

**Board Diversity And Business Performance In Singapore-Listed Companies
The Role Of Corporate Governance****Lawrence Loh¹, Mai Huong Nguyen²**¹Department of Strategy and Policy
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This study examined the relationship between board gender diversity and corporate governance and the implications for a company's financial performance. It used a combination of a publicly available data of director profiles, company corporate governance scores from the Singapore Governance and Transparency Index (SGTI), and company financial performance indicators obtained from Bloomberg. For the financial performance indicators, both return on equity (book measure) and Tobin's Q (hybrid measure) were considered. The relationship between board gender diversity and corporate governance score was analysed, and that between these variables and financial performance was investigated as well. Both relationships were tested empirically with ordinary least squares (OLS) regression models. Board gender diversity was found to have a positive and statistically significant impact on corporate governance score. Corporate governance score was found to have a positive and statistically significant impact on company financial performance, whereas no such effect by board gender diversity on company financial performance was found. This appears to suggest that board gender diversity has an indirect effect on financial performance, acting through its intermediate effect on corporate governance scores. The exception to this is the effect of the fraction of female independent directors on Tobin's Q, which was positive and statistically significant, which seems to suggest that companies should pay more attention to the number of female independent directors on their boards.

Keywords: board diversity, business performance, corporate governance, financial performance indicator, regression model.

I. Introduction

Board diversity is becoming an increasingly major issue for many companies. It is necessary for challenging groupthink through bringing multiple perspectives to the board for consideration. Board diversity itself has many dimensions, and board gender diversity, in particular, is one such dimension that this study focuses on. Recently, board gender diversity has attracted much attention from the academics and also practitioners and policy makers. Companies might argue that board gender diversity has no intrinsic value, and so giving it a higher priority is a misalignment with their incentives. However, numerous studies have supported that gender-diverse boards are likely to improve business performance and thus shareholder value (Cox & Blake, 1991; Robinson & Dechant, 1997).

The Organisation for Economic Co-operation and Development (OECD) specifies in their G20/Principles of Corporate Governance that "In order to avoid groupthink and bring a diversity of thought to board discussion, boards should also consider if they collectively possess the right mix of background and competences. Countries may wish to consider measures such as voluntary targets, disclosure requirements, boardroom quotas, and private initiatives that enhance gender diversity on boards and in senior management" (OECD, 2015).

Hitherto, research on the relation between gender diversity on boards and firm performance is difficult to interpret with contradicting views and empirical results. This study aims to further explore the relationship between board gender diversity and corporate governance and the implications for a company's financial performance in Singapore listed companies. The structure of our paper is as follows. We discuss our data and basic facts about female representation on corporate boards in our sample in Section 2. In section 3, we examine the relationship between board gender diversity and corporate governance score, then the relationship between board gender diversity, corporate governance score, and financial performance. We analyse the relation and discuss further in Section 4. Section 5 details limitations and areas for further research.

II. Literature review

The role that women on boards play in corporate social responsibility (CSR) has been studied, using multiple datasets on director profiles, CSR-related ratings, industry affiliations of publicly-traded U.S. firms, and shareholder activism in a firm fixed-effects ordinary least squares (OLS) regression (Hyun, Jang, Yung & Hong, 2016). The findings suggested that having more female independent directors on boards would allow companies to do better in CSR-related issues.

A dams and Ferreir (2009) suggested that female directors contribute a significant impact on inputs to the boards and outcomes of the firm. In a sample of US firms (from Standard & Poor's S&P 500, S&P Midcaps, and S&P SmallCaps), they found that female directors have better attendance records than their male counterparts, hence leading to boards allocate more effort to monitoring when the boards are more gender-diverse. However, mixed evidence to whether such impact is positive or negative is presented in different studies. In their study, they found a negative impact of women directors on business performance. Another study found that firms with at least two women directors performed better financially than those with an all men board from the sample of 1000 Fortune 1000 firms (Carter, Simkins & Simpson, 2003).

Dang and Nguyen (2014) considered the impact that board gender diversity had on financial performance via quantile regression analysis with a dataset comprising 120 of the largest French companies listed on Euronext Paris across 3 years. They found through both their pooled regression and random effects regression that board gender diversity had no statistically significant effect on Tobin's Q, but it had a positive and statistically significant effect on return on assets. With a quantile regression, they also found that board gender diversity had a negative and statistically significant effect at higher levels of Tobin's Q, whereas board gender diversity had a positive and statistically significant effect at lower levels of return on assets.

Korn Ferry (2016) report covered key findings from survey of boards of the top 100 listed companies in each of ten economies (Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Singapore and South Korea). The study suggested that boards had a higher percentage of female directors as compared to the previous year of study in 2015. And it also suggested that more diverse boards reported higher profitability using Return-On-Equity (ROE) as dependent variable.

Gender diversity has been included in the Singapore's Code of Corporate Governance. In the Code, Guideline 2.6 specifies that boards should include directors with a "diversity of skills, experience, gender, and knowledge of the company." However, this is not a mandatory requirement (Monetary Authority of Singapore, 2012). The Diversity Task Force on gender diversity found that Singapore has a board culture that does not place enough emphasis on gender diversity, with only 33% of boards surveyed considering it an important attribute (Diversity Task Force, 2014). In the same report, over 80% of board nomination committees use criteria that tend to favour candidates already within the pool of directors on boards (personal networks). This makes it difficult for women to break into this network even though they may possess the same set of qualifications, skills and experiences.

Singapore listed companies seem to acknowledge the importance of board gender diversity. Women's representation on Singaporean boards has increased from 9.9% in 2016 to 10.3% in 2017 (Diversity Action Committee, 2017). However, this improvement is not evenly spread across all

the companies, with larger companies driving most of it. What is particularly alarming is that Singapore is falling behind other jurisdictions when it comes to representation of women on boards. A recent report suggested that Singapore is behind many countries in this regard, including the United Kingdom, Australia, the United States, India, China, Hong Kong, and Indonesia. As the report clearly states, with such a situation, "Singapore is risking its reputation as a leading business hub with sound and exemplary governance" (Diversity Action Committee, 2016).

III. Methodology

Data and Sample

This study utilised data from three main sources. The first is publicly disclosed data of director profiles of the Singapore-listed companies across the financial years 2012-2016. The second is the companies' corporate governance scores on the Singapore Governance and Transparency Index (Loh, Muhammad, Nguyen & Wong, 2017). The third is financial performance indicators obtained from Bloomberg.

The director data was first processed to extract relevant information on board composition at the company level. This included board size, the number of independent directors, the number of female directors, and the number of female independent directors. The processed dataset is then supplemented with corporate governance scores and data on financial performance.

The fraction of female directors, the fraction of female independent directors, board independence, and the "has women on board" variable are derived indicators computed with the following equations:

$$\text{Fraction of female directors} = \frac{\text{Number of female directors}}{\text{Board size}}$$

$$\text{Fraction of female independent directors} = \frac{\text{Number of female independent directors}}{\text{Number of independent directors}}$$

$$\text{Board independence} = \frac{\text{Number of independent directors}}{\text{Board size}}$$

$$\text{Has women on board} = \begin{cases} 1, & \text{if Number of female directors} \geq 1 \\ 0, & \text{otherwise} \end{cases}$$

The companies' corporate governance scores are obtained from the Singapore Governance and Transparency Index. The sources of information for the index assessment include annual reports, websites, company announcements and related media articles. Included companies are assessed in different areas, including board responsibilities, rights of shareholders, engagement of stakeholders, accountability and audit, and disclosure and transparency (Loh et. al., 2017).

The financial performance indicators obtained from Bloomberg are return on equity (book measure), Tobin's Q (hybrid measure), market capitalisation, debt to equity ratio, and price to earnings ratio. Each company's financial performance indicators in each year were obtained as of the date of their financial year end.

Summary of Statistics

Table 1 shows the number of observations per year, Table 2 shows the summary statistics for the variables used in the study, and Table 3 shows the Pearson's correlation coefficient matrix for the variables used.

Table 1: Number of observations by year

| Year | Number of observations |
|------|------------------------|
| 2012 | 484 |
| 2013 | 473 |
| 2014 | 485 |
| 2015 | 474 |
| 2016 | 462 |

Table 2: Descriptive statistics for variables used

| Variable | N | Mean | SD | Min | Max |
|--|------|----------|----------|----------|-----------|
| Corporate governance score | 2378 | 47.95 | 18.59 | -8 | 124 |
| Number of female directors | 2378 | 0.61 | 0.78 | 0 | 6 |
| Number of female independent directors | 2378 | 0.23 | 0.49 | 0 | 3 |
| Fraction of female directors | 2378 | 0.09 | 0.11 | 0 | 0.5 |
| Fraction of female independent directors | 2378 | 0.06 | 0.14 | 0 | 0.67 |
| Has women on board | 2378 | 0.46 | 0.5 | 0 | 1 |
| Board size | 2378 | 6.93 | 2.14 | 3 | 21 |
| Number of independent directors | 2378 | 3.42 | 1.41 | 1 | 13 |
| Number of board meetings held | 2351 | 4.45 | 1.77 | 1 | 19 |
| Board independence | 2378 | 0.5 | 0.13 | 0.1 | 0.92 |
| Market capitalisation (million SGD) | 2357 | 1,083.69 | 4,549.67 | 0.00781 | 62,179.95 |
| Debt to equity ratio | 2306 | 83.44 | 284 | 0 | 7152.38 |
| Price to earnings ratio | 1639 | 37.29 | 289.74 | 0.22 | 10531.91 |
| Return on equity | 2279 | -0.34 | 57.67 | -1431.08 | 1087.14 |
| Tobin's Q | 2294 | 1.33 | 1.66 | 0.10 | 30.84 |

| No. | Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
|-----|--|---------|---------|---------|----------|---------|---------|---------|----|
| 1 | Corporate governance score | 1 | | | | | | | |
| 2 | Number of female directors | 0.1477* | 1 | | | | | | |
| 3 | Number of female independent directors | 0.2923* | 0.5942* | 1 | | | | | |
| 4 | Fraction of female directors | 0.0425* | 0.9364* | 0.5286* | 1 | | | | |
| 5 | Fraction of female independent directors | 0.1434* | 0.5438* | 0.9024* | 0.5632* | 1 | | | |
| 6 | Has women on board | 0.1203* | 0.8498* | 0.5120* | 0.8461* | 0.4971* | 1 | | |
| 7 | Board size | 0.3522* | 0.2293* | 0.2077* | -0.0096 | 0.04 | 0.1727* | 1 | |
| 8 | Number of independent directors | 0.5263* | 0.2094* | 0.3538* | 0.0132 | 0.0939* | 0.1471* | 0.7160* | |
| 9 | Number of board meetings held | 0.2418* | 0.02 | 0.1146* | -0.0490* | 0.0416* | 0.0328 | 0.2326* | |
| 10 | Board independence | 0.3223* | 0.0152 | 0.2368* | 0.0005 | 0.0757* | -0.0116 | 0.0734* | |
| 11 | Market capitalisation (million SGD) | 0.4412* | 0.1368* | 0.2400* | 0.0365 | 0.0786* | 0.0995* | 0.3345* | |
| 12 | Debt to equity ratio | -0.0175 | -0.0386 | -0.0367 | -0.0388 | 0.0438* | -0.0392 | -0.0007 | |
| 13 | Price to earnings ratio | 0.0005 | -0.0232 | -0.0129 | -0.0189 | -0.0095 | -0.0371 | -0.031 | |
| 14 | Return on equity | 0.1712* | 0.0319 | 0.037 | 0.0169 | 0.0302 | 0.0224 | 0.1026* | |
| 15 | Tobin's Q | 0.0049 | -0.0052 | 0.0440* | -0.0201 | 0.0303 | -0.0122 | 0.0244 | |
| No. | Variable | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 8 | Number of independent directors | 1 | | | | | | | |

| | | | | | | | | | |
|----|-------------------------------------|---------|---------|---------|---------|----------|---------|---------|---|
| 9 | Number of board meetings held | 0.2617* | 1 | | | | | | |
| 10 | Board independence | 0.6095* | 0.0954* | 1 | | | | | |
| 11 | Market capitalisation (million SGD) | 0.4261* | 0.1818* | 0.1981* | 1 | | | | |
| 12 | Debt to equity ratio | -0.009 | 0.0233 | -0.0159 | 0.006 | 1 | | | |
| 13 | Price to earnings ratio | 0.0026 | 0.0002 | 0.0512* | -0.0176 | -0.004 | 1 | | |
| 14 | Return on equity | 0.0724* | 0.017 | -0.0107 | 0.0747* | -0.1776* | -0.0325 | 1 | |
| 15 | Tobin's Q | 0.0407 | 0.0423* | 0.0489* | 0.0175 | -0.0183 | 0.0327 | -0.0082 | 1 |

Table 3: Pearson's correlation coefficient matrix (* $p < 0.05$) for variables used

Method

In order to investigate the impact of board gender diversity on financial performance, the study was broken down into two parts. The first is concerned with the relationship between board gender diversity and the corporate governance score. The second is concerned with the impact that board gender diversity and the corporate governance score might have on financial performance. A pooled OLS regression design was used for both parts.

Relationship between board gender diversity and corporate governance score

For the first part of the study, the corporate governance score was the dependent variable. Several variables were used separately as the independent variable. These were the fraction of female directors, the fraction of female independent directors, and whether there were any women on the board.

The number of board meetings held, board size, board independence, market capitalisation, debt to equity ratio, and price to earnings ratio were used as controls.

Relationship between board gender diversity, corporate governance score, and financial performance

For the second part of the study, return on equity and Tobin's Q were used as the dependent variable in separate regressions. The corporate governance score was used as one of the independent variables alongside the same set of board gender diversity indicators used earlier, with each being applied separately just as was done in the first part.

Similar to the first part, the number of board meetings held, board size, board independence, market capitalisation, debt to equity ratio, and price to earnings ratio were used as controls.

IV. Results

Relationship between board gender diversity and corporate governance score

Table 4 shows the results of the regression for the first part of the study on the relationship between board gender diversity and corporate governance score.

According to the findings, it appears that board gender diversity had a positive and statistically significant effect on the corporate governance score. This was the case for all three board gender diversity indicators.

As shown in model 1 on Table 4, the fraction of female directors had a positive and statistically significant effect on the corporate governance score ($\beta = 6.628, p < 0.05$). A similar result emerged when the fraction of female independent directors was used, though with greater statistical significance, as shown in model 2 ($\beta = 9.773, p < 0.001$). These results were also echoed when the dummy variable for having women on boards was used, as shown in model 3 ($\beta = 2.178, p < 0.01$). Tests for multicollinearity showed a very low level of multicollinearity as no independent variable had a variance inflation factor (VIF) greater than 1.26.

These findings seem to suggest that an increase in the fraction of female directors by 10% would result in an increase in the corporate governance score by 0.663, that an increase in the fraction of female independent directors by 10% would result in an increase in the corporate governance score by 0.977, and that simply having women on the board where there previous was none would result in an increase in the corporate governance score by 2.178, assuming all other variables are held constant.

Table 4: OLS model of board gender diversity on corporate governance score

| Corporate governance score as the dependent variable | | | |
|--|-----------------------|-----------------------|-----------------------|
| Variables | (1) | (2) | (3) |
| Fraction of female directors | 6.628* (2.01) | | |
| Fraction of female independent directors | | 9.773*** (3.65) | |
| Has women on board | | | 2.178** (2.83) |
| Number of board meetings held | 1.369*** (5.98) | 1.327*** (5.82) | 1.351*** (5.92) |
| Board size | 2.099*** (10.94) | 2.096*** (10.95) | 2.012*** (10.39) |
| Board independence | 45.72*** (14.85) | 45.13*** (14.67) | 45.64*** (14.84) |
| Market capitalisation (million SGD) | 0.00101*** (13.05) | 0.00101*** (12.97) | 0.00101*** (13.04) |
| Debt to equity ratio | 0.00164 (0.52) | 0.00205 (0.65) | 0.00209 (0.66) |
| Price to earnings ratio | -0.000183 (-0.14) | -0.000172 (-0.13) | -0.000114 (-0.09) |
| Constant | 4.685* (2.10) | 5.119* (2.33) | 4.958* (2.25) |
| Observations | 1610 | 1610 | 1610 |
| R ² | 0.378 | 0.382 | 0.380 |
| Adjusted R ² | 0.376 | 0.379 | 0.377 |
| F | 139.2*** | 141.4*** | 140.1*** |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Relationship between board gender diversity, corporate governance score, and financial performance

Tables 5 and 6 show the results of the regression for the second part of the study on the relationship between board gender diversity, corporate governance score, and financial performance.

For the regression in Table 5, return on equity was used as the financial performance indicator, whereas the regression in Table 6 used Tobin's Q as the financial performance indicator.

According to the findings for model 1 on both sets of regressions, it appears that the corporate governance score had a positive and statistically significant effect on both return on equity ($\beta = 0.117$, $p < 0.05$) and Tobin's Q ($\beta = 0.00485$, $p < 0.01$).

In contrast, in almost all of the regression models, board gender diversity did not appear to have any statistically significant effect on the return on equity (models 2, 4, and 6) and Tobin's Q (models 2 and 6). This result persisted when the corporate governance score was re-introduced as another independent variable, as shown in models 3 and 7 for both financial performance indicators, and model 5 for return on equity. The corporate governance score continued to have a positive and statistically significant effect in all of these cases.

The exception to this was the effect of the fraction of female independent directors on Tobin's Q in models 4 and 5 which was not only positive and statistically significant, but also persisted when corporate governance was added as an independent variable ($\beta = 0.602$, $p < 0.001$ and $\beta = 0.559$, $p < 0.001$ for models 4 and 5 respectively).

Tests for multicollinearity also showed a very low level of multicollinearity as no independent variable had a VIF greater than 1.62.

Table 5: OLS model of corporate governance score and board gender diversity on return on equity

| Return on equity as the dependent variable | | | | | | | |
|--|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|
| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Corporate governance score | 0.117* (2.18) | | 0.120* (2.22) | | 0.115* (2.13) | | 0.121* (2.24) |
| Fraction of female directors | | -5.500 (-0.77) | -6.331 (-0.89) | | | | |
| Fraction of female independent directors | | | | 3.710 (0.64) | 2.593 (0.45) | | |
| Has women on board | | | | | | -1.283 (-0.77) | -1.548 (-0.93) |
| Number of board meetings held | -0.231 (-0.47) | -0.0889 (-0.18) | -0.247 (-0.50) | -0.0881 (-0.18) | -0.236 (-0.47) | -0.0748 (-0.15) | -0.232 (-0.47) |
| Board size | 1.209** (2.80) | 1.450*** (3.48) | 1.194** (2.76) | 1.460*** (3.50) | 1.215** (2.81) | 1.504*** (3.57) | 1.257** (2.89) |
| Board independence | -12.99 (-1.84) | -7.439 (-1.12) | -12.99 (-1.84) | -7.813 (-1.18) | -13.08 (-1.85) | -7.422 (-1.12) | -13.02 (-1.84) |
| Market capitalisation (million SGD) | - 0.000137 (-0.78) | - 0.0000130 (-0.08) | - 0.000133 (-0.76) | - 0.0000242 (-0.15) | - 0.000139 (-0.79) | - 0.0000135 (-0.08) | - 0.000134 (-0.77) |

Return on equity as the dependent variable

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Debt to equity ratio | 0.0809*** (11.95) | 0.0809*** (11.91) | 0.0806*** (11.89) | 0.0814*** (11.97) | 0.0811*** (11.95) | 0.0807*** (11.85) | 0.0804*** (11.83) |
| Price to earnings ratio | -0.00315 (-1.13) | -0.00323 (-1.16) | -0.00321 (-1.15) | -0.00315 (-1.13) | -0.00313 (-1.13) | -0.00325 (-1.17) | -0.00324 (-1.16) |
| Constant | 2.095 (0.44) | 3.279 (0.68) | 2.754 (0.57) | 2.593 (0.55) | 2.035 (0.43) | 2.949 (0.62) | 2.383 (0.50) |
| Observations | 1595 | 1595 | 1595 | 1595 | 1595 | 1595 | 1595 |
| R ² | 0.099 | 0.096 | 0.099 | 0.096 | 0.099 | 0.096 | 0.099 |
| Adjusted R ² | 0.095 | 0.092 | 0.094 | 0.092 | 0.094 | 0.092 | 0.094 |
| F | 24.78*** | 24.12*** | 21.78*** | 24.09*** | 21.70*** | 24.12*** | 21.79*** |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 6: OLS model of corporate governance score and board gender diversity on Tobin's Q

Tobin's Q as the dependent variable

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Corporate governance score | 0.00485** (3.09) | | 0.00485** (3.08) | | 0.00438** (2.79) | | 0.00476** (3.02) |
| Fraction of female directors | | 0.0348 (0.17) | 0.00261 (0.01) | | | | |
| Fraction of female independent directors | | | | 0.602*** (3.56) | 0.559*** (3.30) | | |
| Has women on board | | | | | | 0.0510 (1.05) | 0.0406 (0.84) |
| Number of board meetings held | 0.0259 (1.78) | 0.0326* (2.25) | 0.0259 (1.78) | 0.0308* (2.14) | 0.0250 (1.72) | 0.0324* (2.25) | 0.0260 (1.79) |
| Board size | 0.0476*** (3.80) | 0.0578*** (4.77) | 0.0476*** (3.80) | 0.0581*** (4.82) | 0.0490*** (3.92) | 0.0559*** (4.57) | 0.0463*** (3.67) |
| Board independence | -0.138 (-0.67) | 0.0838 (0.43) | -0.138 (-0.67) | 0.0402 (0.21) | -0.157 (-0.76) | 0.0796 (0.41) | -0.137 (-0.67) |
| Market | - | - | - | - | - | - | - |

Tobin's Q as the dependent variable

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------------------------------|---------------------------|----------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|
| capitalisation (million SGD) | 0.000005 21 (-1.01) | 0.0000002 90 (-0.06) | 0.000005 21 (-1.01) | 0.000001 18 (-0.24) | 0.000005 58 (-1.09) | 0.0000004 61 (-0.09) | 0.000005 27 (-1.03) |
| Debt to equity ratio | -0.000227 (-1.14) | -0.000219 (-1.10) | -0.000227 (-1.14) | -0.000177 (-0.89) | -0.000186 (-0.94) | -0.000203 (-1.02) | -0.000213 (-1.07) |
| Price to earnings ratio | 0.000084 9 (1.04) | 0.0000841 (1.03) | 0.000085 0 (1.04) | 0.000088 0 (1.08) | 0.000088 8 (1.09) | 0.0000867 (1.06) | 0.000087 3 (1.07) |
| Constant | 0.621*** (4.47) | 0.643*** (4.57) | 0.621*** (4.41) | 0.630*** (4.54) | 0.607*** (4.38) | 0.637*** (4.57) | 0.613*** (4.40) |
| Observations | 1610 | 1610 | 1610 | 1610 | 1610 | 1610 | 1610 |
| R ² | 0.031 | 0.025 | 0.031 | 0.033 | 0.038 | 0.026 | 0.031 |
| Adjusted R ² | 0.027 | 0.021 | 0.026 | 0.029 | 0.033 | 0.022 | 0.027 |
| F | 7.338*** | 5.943*** | 6.417*** | 7.797*** | 7.822*** | 6.100*** | 6.507*** |

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

V. Discussion

With the exception of the relationship between the fraction of female independent directors and Tobin's Q, the findings indicate that board gender diversity had a direct positive impact on corporate governance scores but no direct impact on financial performance. However, the findings also indicate that corporate governance scores had a direct positive impact on financial performance, thus suggesting the existence of an *indirect* positive effect that board gender diversity might have on financial performance, by acting through corporate governance scores serving as an intermediary.

The fraction of female independent directors is the only board gender diversity indicator to have a direct effect on a financial performance indicator. This suggests that, among the three board gender diversity indicators, the fraction of female independent directors is the indicator that has the most relevance to financial performance.

VI. Limitations and Areas for Future Research

This study is a good initiator of more work to be done in the area for more comprehensive results. The study considered a pooled OLS regression design. However, a panel regression design would allow for better identification than a pooled one as it would be able to control for unobservable differences between companies.

Increasing the scope of coverage beyond a 5-year window would also improve the generalisability of the findings. Other dimensions of board diversity such as industry background and board turnover rate could also be studied to determine their effects on corporate governance and financial performance. Sustainability reporting, and not just corporate governance scores, could also be considered for the study, given the strong relationship between board diversity and corporate sustainability. A wider set of controls could also be considered. For instance, indicators on financial distress, corporate culture, and market measures of financial performance could be considered.

Finally, a future study could incorporate Real Estate Investment Trusts and Business Trusts once there is a sufficiently rich dataset on their corporate governance scores, given the significant presence they have in the Singapore stock market.

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