THE IMPACTS OF BOARD CHARACTERISTICS AND FIRM SIZE ON FIRMS’ PERFORMANCE: EVIDENCE FROM VIETNAMESE LISTED FIRMS (HOSE)

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DOI: 10.46609/IJSSER.2024.v09i04.001 URL: https://doi.org/10.46609/IJSSER.2024.v09i04.001

Received: 25 March 2024 / Accepted: 6 April 2024 / Published: 11 April 2024

ABSTRACT

This study examines the impacts of board characteristics and firm size on firm performance: evidence from Vietnamese listed firms (HOSE) for the 2016-2020 period. The study controls for endogeneity and simultaneously problems using the dynamic panel technique of Generalized Method of Moments (GMM) with a data set of 344 companies (1,339 observations) in all industries excluding financial institutions. The research results show that board size (BSI), CEO duality (CEO), big 4 audit (B4A) and firm size (FIS) have significant position relationships with firms’ performance while there is a negative correlation between Board gender diversity (BGD) and firms’ performance. The data also reveal that the lagged dependent variable in the estimated model is significant in explaining the connection of board gender diversity, firm size and big 4 audit, indicating that the estimation models in our study are reasonable.

Keywords: Board characteristics, Firm size, Firm Performance, GMM.

1. Introduction

Because of their fast economic expansion and considerable engagement in the global economy, emerging markets have gained a lot of scholarly attention in recent years (Hoskisson et al., 2000). Nowadays, investors find aggressively in business, and the stock market is one of the most apparent places to invest. The number of stock investors grows year after year. Since then, there has been a greater emphasis on company efficiency. There are several elements that influence an enterprise's success, some of which include gender diversity in the firm, the size of the company, or having big 4 audited.

According to board research, board diversity may stymie strategic progress. Miller et al. (1998) discovered that executive cognitive heterogeneity impeded rather than encouraged long-term
planning. The authors reasoned that since heterogeneity generates a variety of conflicting perspectives, CEOs were more likely to disagree and struggle to agree on a plan of action, limiting their potential to accelerate change. This conclusion is consistent with team diversity assessments, which have shown that surface-level diversity, including gender diversity, can bring challenges with cohesiveness and collaboration, as well as conflict that may impair team decision-making (Webber and Donahue, 2001; Williams and O’Reilly, 1998).

However, it is undeniable that this impact is extended to gender diversity on corporate boards of directors. Because past experiences and cognitions might differ based on demography (Milliken and Martins, 1996; Robinson and Dechant, 1997), gender diversity on the board of directors should translate into a variety of opinions in the group. On the one hand, the value in diversity hypothesis (Cox, Lobel, and McLeod, 1991) asserts that a significant benefit of team diversity is that heterogeneous groups should give a larger range of knowledge, information, and opinions than homogeneous ones. Diverse teams come up with more inventive ideas than homogeneous teams (Jackson, 1992; Triandis, Hall, and Ewen, 1965). Diverse boards have also been linked to higher levels of innovation (Miller and Triana, 2009; Torchia et al., 2011). Because of the multiplicity of knowledge, strategic inertia is less likely. A more complex decision-making process, on the other hand, takes longer, which may explain why heterogeneous teams take longer to reach homogeneous team performance goals (Watson, Kumar, and Michaelsen, 1993).

In addition, the TTO - MasterCard’s Index of Women Entrepreneurs (MIWE) was recently issued, showing that the number of women-owned businesses in Vietnam stands at 26.5%, ranking 9th out of 58 economies, according to research on the number of women in leadership roles. Therefore, the participation of female directors might play an important role which might boost productivity in economies.

The purpose of this research is to examine the effects of board characteristics and firm size on firm’s performance using Vietnamese companies listed in HOSE stock market. The study used a panel data sample that spreads from year 2016 to year 2020.

This study employed independent variables including board gender diversity, Big 4 audit whereas control variables consisting of board size, CEO duality, firm size, firm age and debt ratio. The GMM technique is used in the research to overcome endogeneity and unobserved heterogeneity concerns in panel data analysis. The findings of GMM method reveal that how board gender diversity and big 4 audit will have significant influences on Vietnamese firms’ performance listed in HOSE stock market.
2. Literature review and hypotheses development

2.1. Firm performance

Firm performance refers to a company's capacity to effectively use existing resources to meet goals in accordance with the company's strategic plans (Peterson, Gijsbers, and Wilks 2003; Taouab and Issor 2019). Firm performance is not only measured by the variety of financial ratios on report statements but also is evaluated on the market where operating. Some of the common accounting ratios calculated regularly are revenue, return on equity, return on assets, profit margin, liquidity ratio, stock prices, and others. Depending on the field of the company's operation, some financial ratios will be more important than others. For example, the food manufacturing industry will evaluate inventory turnover, total unit sales, and return on assets. Whereas in the food service field depending on estimating revenue, operating income, or repeated purchase ratio may be the main ratios to observe the operative affection of a company. In addition, firm performance is meaningless compared with all the various industries because each industry operates differently and has a segregated operation structure. For instance, comparing the return on assets between a manufacturing entity and a consulting firm may be useless because one is asset-heavy while the other is not.

2.2. Hypothesis development

Firm size is a major factor in determining company profitability because of a concept known as economies of scale that can be found in the traditional view of the company. It can be interpreted that companies can produce goods at a much lower cost by large companies. Besides, the firm size is an increase in the company's employees who have a large market capitalization, and it also reflects the size of a company. Company size can be measured through total assets, sales or company capital. Companies that have large total assets are considered to have good prospects in a relatively stable period and are able to generate profits compared to companies that have small total assets. Large-scale companies have the higher competitiveness than small companies because large enterprises have a large market so they have a great opportunity to obtain lucrative profits (Ngoc Bich& Hoang Uyen, 2019).

**H1: Firm size has a significant positive relationship with ROA**

Many studies have demonstrated that gender diversity improves the Board of Directors' supervision, thereby increasing the quality of information, enhancing collaboration and consulting for management, and improving relationships with shareholders (Bernardi et al, 2002). In addition, Smith et al. (2006) shown that having women on the Board of Directors assists management in making innovative and high-quality choices due to women's knowledge and multi-dimensional view of situations. Furthermore, the participation of women on the board
of directors reduces the amount of conflict of interest, their ability to "read" minds and "understand" the psychology and behavior of customers, fostering trust among members and making an essential contribution to the company's management mechanism of investment (Nielsen and Huse, 2010).

However, board of directors’ members is interconnected and work toward a shared purpose (Forbes and Milliken, 1999; Kozlowski and Bell, 2003). Diverse team research has revealed the double-edged character of diversity (Mannix and Neale, 2005). While diverse teams should produce a broader range of ideas and information because they have a diverse knowledge base (Amason and Sapienza, 1997; Milliken and Vollrath, 1991; Schweiger, Sandberg, and Ragan, 1996), diversity may also impede group decision-making (Miller, Burke, and Glick, 1998) due to conflict (Jehn, Chadwick, and Thatcher, 1997; Mintzberg, 1983) and have trouble in making decisions (Goodstein et al., 1994).

In addition, Wang and Clift (2009) explore the connection between gender diversity and firm performance on the top 500 Australian firms and find no statistically significant relationship between ROA, ROE, and shareholder return and the number of women on the board. They find that there is no substantial association between gender diversity on the board and company performance for two reasons. First, there are relatively few women on the boards, which is insufficient to benefit from women's talents on the board. Second, women's representation is most likely thought to be only a socialization process, and as a result, the contribution of female directors to company performance has never been appreciated on corporate boards (Rose, 2007). Marimuthu and Kolandaisamy (2009b) reinforce this viewpoint by claiming that the effect of gender diversity is only transient and that women do not have a significant role in contributing to the company. Their research on the top 100 Malaysian publicly traded companies reveals that the gender influence on board members is not substantial in terms of ROA and ROE.

**H2: Board gender diversity has a significant negative relationship with ROA**

The integration of Big4 auditing companies is used to assess the quality of external audits. Rahman Rahman Huq (RRH) with KPMG, HodaVasi Chowdhury & Co with Deloitte, A. Qasem & Co with EY, and Nurul Faruk Hasan & Co with PWC are the audit companies in Bangladesh that have been associated with the worldwide BIG4 audit firms (Rahman, 2017b). BIG4 audits are often regarded as having higher audit quality. Previous research shows that there is a significant positive relationship between BIG4 audits or audits from reputed firms and performance (Afza & Nazir, 2014). Al Ani and Mohammed (2015), also analyzed the relationship between audit quality (BIG4 audit) and performance. In their study they found the positive relationship between the two variables return on assets (ROA) and return on equity (ROE). This similar result also found in the research of Farouk and Hassan (2014), Afza and Nazir (2014), Al
Ani and Mohammed (2015), and Alqatamin (2018). Auditing by big 4 will help companies detect errors in internal control and fix defects. Moreover, the companies audited by big 4 will have higher reliability than those audited by Non-big4. From there, investors and shareholders will feel safer when they invest in the company. They will support the company's investment activities to help the company develop more, make the firm performance better.

**H3: Big 4 audit has a significant positive relationship with ROA**

3. Research Methodology

3.1. Research data

Research data is collected from the consolidated financial statements that have been audited and listed on the Hochiminh of Stock Exchange (HOSE) in the 5-year period from 2016 to 2020. Through the operation of research data, researchers found multicollinearity problems of the data. Therefore, ensuring consistency and representation of many fields, studiers chose 344 in all fields except finance companies among 1339 companies observed. In addition, the study excluded financial industry groups that have special characteristics requirements about presenting the report, inconsistent with companies in the remaining industries in the whole sample.

3.2. GMM Method

In this quantitative research, authors apply the Generalized method of moments method (GMM) followed by Arellano and Bond (1991) and Blundell and Bond (1998) that solving the number of wide samples at various time frame to observe in panel data better than research methods before. The GMM can control unobserved heterogeneity, endogeneity, and simultaneity issues in panel data and it consists of two estimated types that may replace each other are Dif-GMM and Sys-GMM. Blundell and Bond (1998) proposed Sys-GMM given exactly the result as Dif-GMM, because its Level model can analyse and observe endogenous better.

3.3. Hansen test and Arellano-bond test

The Sargan–Hansen test, often known as Sargon's J test, is a statistical test for determining if a statistical model has over-identifying restriction. It was proposed by John Denis Sargan in 1958, and he developed numerous variations in 1975. The considerable value of the Hansen test rejects the null hypothesis, demonstrating that the random effect is constant and that the fixed effect seems to be the most appropriate model (Saleh et al., 2021).

Arellano - Bond test (AR) was proposed by Arellano - Bond (1991) to verify error’s autocorrelation of GMM model in the difference equation of level 1 (AR1), thus, the difference
equation chain of level 1 correlates obviously so the result will be skipped. The difference equation of level 2 (AR2) is used to observe the residual of autocorrelation in level 2. Therefore, the P-value of AR2 is as big as illustrate that the values do not have autocorrelation level 2 for the remainder.

4. Research model

\[
ROA_{it} = \beta_0 + \beta_1 BSI_{it} + \beta_2 BGD_{it} + \beta_3 CEO_{it} + \beta_4 B4A_{it} + \beta_5 FIS_{it} + \beta_6 FIA_{it} + \beta_7 DER_{it} + \varepsilon_{it}
\]

The dependent variable of the study is performance indicators measured by Return on Assets (ROA) which helps to handle different aspects of performance, and ROA is a proxy for future performance of the company for current and prospect investors. Besides, the study utilizes a number of independent variables namely BSI, BGD, CEO, and a quantity of control variables such as B4A, FIS, FIA, DER.

The first independent variable is board size (BSI) which is controlled for as the belief that whenever the board size increases, the communication and coordination among the members of the board will be affected negatively. Therefore, board size is expected to affect the performance negatively. The second independent variable is board gender diversity (BGD) that shows the reliability of financial statements as well as favourable company’s performance. If the member of the Board of Directors is a woman, she will be more ethical in operating the company than a man; therefore, it increases the quality of information, enhances collaboration and consults for management, and improves relationships with shareholders. If the number of females in the Board of Directors is higher, the BGD is also too. This will lead to it positively impacts the firm's performance. The third independent variable is CEO duality (CEO) showing the good relationship with firm performance. If a person serves both the CEO and chairman of the board of directors positions, the firm performance will be improved well. The result equals one, it means that the firm has a person being CEO and chairman of the board of directors; however, the result equals zero that is not dualism in operating positions.

The first control variable is audit firms in Big 4 (B4A), which is believed that big audit firms (BIG four) will strive for their independence and have better quality audits. Logically, the improved audit quality would enhance the judgment of auditors with regards to the company’s performance. Firms always will try their best to improve their performance in order to avoid the unfavourable opinion of the auditor. Therefore, the expectation is that the big four are associated with better performance. The second control variable is firm size (FIS) which indicates the good operation of the company. The larger firms have a lot of agency problems; therefore, the governance for those companies will be noticed, and firm performance will be positive. The third control variable is firm age (FIA) illustrating the period from establishing company to now.
long-term operation of the company is the evidence of good performance. The fourth control variable is debt ratio (DER) showing the total liabilities divided by total assets at the end of year. If the debt ratio is more than one, the company has more liabilities than assets; therefore, company fronts the risk of default. Otherwise, the ratio is less than one can be a good thing in firm performance.

Table 1. Summary of the variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Abbreviation</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on Assets</td>
<td>ROA</td>
<td>Income before CIT divided by the total year-end assets.</td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>BSI</td>
<td>The number of members of the Board of Directors.</td>
</tr>
<tr>
<td>Board gender diversity</td>
<td>BGD</td>
<td>The proportion of female members divided by the total members of the Board of Directors.</td>
</tr>
<tr>
<td>CEO duality</td>
<td>CEO</td>
<td>Dummy equals 1 - Duality, but it equals 0 - Non duallity.</td>
</tr>
<tr>
<td><strong>Control variable</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big 4 audit</td>
<td>B4A</td>
<td>Dummy equals 1 - audited by Big 4, but it equals 0 - audited by other auditing companies outside of Big 4.</td>
</tr>
<tr>
<td>Firm size</td>
<td>FIS</td>
<td>Logarit of firm’s total asset at the end of year.</td>
</tr>
</tbody>
</table>
5. Results and discussion

5.1. Descriptive Statistics

The descriptive overview of accounting-based performance measures with independent and control variables is shown in table 2. The average value and standard deviation values of ROA is 0.0854312 and 0.1513889 respectively. The maximum and minimum value of ROA is 0.9957857 and (-1.587402). The results comprised of corporate governance control variables, the range of board size is 3 to 11 with a mean value of 5.771378 and the standard deviation is 1.400912. About board gender diversity, the obtained value of main is 0.2286767. Board gender diversity has the greatest value of 1 and the lowest value of 0. It signifies that female members account for 0.2286767 per cent of the overall board size, indicating that male board members predominate on corporate boards. The standard deviation is 0.2329092, indicating that there is considerable heterogeneity in female directors between listed firms. According to studies, CEO duality accounted for 28.03 percentage while non-duality made up a high percentage (71.97%), as shown in table 3. The mean and standard deviation values of firm size, firm age, and debt ratio, as firm-level control variables, are roughly 21.16447(1.623229), 2.929171(0.667539), and 1.355352(20.09324) respectively. Furthermore, according to the statistics in table 4, the firms audited by the big four have a frequency of 646, accounting for 38.36% of all listed companies. Firms that were not audited by the big four accounted for 61.64 percent with a frequency of 1,038. From there, it shows that in the total number of listed companies, the majority of companies choose to be audited by companies outside the big 4.

### Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.0854312</td>
<td>0.1513889</td>
<td>-1.587402</td>
<td>0.9957857</td>
</tr>
<tr>
<td></td>
<td>Freq.</td>
<td>Percent</td>
<td>Cum.</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>---------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1,212</td>
<td>71.97</td>
<td>71.97</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>472</td>
<td>28.03</td>
<td>100.00</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,684</td>
<td>100.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.2. Correlation Matrix

Table 5 shows the Pearson coefficient correlation matrix among all dependent, independent, controls variables related to corporate governance and firm performance. The Person coefficient has a value ranging from +1 to -1. It is a statistical approach that demonstrates the relationship between variables and indicates the intensity and direction of the variables. This substantiates that the variables are not correlated so as to have valid and robust results. Whenever the correlation exceeds the benchmark, one of the variables should be dropped in order to validate the results. The results of the correlation matrix show that the variables are not correlated as the correlations are lower than the benchmark -0.70 and 0.70 cut-off points. Moreover, multicollinearity is not there in all regression models. Table 3 shows that indicators of company performance have a positive and substantial association with board gender diversity, firm size, and firm age, however, ROA has a negative relationship with board size, CEO duality, big 4 audit, and debt ratio.

Table 5. Coefficient Correlation Matrix of the Variables

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>BSI</th>
<th>BGD</th>
<th>CEO</th>
<th>B4A</th>
<th>FIS</th>
<th>FIA</th>
<th>DER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSI</td>
<td>-0.0077***</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BGD</td>
<td>0.0114**</td>
<td>0.0169**</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEO</td>
<td>-0.0191***</td>
<td>-0.0501***</td>
<td>0.1294</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B4A</td>
<td>-0.1241***</td>
<td>-0.2029***</td>
<td>0.0165**</td>
<td>0.0736</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIS</td>
<td>0.0089***</td>
<td>0.3487</td>
<td>-0.0314***</td>
<td>-0.0900***</td>
<td>-0.4666***</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIA</td>
<td>0.0166**</td>
<td>0.0035***</td>
<td>-0.0329***</td>
<td>-0.0283***</td>
<td>-0.0438***</td>
<td>0.0444**</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>DER</td>
<td>-0.0103***</td>
<td>-0.0372***</td>
<td>0.0136**</td>
<td>0.0158**</td>
<td>0.0024***</td>
<td>-0.2383***</td>
<td>0.0137**</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

* Indicate the significant at 10% level, ** significant at 5%, *** significant at 1%
Source: Data calculated from Stata
5.3. GMM estimation

5.3.1. Number of Instruments

After researchers carried out Dynamic panel-data estimation (two-step system GMM). The finding is positive because the number of instruments is less than the number of groups, according to table 7.

5.3.2. Auto-correlation

Researchers used the Arellano-Bond test to estimate the Auto-correlation. Suppose that H0 is no autocorrelation Arellano-Bond (2) and H1 is Autocorrelation Arellano-Bond (2). The regression models in table 7 report that the specifications do not reject the null hypothesis (H0) of no second-order autocorrelation. Because P-value equal 0.841 shows that P-value is greater than 0.05, from which researchers accept H0 and reject H1, i.e. the model does not have Autocorrelation Arellano-Bond (2).

5.3.3. Hansen test

The Hansen test is used to estimate the suitability of the instruments used through the two-step System GMM. Suppose that H0 is the suitability of the instruments used and there is no endogeneity in the research model. The result in table 7 shows that the Hansen test is used to identify the suitability of the instruments used. There is no endogeneity in the research model. Since Prob greater than chi2 (equal 0.297) is greater than 0.05, from which researchers accept H0, which means that the model has no endogeneity.

5.3.4. Collinearity Diagnostics

The table 6 shows that the VIF of all variables is less than 5.0 so there is no multicollinearity in the research model.

Table 6. Collinearity Diagnostics

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>SQRT VIF</th>
<th>Tolerance</th>
<th>R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.02</td>
<td>1.01</td>
<td>0.9800</td>
<td>0.0200</td>
</tr>
</tbody>
</table>
Table 7 reports the study's system GMM estimation outcomes, which include the model being regressed on ROA as the dependent variable. In theory, ROA indicates short-term performance. The essential feature of such models is their capacity to account for autocorrelation to individual effects, which characterize individual heterogeneity (Daher et al., 2015; Ammann et al., 2011).

Table 7 depicts the empirical results-based GMM system. The symbols *, **, *** represent the significance levels of 10%, 5%, and 1%, respectively. Table 7 shows the diagnostic tests for the models, which are the autocorrelation test and the instrument over identification test. The Arellano-Bond test, as shown in Table 7, is used to diagnose autocorrelation, whereas the Hansen test is used to determine the appropriateness of the instruments utilized. The results of both tests reveal that the models properly passed the tests, indicating that the model requirements are reasonably qualified.

They are favorably and substantially connected to the dependent variables in terms of the lagged dependent variables. This indicates that the performance is extremely consistent throughout time. This is an indication of the suitability of utilizing dynamic panel GMM.

About independent variables, the result shows that ROA is positively related to board size (BSI), and CEO duality (CEO), whereas board gender diversity (BGD) has a significant negative
relationship. The coefficient of BSI is greater than zero and p.value less than 1% so ROA has a positive relationship with board size. It means that when the board size is larger, the ROA will increase. Likewise, the coefficient of CEO is greater than zero and p.value less than 5% so ROA has a positive relationship with CEO duality. It means that when the percent of CEO duality is higher, the ROA will raise up. Firms are more valued when the CEO and chairman posts are held by the same person. Stewardship theory indicates for more united, stronger leadership and a more insider-oriented board, where agents are linked with shareholders and advice is valued more than control (Davis et al., 1997; Donaldson & Davis, 1991). The report show that BGD has a significant negative relationship with ROA because the coefficient is -0.0715847 less than zero. According to Offermann & Armitage (1993), Women and men behave differently in the same situation, since they are impacted by gender traits, culture, and social conventions. As a result, in the same leadership role, men and women behave differently. Besides, Betz et al (1989) suppose that women are more prudent, less risk-taking, and less tolerant of unethical behavior than males, including profit-adjusting behavior, thus if women are on the Board of Directors, they will be more ethical. So it means that if board gender diversity is larger, the ROA will decline.

In relation to control variables, the result reports that big 4 audit (B4A) and firm size (FIS) have a significant positive relationship with ROA, while firm age (FIA) has a significant negative relationship. However, debt ratio (DER) has a significant level greater than 10% so it has no significant relationship with ROA. The coefficient of FIS is greater than zero (0.0065057) so it has significant positive relationship with ROA, in the fixed effect model, based on the experimental results when the variables are viewed separately. This positive effect demonstrates that firms with rising profitability seek to expand their firm's size in all fields except finance of Vietnam listed firms on HOSE. In other words, as the number of the firms listed on the HOSE stock exchange grows, so does their profitability. This positive relationship between firm size and ROA is consistent with Ghafoorifard et al. (2014) study, which desired to assess the relationship of firm size and age with financial performance in Listed Companies on the Tehran Stock Exchange, Iran, and found a significant positive relationship between firm size and financial performance. The result show that B4A has a significant positive relationship with ROA. It emphasizes the significance of big 4 audit for improved firm performance. This is similar with our expectations and prior research by Md. Musfiqur Rahman, Mohammad Rajon Meah, and Nasir Uddin Chaudhory (2019). Firm age shows a significant negative relationship, indicating that younger firms tend to be more dynamic, thus finding it easier to adapt to changes in the law and business environment. Moreover, long-established firms will tend to fade the dynamism and innovation. It may be lead to lower profitability compared to younger firms. The findings of this study are consistent with Majumdar (1997) which found that older firms were
more productive but less efficient, or according to the study of Erasmus Fabian Kipesha (2013) finds firm age has a negative impact on firm profitability.

Table 7. System GMM estimation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value &gt;</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lag (1)</td>
<td>.5258959</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>BSI</td>
<td>.0186473</td>
<td>0.023**</td>
<td></td>
</tr>
<tr>
<td>BGD</td>
<td>-.0715847</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>CEO</td>
<td>.0389363</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>B4A</td>
<td>.0345106</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td>FIS</td>
<td>.0065057</td>
<td>0.043**</td>
<td></td>
</tr>
<tr>
<td>FIA</td>
<td>-.0248474</td>
<td>0.010***</td>
<td></td>
</tr>
<tr>
<td>DER</td>
<td>-.0010673</td>
<td>0.261</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-.1481162</td>
<td>0.093</td>
<td></td>
</tr>
<tr>
<td>Number of observation</td>
<td>1339</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of instruments</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of groups</td>
<td>344</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arellano-Bond test for AR(2) in first differences</td>
<td>$z = 0.20; Pr &gt; z = 0.841$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hansen test of overid. restrictions</td>
<td>$\text{chi}^2(23) = 26.09$</td>
<td>$\text{Prob} &gt; \text{chi}^2 = 0.297$</td>
<td></td>
</tr>
</tbody>
</table>

*Indicate the significant at $p < 10\%$ level; **significant at $p < 5\%$; ***significant at $p < 1\%$

Source: Data calculated from Stata

### Conclusion of study

This study provides literature on the influence of board characteristics and firm size on firm performance. For this aim, we used an annual sample of 344 HOSE-listed firms in all fields except finance from 2016 to 2020. The results show that the variables BSI, CEO, B4A, FIS have a significant positive relationship with firm performance through the dependent variable ROA, in contrast, the variables BGD and FIA have a significant negative relationship. Moreover, the variable DER has no impact on firm performance. This study has significant shortcomings. Due to data limitations of board characteristics and firm size, the study is restricted to the HOSE stock market in Vietnam solely. This study is based on panel secondary data analysis. When the study results show that there is no empirical evidence on the link between Board of Directors characteristics and firm performance, it is vital to investigate the causes for such results by thoroughly studying the Board's procedure and meetings. Furthermore, the board members' gender diversity and the firm's age will help to explain their silence in the functioning of corporate governance. As a result, additional research will be conducted to address such gaps and find the reasons why there is no relationship between Board qualities and business success in Vietnamese listed companies.

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