The effect of board characteristics on the audit committee meeting frequency

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ABSTRACT

The focus of this study is to examine the impact of board of directors’ size and meetings on the audit committee meeting frequency among energy, materials and food and beverages sectors listed on Saudi Stock Exchange (Tadawul) for the period 2015-2017. The final sample of this study consists of 198 firm-year observations. Using the Pooled OLS regression, this study finds that board meeting is positively associated with audit committee meeting frequency. Furthermore, this study fails to report an association between board size and audit committee meeting frequency. This study provides insightful evidence to policy makers on the determinants influencing the audit committee meeting frequency among manufacturing companies.

Keywords: Audit committee meeting frequency, Board size, board meeting, Saudi Arabia

1. Introduction

The primary objective of this study is to examine the relationship between the board size and board meetings with audit committee meeting frequency among manufacturing companies in Saudi Arabia. The audit committee's role of monitoring stands in the middle between the external auditor and the board of directors in ensuring effective communication, facilitating the monitoring process, and enhancing independence in the field of auditing. Committees play an important monitoring role to ensure improved financial reporting and enhancement of corporate accountability. Monitoring serves as a mediator in bridging the gap of information inconsistency between the board of directors and the external auditor. Similarly, the committee's role of monitoring also helps in promoting the independence of the auditor (Klein 2002; Birkett, 1986; Carcello et al., 2002; Carcello & Neal, 2003; Mautz & Neumann, 1977; Habtoor et al., 2019; Hassan et al., 2018). Basically, the supervisory role of the auditing committee involves corporate governance, auditors and auditing, and financial reporting (Wolnizer, 1995). Findings show that there is a likelihood of an effective audit committee to influence the board or management decision-making (Abbott et al., 2004; Arel, Brody & Pany, 2006; Archambeault & DeZoort, 2001; Owens-Jackson et al., 2009). Various reports suggest that a high level of activities is largely associated with the committee's ability to perform its duties effectively (Archambeault & DeZoort, 2001). Additionally, the frequency of meetings is largely perceived as the better alternative measure for the level of observing activities being conducted (Greco, 2011; Collier & Gregory, 1999; Vafeas, 1999; Laksmans, 2008; Sharma et al., 2009; Haniffa et al., 2006). Conspicuously, board meetings frequency enhances the quality of accounting information and an effective way of reducing the chances of financial fraud (Beasley, 1996; McMullen & Raghunandum, 1996; Abbott et al., 2004; Pucheta-Martinez & De Fuentes, 2007). According to Dey (2008), an active audit committee plays a crucial role in sending a positive
signal regarding the quality of a company's financial and accounting information, especially when agency costs are substantial. Some reports reveal that an effective committee ensures accurate financial reporting, effective internal control, and functional risk management for individual organizations. Also, an active committee is critical in improving transparency in security markets, resulting in better protection of shareholders' interests and improving the company's book value (McMullen & Raghunandam, 1996; Archambeault & DeZoort, 2001; Bagais & Aljaaidi, 2020). The recent studies suggest that the frequency of the auditing committee meeting is mainly implemented as a proxy for audit committee proficiency and observing certain financial reporting benefits for organizations with well-established audit committees (DeZoort et al., 2002; Fama & Jensen, 1983).

There are a few studies that have investigated the determinants of audit committee meeting frequency (Menon & Williams, 1994; Raghunandan & Rama, 2007; Sharma et al., 2009; Greco, 2011; Al-Najjar, 2011; Thiruvadi, 2012; Maraghni & Nekhili, 2014; Braswell, Daniels, Landis and Chang, 2012). Conversely, the extant research focuses on other developing and developed markets, and it was revealed that there is limited evidence from GCC countries. As a result, this study examines the audit committee meeting frequency in one of the top 20 countries globally and the largest economy in the Middle East and the Arab world. Additionally, previous studies recorded inconclusive and conflicting results; hence, the need to have more empirical investigations of the issues surrounding the audit committee meeting frequency. Various researchers indicated the lack of empirical evidence permitting decision-making regarding the relationships among the board meetings, the size of the board, and the frequency of audit committee meetings in Saudi Arabia. Specifically, experts postulate that the difference between the Saudi market and the global market might lead to different underlying relationships and scrutiny of the matter, resulting in more evidence to the discussion. Therefore, this study will expound on the findings of the existing research studies on the frequency of the audit committee meetings (Menon & Williams, 1994; Raghunandan & Rama, 2007; Sharma et al., 2009; Greco, 2011; Al-Najjar, 2011; Thiruvadi, 2012; Dellaportas et al., 2012; Maraghni and Nekhili, 2014; Braswell et al., 2012; Al-Daoud et al., 2016) by adding a new empirical evidence to the literature of corporate governance using a recent data.

The remainder of the paper is organized as follows. The next section reviews the prior studies and develops the hypotheses. The third section describes the sample, data and model of the study. Fourth section presents the results, tests and analysis. The final section concludes the study.

2. Prior studies and hypotheses development

2.1 Board size and audit committee meeting frequency

The size of board of directors plays a significant role in the monitoring and controlling of managers (Abdul Ramhan & Mohamed Ali, 2006; Chen & Zhou, 2007; Fama & Jensen, 1983; Yatim et al., 2006; Lipton & Lorsch, 1992; Aljaaidi and Hassan, 2020). Board size could either increase or decrease the frequency of audit committee meetings (Raghunandan & Rama, 2007; Sharma et al., 2009). Vafeas (1999) argues that a larger board might be an unproductive form of governance, requiring more frequent audit committee meetings. According to Sharma et al. (2009), having more members can result in a diversity of perspectives that manifest in deeper discussions. Similarly, Greco (2011) postulates that the bigger the board size, the more the unproductive audit committee activities and meetings become. Stewart and Munro (2007) add that a larger board should focus more on promoting transparency and encouraging the diligence of the audit committee. Conspicuously, irregular and conflicting results were detected by the empirical research concerning the relationship between audit committee meeting frequency and board size. Al-Najjar (2011) and Maraghni and Nekhili (2014) reported a positive relationship between board size and audit committee meeting frequency. Conversely, an insignificant association was reported between board size and audit committee meeting frequency by several other empirical studies (Raghunandan & Rama, 2007; Thiruvadi, 2012; Sharma et al., 2009; Dellaportas et al., 2012; Greco, 2011; Braswell et al., 2012).

Based on the conflicting results reported by the prior studies owing to the association of board size with audit committee meeting frequency, a non-directional relationship is posited, we formulate the following hypothesis:

H₁: Ceteris paribus, board size is related to the audit committee meeting frequency.

2.2 Board meeting and audit committee meeting frequency

The findings further indicate that the board members who are keen on giving benefit to shareholders' meetings are likely to perform their roles diligently (Byrne, 1996; Lipton & Lorsch, 1992). Adam (2017) and Ferreira (2011) allude that a board that can demonstrate a high level of diligence while carrying out its responsibilities of oversight is likely to improve the level of oversight of the financial reporting process (Yatim et al., 2006). The findings indicate that the most active board members based on the frequency of the meetings conducted tend to improve audit committee diligence by ensuring more frequent exchange with an audit committee member (Sharma et al. 2009; Al-Najjar 2011). The prior empirical research reported conflicting results
on the relationship between board meetings and audit committee meeting frequency. For instance, Maraghni and Nekhili (2014), Thiruvadi (2012), Raghunandan and Rama (2007) reported a positive association relationship between board meetings and audit committee frequency. On the other hand, Braswell et al. (2012) reported a negative association between board meetings and audit committee meeting frequency.

Based on the conflicting results reported by the prior studies owing to the association of board meeting with audit committee meeting frequency, a non-directional relationship is posited, we formulate the following hypothesis:

\( H_2: \text{Ceteris paribus, board meeting is related to the audit committee meeting frequency.} \)

3. Sample, data and model

The population of interest comprises all manufactured companies listed on Saudi Stock Exchange (Tadawul) for the years 2015-2017. Our final sample comprises 198 firm-year observations. The number of the board members and meetings, total assets, debts, performance, age, and audit committee meetings were hand-collected from financial statements available on the web site of the Saudi Stock Exchange (Tadawul). Samples selected depicted in Table 1.

<table>
<thead>
<tr>
<th>Sample Selection</th>
<th>Total Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total observations</td>
<td>201</td>
</tr>
<tr>
<td>Observations discarded (outliers, missing and incomplete data)</td>
<td>(3)</td>
</tr>
<tr>
<td>Final sample</td>
<td>198</td>
</tr>
</tbody>
</table>

We control for several variables that are evidenced by prior studies to have associations with audit committee meeting frequency as a monitoring mechanism, varying based on the level of the agency costs. The first control variable is the firm size. Thiruvadi (2012) indicates that a firm's size is the most utilized variable in auditing and accounting research and serves as a proxy for complexity, political costs, and monitoring demands. He adds that large companies are likely to be multifaceted, and as such, they would require an effective audit committee to supervise and address accounting related issues (Méndez & García, 2007, 2007; Raghunandan & Rama, 2007; Sharma et al., 2009; Greco, 2011; Klein, 1998). The majority of the prior research confirmed a positive association between firm size and audit committee meeting frequency (Dellaportas et al., 2012; Menon and Williams, 1994; Raghunandan & Rama, 2007; Méndez & García, 2007; Deli and Gillan 2000; Sharma et al. 2009; Maraghni and Nekhili, 2014; Qasim, 2020; Braswell et al., 2012; Baccouche et al., 2014; Jiraporn et al., 2009). Conversely, Thiruvadi (2012) reported an insignificant association between firm size and audit committee meeting frequency.

Agency theory indicates higher leverage outcomes in lower agency due to the abuse of free cash flow by the management, which suggests a reduction in committee meeting frequency (Sharma et al., 2009; Shleifer & Vishny, 1997; Coles et al., 2008). The risks of bankruptcy and debt-related agency costs encourage organizations to enhance the diligence of their audit committee to mitigate the risk perceived by creditors (Deli & Gillan 2000; Sharma et al. 2009; Hahn & Lasfer, 2007, 2016). Some empirical studies reported a negative association between leverage and audit committee meeting frequency (Dellaportas et al., 2012; Méndez & García, 2007; Brick & Chidambaran, 2010). On the other hand, Collier and Gregory (1999) document a marginally significant and positive association between meeting activity and firm leverage. While several other studies reported an insignificant relationship between firm leverage and audit committee meeting frequency (Maraghni & Nekhili, 2014; Thiruvadi, 2012; Qasim, 2020; Braswell et al., 2012; Raghunandan & Rama, 2007; Sharma et al., 2009).

Findings indicate the companies with poor performance are likely to experience errors and fraud, implying a greater need for internal auditing. Various research studies consider profitability as a control variable impacting the audit committee meeting frequency (Raghunandan & Rama, 2007; Sharma et al., 2009; Dellaportas et al., 2012; Qasim, 2020; Adams & Ferreira, 2007, 2009; Adams et al., 2010; Conger et al., 1998; Lin et al., 2014). While Dellaportas et al. (2012) and Qasim (2020) fail to report an association between profitability and audit committee meeting frequency. In regards to the link between audit committee meeting frequency and company's age, Evans (1987a) cites that a company's age is considered a critical factor in the growth and stability of an organization in the business environment and development. Geroski (1995) adds that a company's age has been widely utilized as a proxy for its experience over the years from the business environment, which positively impacts its performance. For a long epoch, corporate management has been acquiring a wealth of information concerning skills and capabilities (Evans, 1987b; Ramos & Olalla, 2011).

To address the impact of board size and meeting on audit committee meeting frequency, we develop the following regression using a Pooled Ordinary least square model **OLS**.
ACMEET = β₀ + β₁ BDSIZE + β₂ BDMEET + β₃ LASSET + β₄ LEV + β₅ ROA + β₆ AGE + e  

(1)

where:

ACMEET = Number of meetings held during the year
BDSIZE = Number of directors on the board
BDMEET = Number of meetings held during the year
LASSET = Log₁₀ of total assets
LEV = Total book value of debt to total assets ratio
ROA = Return on assets
AGE = Number of years since the company is established
e = error term.

As for the measurements of the variables, Table 2 exhibits the dependent and test variables.

Table 2
Summary of the Operationalization and the Expected Sign of the Research Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Acronym</th>
<th>Operationalization</th>
<th>Coefficient Predictions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit committee meeting frequency</td>
<td>ACMEET</td>
<td>Number of meetings held during the year</td>
<td>d.v</td>
</tr>
<tr>
<td><strong>Hypothesized variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>BDSIZE</td>
<td>Number of directors on the board</td>
<td>i.v</td>
</tr>
<tr>
<td>Board meeting</td>
<td>BDMEET</td>
<td>Number of meetings held during the year</td>
<td>i.v</td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>LASSET</td>
<td>Log₁₀ of total assets</td>
<td>i.v</td>
</tr>
<tr>
<td>Firm leverage</td>
<td>LEV</td>
<td>Total book value of debt to total assets ratio</td>
<td>i.v</td>
</tr>
<tr>
<td>Firm performance</td>
<td>ROA</td>
<td>Return on assets</td>
<td>i.v</td>
</tr>
<tr>
<td>Firm age</td>
<td>AGE</td>
<td>Number of years since the company is established</td>
<td>i.v</td>
</tr>
</tbody>
</table>

Note: d.v – dependent variable, i.v – independent variable

4. Results and analysis

4.1 Statistics and correlation

The descriptive statistics are presented in Table 3, showing the mean, standard deviation, minimum and maximum of each variable in the sample data set.

Table 3
Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std.Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACMEET</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td>1.691</td>
</tr>
<tr>
<td>BDSIZE</td>
<td>8</td>
<td>5</td>
<td>15</td>
<td>1.661</td>
</tr>
<tr>
<td>BDMEET</td>
<td>5</td>
<td>2</td>
<td>22</td>
<td>2.642</td>
</tr>
<tr>
<td>LASSET</td>
<td>7493387763</td>
<td>19084462</td>
<td>9707302267</td>
<td>1557623672.338</td>
</tr>
<tr>
<td>LEV</td>
<td>0.444</td>
<td>0.020</td>
<td>8.900</td>
<td>0.652</td>
</tr>
<tr>
<td>ROA</td>
<td>0.06</td>
<td>0.00</td>
<td>0.92</td>
<td>0.100</td>
</tr>
<tr>
<td>AGE</td>
<td>28</td>
<td>2</td>
<td>62</td>
<td>14.177</td>
</tr>
</tbody>
</table>
Table 3 displays that there is a significant range of variation among the considered samples of this study. It is shown that the range of ACMEET is from 2 to 12 with an average of 5 and a standard deviation of 1.691. The range of BDSIZE is from 5 to 15 with an average 8 and a standard deviation 1.661. The mean of BDMEET is 5 and it ranges from 2 to 22 and a standard deviation of 2.642. The mean of LASSET is 7493387763 with a maximum of 97073302267 and a minimum of 19084462 and a standard deviation of 1557623672.338. The LEV ranges from 0.020 to 8.900 and means 0.444 and a standard deviation of 0.652. The ROA ranges from 0.00 to 0.92 with an average of 0.06 and a standard deviation of .100. As for the AGE, the mean is 28 years and it ranges from 2 to 62 and a standard deviation of 14.177.

Table 4
Correlation matrix of independent variables

<table>
<thead>
<tr>
<th></th>
<th>BDSIZE</th>
<th>BDMEET</th>
<th>AGE</th>
<th>LASSET</th>
<th>LEV</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDSIZE</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDMEET</td>
<td>-.177</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>.126</td>
<td>.168*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LASSET</td>
<td>.351**</td>
<td>-.157*</td>
<td>-.195*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEV</td>
<td>-.028</td>
<td>.033</td>
<td>.023</td>
<td>.103</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>.161*</td>
<td>.115</td>
<td>.244**</td>
<td>-.181*</td>
<td>-.074</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4 confirms that the multicollinearity problem does not exist because the correlation matrixes among the variables do not exceed 0.90. All the variables have a correlation of equal to or less than .351.

4.2 Regression results

Table 5 depicts the estimated regression coefficients for the regression model, the variance inflation factor (VIF), and the tolerance results. The highest VIF score obtained is 1.169 and the highest Tolerance score obtained is 0.977. This confirms the non-existence of multicollinearity problem in which the VIF is lower than the threshold of 10 and Tolerance is lower than the threshold of 1.

Table 5
Audit committee meeting frequency regression model

| Variables | Expected Sign | Coef. | t   | P>|t| | Tolerance | VIF |
|-----------|---------------|-------|-----|------|-----------|-----|
| BDSIZE    | - /+          | -.066-| -.811-| .419  | .775      | 1.291|
| BDMEET    | - /+          | .303  | 4.027| .000  | .916      | 1.092|
| LASSET    | - /+          | -.018-| -.223-| .824  | .789      | 1.268|
| LEV       | - /+          | -.201-| -.2756-| .007  | .977      | 1.024|
| ROA       | - /+          | -.085-| -.1.101-| .273  | .871      | 1.148|
| AGE       |               | .313  | 4.020| .000  | .855      | 1.169|
| F         |               | 8.034 |      |      |           |     |
| Adjusted R² |             | 21.8  |      |      |           |     |
| P-value   |               | 0.000 |      |      |           |     |

Bold = significance at 1%, 5% and 10% (two-tailed significance)

Table 5 report the adjusted $R^2$ and the $F$-value for the audit committee meeting frequency model. The $F$-value for the model is statistically significant at the 1% level, indicating that the overall model can be interpreted. The adjusted $R^2$ is 0.218, indicating that the model has explained 21.80% of the variance in the audit committee meeting frequency. This indicates a good fit of the audit committee meeting frequency model.

The regression results in Tables 5 show that the coefficient of BDSIZE is not significant. This result is consistent with the extant prior research (Raghunandan & Rama, 2007; Thiruvadi, 2012; Sharma et al., 2009; Dellaportas et al., 2012; Greco, 2011; Braswell et al., 2012; Agrawal & Knoeber, 2001). A possible explanation is that audit committee meeting frequency as an internal monitoring mechanism substitutes the board size as another internal monitoring mechanism. Thus, hypothesis $H_1$ is accepted.
The regression results in Table 5 presents that the coefficient of $BDMEET$ is positive and significant ($p < 0.000$), which indicates the higher the board of directors’ meetings, the more frequent the audit committee conducts meetings. This result confirms the complementary function of both board and audit committee meetings as internal corporate governance mechanisms. This result is in line with the previous studies of Maraghni and Nekhili (2014), Thiruvadi (2012), Raghunandan and Rama (2007). Therefore, hypothesis $H_2$ is supported.

5. Conclusions

Our study has examined the associations of board size and board meetings with the audit committee meeting frequency among 198 manufactured Saudi listed companies on the Saudi Stock Exchange (Tadawul) for the period ranging from 2015-2017. We failed to find an association between board size and audit committee meeting frequency. This result is in line with several previous studies (Raghunandan & Rama, 2007; Thiruvadi, 2012; Sharma et al., 2009; Dellaportas et al., 2012; Greco, 2011; Braswell et al., 2012). Consistent with Maraghni and Nekhili (2014), Thiruvadi (2012), Raghunandan and Rama (2007), we find a positive and significant relationship between board meetings and audit committee meeting frequency. This result also gives support for the complementary function of the corporate governance attributes as monitoring mechanisms.

Our study contributes to the extant literature in corporate governance in two perspectives. First, our study provides empirical evidence on the associations of two internal corporate governance mechanisms, namely; board size and board meetings, with audit committee meeting frequency in the Saudi context where there is a paucity of research in this area. Therefore, this study provides an additional empirical evidence to the literature body of corporate governance. Second, our study focuses on the manufacturing sector in Saudi Arabia which has been neglected by the prior studies as a single industry.

The findings of this study might have practical inferences for the Saudi stock market (Tadawul) that provide a new understanding regarding the extent to which an audit committee of manufacturing companies is active in a way to practice its monitoring responsibility and to protect the interests of shareholders. Similarly, the management of external auditors, bankers, and companies would also benefit from understanding the influential factors of the audit committee activities.

The study recognizes some limitations. For example, the sample of the study largely focuses on manufacturing firms. This brings the need for future research to consider incorporating other sectors such as merchandising, service, and telecommunication. Similarly, the study analyses the size of the board and meetings as test variables. Future studies could involve other determinants of corporate governance such as board of directors and the audit committee attributes, audit quality, and ownership structure. Additionally, this study was conducted in Saudi settings. Future research could replicate a similar model in different GCC countries and other Middle East countries.

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References


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