_9 AGE + \beta_{10} GROWTH + \beta_{11} LEV + \varepsilon \quad (2)$$

Where:

Dependent variables (ROA, ROE)
Independent variables (BS, BI, BG, MIO, INO, ACS, FM)
Control variables (FS, AGE, GROWTH and LEV)
Coefficient β, Error term ε.

## Empirical Result &Analysis

**Table 2.** Unit Root Test Result

| Variables | At level | | First difference | |
|---|---|---|---|---|
| | T static | P value | T static | P value |
| ROA | -7.5962 | 0.0000 | | |
| ROE | -10.5621 | 0.0000 | | |
| BS | -5.7670 | 0.0000 | | |
| BI | -10.96 | 0.0000 | | |
| BG | -3.6349 | 0.0046 | | |
| MIO | -2.9174 | 0.0465 | | |
| INO | -4.4189 | 0.0005 | | |
| ACS | 3.7195 | 0.0049 | | |
| FS | -2.7332 | 0.0714 | -10.2584 | 0.0000 |
| AGE | -2.2423 | 0.1927 | -10.7791 | 0.0000 |
| FM | -4.5024 | 0.0003 | | |
| SG | -11.9237 | 0.0000 | | |
| LEV | -6.2471 | 0.0000 | | |

S o u r c e : own study and data of Annual reports from Dhaka Stock Exchange.

The descriptive analysis and correlation test were conducted. Table 2 shows the results of the Unit root test based on the Augmented Dickey-Fuller Test Equation to test whether the data is stationary or non-stationary where the P-value is significant at a 95% confidence level. Here, the data of all variables are found as stationary at levels except FA and FS. Whereas, FS and FA are not stationary at level but at First difference. Moreover, the P-values of ROA, ROE, BS, BI, BG, MIO, INO, AGE, FM, SG, and LEV is less than 0.05 (P<0.05) at the level, and the value of FS and FA are less than 0.05 (P<0.05) at First difference. Therefore, these are statistically significant at a 95% confidence level, and the data are suitable to precede further analysis and draw realistic results from regression analysis.

**Table 3.** Variance Inflation Factors (VIF)

| | Coefficient | Centered |
|---|---|---|
| Variable | Variance | VIF |
| C | 0.123068 | NA |
| BS | 3.17E-05 | 1.563498 |
| BI2 | 0.000935 | 1.081412 |
| BG | 5.02E-05 | 1.553568 |
| MIO | 0.006790 | 2.008380 |
| INO | 0.012220 | 1.782164 |
| ACS | 0.000305 | 1.498931 |
| FM | 0.000105 | 1.342733 |
| FS | 8.63E-05 | 2.171139 |
| AGE | 0.000624 | 2.050644 |
| SG | 7.27E-05 | 1.065019 |
| LEV | 0.008419 | 1.237518 |

Source: own study and data of Annual reports from Dhaka Stock Exchange.

A multicollinearity test is conducted to ascertain whether the independent variables have a strong correlation among themselves. The test is important because the reliability of the results is questionable in the event of the existence

of multicollinearity. Literature has suggested the value of centered VIF value should be below 10. It means that there is no multicollinearity issue in the studied model. Table 3 shows that the centered variance inflation factors are less than the standard value 10. Therefore multicollinearity is not a problem in this model.

**Table 4.** Regression Analysis
The impact of board structure and ownership structure on return on asset

| Regression model (dependent variable: return on asset) | | | | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| BS | -0.002932 | 0.005632 | -0.520620 | 0.6038 |
| BI | 0.180433 | 0.030581 | -5.900212 | ***0.0000 |
| BG | -0.008582 | 0.007084 | -1.211475 | 0.2285 |
| MIO | 0.059018 | 0.082400 | 0.716239 | 0.4755 |
| INO | -0.184038 | 0.110543 | -1.664864 | *0.0990 |
| ACS | -0.002408 | 0.017451 | -0.137997 | 0.8905 |
| FM | 0.024293 | 0.010233 | 2.373956 | ***0.0195 |
| FS | 0.038664 | 0.009288 | 4.162655 | ***0.0001 |
| AGE | -0.065121 | 0.024981 | -2.606821 | ***0.0105 |
| SG | 0.017183 | 0.008526 | 2.015206 | **0.0465 |
| LEV | -0.181771 | 0.091756 | -1.981020 | **0.0503 |
| C | 1.002566 | 0.350810 | 2.857859 | ***0.0052 |
| R-squared | 0.464838 | Prob. (J-statistic) | | 0.000361 |
| Adjusted R-squared | 0.407124 | Prob. (F-statistic) | | 0.000000 |

Note: Here ***, **, * indicate statistical significant at the 1, 5, and 10 percent level.

S o u r c e : own study and data of Annual reports from Dhaka Stock Exchange.

Table 4 indicates that BS has a negative but insignificant relationship with ROA. The negative association indicates that companies with a relatively lower BS tend to perform better performance (ROA) than companies with a larger BS and the result is aligned with (Lipton & Lorsch, 1992) who concluded that smaller boards are more efficient than larger boards. The regression result reveals that

(P<0.05) significant positive relationship between BI (0.00) and ROA at a 1 percent level of significance. This indicates that listed companies board independence tends to perform better. This result is supported by (Abor & Bokpin, 2010) who found a significant positive relationship between BI and firm profitability. The frequency of meeting is found to be positively related with firm performance at a 1% significance level. It also shows that institutional ownership has a negative but significant relationship with ROA at a 10 percent level of significance. Among the control variables firm size and firm age is positively related with firm performance that means firm tends to perform better when they are relatively experienced and they hold relatively larger capital.

**Table 5.** Regression analysis
The impact of board structure and ownership structure on return on equity

| Regression model (dependent variable: return on equity) | | | | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| BS | 0.015534 | 0.015440 | 1.006097 | 0.3167 |
| BI | 1.947641 | 0.083834 | 23.23208 | ***0.0000 |
| BG | -0.026079 | 0.019421 | -1.342827 | *0.0823 |
| MIO | 0.172134 | 0.225890 | 0.762027 | 0.4478 |
| INO | -0.330521 | 0.303041 | -1.090681 | *0.0780 |
| ACS | -0.053581 | 0.047841 | -1.119962 | 0.2654 |
| FM | 0.027813 | 0.028053 | 0.991470 | **0.0238 |
| FS | 0.029142 | 0.025463 | 1.144496 | 0.2551 |
| AGE | -0.031051 | 0.068483 | -0.453419 | 0.6512 |
| SG | 0.081601 | 0.023374 | 3.491036 | ***0.0007 |
| LEV | 0.263565 | 0.251540 | 1.047805 | 0.2972 |
| C | -18.04673 | 0.961709 | -18.76526 | ***0.0000 |
| R-squared | 0.855834 | F-statistic | | 0.0000 |
| Adjusted R-squared | 0.840287 | Prob(J-statistic) | | 55.04718 |

Note: Here ***, **, * indicate statistical significant at the 1, 5, and 10 percent level.

S o u r c e : own study and data of Annual reports from Dhaka Stock Exchange.

Table 5 points out that board independence has a positive but significant impact on ROE at a 1 percent level of significance. BG or the proportion of female board members does have a negative but significant impact on ROE whose p-value is 0.08. The managerial institution has a positive but insignificant impact on ROE. When the majority of shareholders become managers of a firm, Managerial ownership may result in poor performance. However, the opposite view is evident in the case of an executive who takes up a share and becomes the owner of the firm. In this case, when they try to gain more equity and interest in the firm, their efforts usually result in an improvement in the firm performance. On the contrary, institutional ownership has a negative but significant impact on ROE at 10% significant level. Findings indicate that the number of members on the audit committee (ACS) does not significantly influence ROE, as its p-value lies above the level of confidence. But the frequency of audit committee meetings has a positive and significant impact on ROE ($p< 0.05$).

## Discussion and contribution

From the analysis of table 4, it can be concluded that a more portion of the share of the company holds by the institutional investors, it will enhance firm performance and the firm can gain more return. In addition to this, the audit committee size has a negative with an insignificant relationship with ROA that means smaller committee tends to be efficient. On the contrary, the number of times audit committee meetings were held also influenced performance. The more meetings of the committee, the better the monitoring mechanism will be which can motivate executives to perform their duties better. As a result higher frequency of audit meetings leads to an improvement in the firm performance. In the control variables, firm size and sales growth have a positive and significant impact on ROA. But the control variable firm age and leverage have a negative but significant effect on ROA. It shows that firm age significantly impacts firm performance, which means a more experienced firm has more impact on enhancing performance. In the control variable, firm size and leverage have a positive but insignificant impact on ROE. On the other hand, firm age has negative and insignificant whereas sales growth has a positive and significant effect on ROE. Here the control variable sales growth is a vital factor in changing the firm value. The study has exposed a mixed result in terms of the impact of corporate governance on firm performance. Results originated from the data

analysis show a strong negative association between board size and a firm's financial performance. Moreover, larger board size tends not to be good as per the findings which indicate that a smaller but representative board performs well. Therefore, this study has advised a small but representative board size for pharmaceutical and chemical companies in Bangladesh. During Covid 19 pandemic period pharmaceutical industry seems to have a strong social aspect to the policies, and have an access to medicine is an imperative part of the Sustainable Development Goals. People expect that when there is the production of the COVID-19 vaccine, it should be accessible to all. It would be deplorable when the public goes through suffering because extensive profits are provided only for the benefit of shareholders. Therefore, the Pharmaceuticals and chemical industries need to balance corporate governance and profit distribution (Global Union, 2020) (www2). We believe that a study covering a wider period could develop the quality of results originated. Besides, this study has deliberated 7 important factors as independent variables. So, there is a motive for considering more factors as corporate governance mechanisms. Finally, due to the absence of data for some firms listed on the exchange, our study could not include all the listed firms on the exchange in our sample.

## Conclusion and recommendation

The objective of the study is to empirically examine the impact of board structure, ownership structure, and corporate control on financial performance in listed pharmaceutical companies in Bangladesh. Inclusion of female directors as board members does not work as a greater indicator to enhance performance as it has a negative and insignificant relationship between female directors on the board and performance indicators. While managerial ownership can drive firm performance positively. On the other hand, institutional ownership has a strong negative effect on performance. This study also shows that the frequency of meetings has a significant impact on firm performance because of better monitoring assurance. In the case of big companies, board meetings are more frequent compared to smaller companies confirming increased monitoring. Among control variables, firm size, firm age, and leverage have a positive relationship with firm performance. Across all the indicators used, our results demonstrate overwhelming support for the impact of good corporate governance on firm performance. Above all, the findings suggest pharma-

ceuticals' and chemical industry focus on managerial ownership and the frequency of meeting held which will ultimately improve their good governance and performance. When company have frequent meeting, they can discuss on critical issues and find solutions immediately. In this way they can monitor every aspect and handles them effectively. Thus, along with the frequency of meeting the quality of meeting which indicates the efficacy and effectiveness should be keep in mind. Moreover, board independence is found to be another significant variable of good governance which can drive profitability positively and should be maintained by these companies. This is our view that brings out the necessity is not only for identical corporate governance regulations for companies in an emerging market but also for industry-specific approaches of good governance practice. The practical implication of this study is to contribute to the understanding of how good corporate governance practices affect firm performance for both academics and particularly Bangladeshi policymakers.

## References

Abor, J., & Bokpin, G.A. (2010). Investment opportunities, corporate finance, and dividend payout policy: Evidence from emerging markets. *Studies in Economics and Finance*, 27(3), 180–194. https://doi.org/10.1108/10867371011060018.

Aifuwa, H.O. (2020). Sustainability Reporting and Firm Performance in Developing Climes: a Review of Literature. *Copernican Journal of Finance & Accounting*, 9(1), 9. https://doi.org/10.12775/cjfa.2020.001.

Al Farooque, O., Buachoom, W., & Sun, L. (2020). Board, audit committee, ownership and financial performance – emerging trends from Thailand. *Pacific Accounting Review*, 32(1), 54–81. https://doi.org/10.1108/PAR-10-2018-0079.

Al-Matari, E.M. (2020). Do characteristics of the board of directors and top executives have an effect on corporate performance among the financial sector? *Evidence using stock. Corporate Governance (Bingley)*, 20(1), 16–43. https://doi.org/10.1108/CG-11-2018-0358.

Bouteska, A. (2020). Do Board Characteristics Affect Bank Performance? Evidence from the Eurozone. *Journal of Asset Management*, 21(6), 535–548. https://doi.org/10.1057/s41260-020-00181-2.

Bowrin, A.R. (2013). Corporate social and environmental reporting in the Caribbean. *Social Responsibility Journal*, 9(2), 259–280. https://doi.org/10.1108/SRJ-08-2011-0074.

Daryaei, A.A., & Fattahi, Y. (2020). The asymmetric impact of institutional ownership on firm performance: panel smooth transition regression model. *Corporate Governance (Bingley)*, 20(7), 1191–1203. https://doi.org/10.1108/CG-06-2020-0254.

Desai, J., & Desai, R. (2019). Capital Structure As Determinant of Financial Performance: Review of Literature. *Copernican Journal of Finance & Accounting*, 8(4), 133–148. https://doi.org/10.12775/CJFA.2019.021.

Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance*, 42, 689–709. https://doi.org/10.1016/j.ribaf.2017.07.011.

Din, S.U., Arshad Khan, M., Khan, M.J., & Khan, M.Y. (2021). Ownership structure and corporate financial performance in an emerging market: a dynamic panel data analysis. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-03-2019-0220.

El Mir, A., & Seboui, S. (2008). Corporate governance and the relationship between EVA and created shareholder value. Corporate Governance, 8(1), 46–58. https://doi.org/10.1108/14720700810853392.

Eluyela, D.F., Akintimehin, O.O., Okere, W., Ozordi, E., Osuma, G.O., Ilogho, S.O., & Oladipo, O.A. (2018). Board meeting frequency and firm performance: examining the nexus in Nigerian deposit money banks. *Heliyon*, 4(10), e00850. https://doi.org/10.1016/j.heliyon.2018.e00850.

Francoeur, C., Labelle, R., & Sinclair-Desgagné, B. (2008). Gender diversity in corporate governance and top management. *Journal of Business Ethics*, 81(1), 83–95. https://doi.org/10.1007/s10551-007-9482-5.

Global Union. (2020). Eyes on pharmaceutical industry in the Covid-19 fight IndustriALL. https://www.industriall-union.org/eyes-on-pharmaceutical-industry-in-the-covid-19-fight (accessed: 15.09.2022).

Hossan, S. (2021). Pharmaceutical Industry of Bangladesh: Prospects and Future Challenges - Business Inspection BD. https://businessinspection.com.bd/pharmaceutical-industry-of-bangladesh/ (accessed: 15.09.2022).

Jan, A.A., Lai, F.W., & Tahir, M. (2021). Developing an Islamic Corporate Governance framework to examine sustainability performance in Islamic Banks and Financial Institutions. *Journal of Cleaner Production*, 315(March 2020), 128099. https://doi.org/10.1016/j.jclepro.2021.128099.

Ji, J., Talavera, O., & Yin, S. (2020). Frequencies of board meetings on various topics and corporate governance: evidence from China. *In Review of Quantitative Finance and Accounting,* (Vol. 54, Issue 1). Springer US. https://doi.org/10.1007/s11156-018-00784-2.

Karmańska, A. (2014). The imperative of sustainable growth and reporting integration. The fourth era in the corporate reporting development. *Copernican Journal of Finance & Accounting*, 3(2), 49. https://doi.org/10.12775/cjfa.2014.017.

Khan, H. ur R., Khidmat, W. Bin, & Awan, S. (2021). Board diversity, financial flexibility and corporate innovation: evidence from China. *Eurasian Business Review*, 11(2), 303–326. https://doi.org/10.1007/s40821-020-00171-9.

Kyereboah-Coleman, A., & Biekpe, N. (2006). The relationship between board size, board composition, CEO duality and firm performance: Experience from Ghana. *Corporate Ownership and Control*, 4(2 A), 114–122. https://doi.org/10.22495/cocv4i2p11.

Limpaphayom, J., & Connelly, P. (2006). Board characteristics and firm performance: Evidence from the life insurance industry in Thailand Chulalongkorn. *Journal of Economics*, 16(2), 101–124. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=952453 (accessed: 15.09.2022).

Lipton, M., & Lorsch, J.W. (1992). A modest proposal for improved corporate governance: Business source. Business Lawyer, 42(1), 59–78. http://web.a.ebscohost.com.eserv.uum.edu.my/bsi/detail?vid=19&sid=e3a1315c-d940-4744-b224-1ce498b43ead@sessionmgr4005&hid=4114&bdata=JnNpdGU9YnNpLWxpdmU=#db=bth&AN=5963897 (accessed: 15.09.2022).

M., T., & Sasidharan, A. (2020). Does board independence enhance firm value of state-owned enterprises? Evidence from India and China. *European Business Review*, 32(5), 785–800. https://doi.org/10.1108/EBR-09-2019-0224.

Maher, M.E., & Andersson, T. (2005). Corporate Governance: Effects on Firm Performance and Economic Growth. *SSRN Electronic Journal*, February. https://doi.org/10.2139/ssrn.218490.

Martín-Ugedo, J.F., Mínguez-Vera, A., & Rossi, F. (2019). Female directors and firm performance in Italian and Spanish listed firms: Does masculinity matter? *Academia Revista Latinoamericana de Administracion*, 32(3), 411–436. https://doi.org/10.1108/ARLA-06-2018-0124.

Mohd Saad, N., Haniff, M.N., & Ali, N. (2020). Corporate governance mechanisms with conventional bonds and Sukuk' yield spreads. *Pacific Basin Finance Journal*, 62, #pagerange#. https://doi.org/10.1016/j.pacfin.2019.02.001.

Nawaz Khan, S., Hussain, R.I., Ur-Rehman, S., Maqbool, M.Q., Engku Ali, E.I., & Numan, M. (2019). The mediating role of innovation between corporate governance and organizational performance: Moderating role of innovative culture in Pakistan textile sector. *Cogent Business and Management*, 6(1). https://doi.org/10.1080/23311975.2019.1631018.

Neffati, Am., Khiari, W., & Lajmi, A. (2020). Corporate governance and post - merger performance : evidence from US banks. *Copernican Journal of Finance & Accounting*, 9(3). https://doi.org/10.12775/CJFA.2020.014.

Prashar, A., & Gupta, P. (2020). Corporate boards and firm performance: a meta-analytic approach to examine the impact of contextual factors. *International Journal of Emerging Markets*, 16(7), 1454–1478. https://doi.org/10.1108/IJOEM-10-2019-0860.

Pucheta-Martínez, M.C., & Gallego-Álvarez, I. (2020). Do board characteristics drive firm performance? An international perspective. In Review of Managerial Science (Vol. 14, Issue 6). Springer Berlin Heidelberg. https://doi.org/10.1007/s11846-019-00330-x.

Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management*, 62(2), 147–169. https://doi.org/10.1108/IJLMA-03-2019-0076.

Saini, N., & Singhania, M. (2018). Corporate governance, globalization and firm performance in emerging economies: Evidence from India. *International Journal of Productivity and Performance Management*, 67(8), 1310–1333. https://doi.org/10.1108/IJPPM-04-2017-0091.

Saleh, M.W.A., Zaid, M.A.A., Shurafa, R., Maigoshi, Z.S., Mansour, M., & Zaid, A. (2020). Does board gender enhance Palestinian firm performance? The moderating role of corporate social responsibility. *Corporate Governance (Bingley)*, 21(4), 685–701. https://doi.org/10.1108/CG-08-2020-0325.

Sanyaolu, W.A., Adejumo, B.T., & Kadiri, I. (2021). Board Diligence and Financial Performance: Evidence From Nigerian Deposit Money Banks. *Copernican Journal of Finance & Accounting*, 9(3), 145. https://doi.org/10.12775/cjfa.2020.017.

Singla, M., & Singh, S. (2019). Board monitoring, product market competition and firm performance. *International Journal of Organizational Analysis*, 27(4), 1036–1052. https://doi.org/10.1108/IJOA-07-2018-1482.

Song, H.J., Yoon, Y.N., & Kang, K.H. (2020). The relationship between board diversity and firm performance in the lodging industry: The moderating role of internationalization. *International Journal of Hospitality Management*, 86(May 2019), 102461. https://doi.org/10.1016/j.ijhm.2020.102461.

Ullah, I., Fang, H., & Jebran, K. (2020). Do gender diversity and CEO gender enhance firm's value? Evidence from an emerging economy. *Corporate Governance (Bingley)*, 20(1), 44–66. https://doi.org/10.1108/CG-03-2019-0085.

Unite, A.A., Sullivan, M.J., & Shi, A.A. (2019). Board Diversity and Performance of Philippine Firms: Do Women Matter? *International Advances in Economic Research*, 25(1), 65–78. https://doi.org/10.1007/s11294-018-09718-z.

Vairavan, A., & Zhang, G.P. (2020). Does a diverse board matter? A mediation analysis of board racial diversity and firm performance. *Corporate Governance (Bingley)*, 20(7), 1223–1241. https://doi.org/10.1108/CG-02-2020-0081.

Waheed, A., & Malik, Q.A. (2019). Board characteristics, ownership concentration and firms' performance: A contingent theoretical based approach. *South Asian Journal of Business Studies*, 8(2), 146–165. https://doi.org/10.1108/SAJBS-03-2018-0031.

Wang, Y., Abbasi, K., Babajide, B., & Yekini, K.C. (2020). Corporate governance mechanisms and firm performance: evidence from the emerging market following the revised CG code. *Corporate Governance (Bingley)*, 20(1), 158–174. https://doi.org/10.1108/CG-07-2018-0244.

Wijethilake, C., Ekanayake, A., & Perera, S. (2015). Board involvement in corporate performance: evidence from a developing country. *Accounting in Emerging Economies*, 1(2), 123–143. https://doi.org/10.1108/JAEE-12-2012-0050.

(www1) Consultancy.eu. (2020). How covid-19 is impacting the global chemicals industry. https://www.consultancy.eu/news/4078/how-covid-19-is-impacting-the-global-chemicals-industry (accessed: 15.09.2022).

(www2) wikipedia. (2022). pharmaceutical industry in bangladesh - Google Search. https://www.google.com/search?q=pharmaceutical+industry+in+bangladesh&oq=&aqs=chrome.0.69i59l3.30827325054j0j15&sourceid=chrome&ie=UTF-8 (accessed: 15.09.2022).