

An Analysis of High-Performing Board Criteria on Malaysian Government-Linked Companies Performance

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Abstract: This paper attempts to examine the relationship between board structure and the financial performance of state-owned GLCs. Five corporate governance variables were examined, namely the board size, the proportion of independent directors, the financial literacy of directors, multiple directorships and the frequency of meetings. A sample of 90 state-owned GLCs in Malaysia was studied using their published annual reports from the financial years of 2008 until 2012. The findings show that all the state-owned GLCs match the criterion of high-performing board. Only board size is significant in determining the financial performance of the state-owned GLCs, and this is probably due to the fact that they are all owned by the state government and are more or less under a similar budget from the federal government. The insignificance of results on the remaining corporate governance variables might be due to the fact that MCCG has been implemented comprehensively in all of the companies.

Keywords: Board performance, corporate governance, GLC, state-owned, Malaysia

Paper type: Research paper

1. Introduction

State-owned government-linked companies (GLCs), as the financial arms of state governments, are important profit-making entities in developing the state economies. Apart from having ownership in these companies, state governments also have significant influence in the appointment of the board of directors and top management positions. Besides that, state governments also have power over major decisions such as contract awarding, strategy making and restructuring (Lau and Tong, 2008). In order to boost the development of the state, state governments set up their companies under the State Economic Development Corporations (SEDC). According to Jomo and Syn (2003), from the mid-sixties, most Malaysian state governments began to establish SEDCs in order to enhance the flexibility of the state governments in undertaking initiatives of their own, particularly in exploiting their own natural resources and trying to ensure some spatial dispersal of new industries. These SEDCs hold substantial shareholdings in companies known as state-owned GLCs. In a state-owned GLC's context, the SEDC is the immediate and ultimate corporation of the company. The SEDCs are set up as a state-

owned statutory body with the general aim to promote the commercial, industrial and socio-economic development of the states. The SEDC aims to be the growth engine of the state for the benefit of the people. The SEDC also plays an important role as a trust agency for the development of Bumiputras in commerce and industry. The formation of this wholly owned corporation underlies the state government's firm commitment to value creation and increasing returns on investments to fund social development programs and ensure the state's sustainable long term growth. By streamlining the state's investment portfolio, there will be a better advantage through economies of scale, synergy between companies and concentration on return of investments.

The Malaysian government has taken efforts in improving the performance of federal GLCs through the introduction of the GLC Transformation Program in 2006 (The Green Book, 2006). The transformation of GLCs into high-performing entities is critical for the future prosperity of Malaysia. To facilitate this transformation, the Putrajaya Committee on GLC High Performance (PCG) was set up. The PCG is chaired by the Second Finance Minister, with participation from the heads of the Government-Linked Investment Companies such as Khazanah Nasional Berhad, Permodalan Nasional Berhad, the Employees Provident Fund, Lembaga Tabung Angkatan Tentera, Lembaga Tabung Haji, as well as representatives from the Ministry of Finance Incorporated and the Prime Minister's Office in order to work together to monitor developments and recommend further measures of improvements. The GLC Transformation Program is part of an ongoing effort by the Government to drive development and grow the economy. Three key principles (Khazanah Nasional, 2014) run through the GLC transformation program: (i) the program is a part of larger national development strategies; (ii) the program focuses on enhancing the performance of the GLC's; and (iii) the program takes full cognisance of matters relating to governance, shareholder value and stakeholder management. Bhatt (2016) finds that the introduction of the GLC Transformation Program in 2006 was able to improve the GLCs' level of performance significantly.

However, no such program was initiated for the state-owned GLCs. There is also a lack of literature examining specifically the performance of the state-owned GLCs. Previous studies focus on the federal GLCs. Examples of these are Lau and Tong (2008); Esa and Anum (2012); Mansor *et al.* (2008); Najid and Rahman (2011); Razak *et al.* (2011). It is hoped that this study will fill the gap in understanding corporate governance in companies owned by state governments in Malaysia. Accordingly, the first objective of the paper is to examine to what extent the state-owned GLC board structures match with the criterion of high performing boards using the template and assessment grid initiated by the PCG. The paper focuses on the characteristics of board structures in the state-owned GLCs in relation to the introduction of the Malaysian Code on Corporate Governance (MCCG) and also the development of the Transformation Policy of Government-Linked Companies by the PCG. The findings show that the state-owned GLCs meet the criteria of a high-performing board as recommended by the PCG which implicitly shows that these companies are creating value to Malaysian economies. Therefore, efforts are needed to improve the performance of state-owned GLCs by regulators. The second objective is to examine the relationship between board structures mechanisms (i.e, size, independence, literacy, multiple directorships and frequency of board meetings) and the financial performance of the state-owned GLCs. The empirical evidence provides results that other variables except board size are not statistically significant. Hence, it is concluded that the predictions in agency theory are only partly supported for these state-owned GLCs in determining their financial performance. In summary, the findings provide some input to the corporate governance standard setters, the Ministry, the State SEDC and researchers related to the high performance of board characteristics, and also to set for the mandatory enforcement of standards or guidelines on certain corporate governance mechanisms that are suitable to the state-owned GLCs structure and environment.

2. Literature Review

Agency theory explains the relationship between two parties, which are principals and agents in business. Agency relationships occur when the principals that are shareholders hire the agent such as corporate managers, who act as agents of the owners, to manage the company on the principal's behalf (Jensen and Meckling, 1976). Since they are not directly owners but managers, they thus have their own utility maximizers. The managers might not behave in the best interests of the shareholders. As such, there is a conflict of interest which raises the agency cost (i.e. cost of divergence between management and shareholders' interests). It can be assumed that the agency costs have a direct relationship with the possibility of the agents not performing in the best interest of their principal due to difference of interests between contracting parties. Thus, the theory predicts that the greater the possibility, the greater the agency costs to be expected (Jensen and Meckling, 1976).

The primary monitoring mechanism which exists in a firm for an owner (the principal) is the board of directors (Rhoades *et al.*, 2000) to control the agency conflict in a principal-agent relationship. As the agent for shareholders (the principal), the board's roles are to monitor the management and protect the shareholders' interest by ensuring the CEO and top management carry out their duties in the best interest of owners. Within the context of agency theory, according to Rhoades *et al.* (2000), the corporation board structure is viewed as a key internal governance mechanism, in particular, outside of directors. In addition to that, Said *et al.* (2017) find evidence that leadership qualities are positively correlated with organizational performance.

Therefore, to have an effective control over the management, there should be an independent board of directors. In other words, it should mainly consist of non-executive directors (NEDs). Hence, agency theory suggests the proportion of independent NEDS to promote the independence of the board from management. This is because outside directors are not exposed to the same potential conflicts of interest that are likely to influence the judgment of inside directors. Consequently, the NEDs are viewed as a mechanism to monitor and control the actions of the other directors (Jensen and Meckling, 1976; Leung and Horwitz, 2004; Fama and Jensen, 1983) since they are independent in giving their judgments and protecting the shareholders' interests (Leung and Horwitz, 2004).

Both Eng and Mak (2003) and Ho and Wong (2001) claim that having independent NEDs on the board strengthens the effectiveness of the monitoring device on the activities by the management. In other words, agency theory recommends a greater proportion of independent NEDs to monitor any self-interested actions by executive directors and to minimize the agency cost. Therefore, a higher proportion of independent NEDs on the board might lead to the expectation that the companies will have more disclosure and thus can boost the company's performance (Bujaki and McConomy, 2002; Chen and Jaggi, 2000). From the agency theory point of view, among the mechanisms to mitigate agency conflict in the company between shareholders and directors are board size, independent directors, financial literacy of board members, multiple directorships, and the frequency of board meetings.

The above mentioned corporate governance mechanisms will be analyzed in this paper. The following section reviews the prior literature and the hypothesis development on the five corporate governance variables to be examined in the paper.

A. Board size

A sufficient number of directors must be available to ensure that the board can effectively discharge its roles and responsibilities. The PCG recommends that a GLC's board should be composed of no higher than 10 directors unless special circumstances exist in which case up to 12 are allowed. In our point of view, the higher the number of directors on the board, the better it will contribute to the performance of the company. Having more board members with various expertise and skills may lead to a better and stricter selection criterion. To make things work, when considering the nomination of new directors, each committee member should focus on the different aspects of quality needed by the company to

move forward. In order to select the best people to be in the directorship, the number of board members should be big enough to meet the above needs. The firm value depends on the quality of monitoring and decision-making by the board of directors, and the board size represents an important determinant of its performance.

Chaganti *et al.* (1985), in examining corporate failures that occurred between 1970 and 1976 in US firms, argued that a larger board size with a diverse background would offer a greater variety of services. Accordingly, they found that non-failed companies are more likely to have larger boards than the failed companies in their examination of 21 failed and 21 non-failed companies. Anderson, Mansi and Reeb (2004) found that the negative association between board size and the cost of debt suggests that larger boards provide greater monitoring capability. Adawi and Rwegasira (2011) also found that there are positive associations between voluntary disclosures and board size in the UAE. The significant and positive relationship between board size and the level of disclosure of Malaysian GLCs is also found in a study by Abdul Rahman and Musman (2013).

On the other hand, Jensen (1993) opines that large boards can be less effective than small boards. He says that when boards go beyond seven or eight people, they are less likely to function effectively and are easier for the CEO to control. In addition, Lipton and Lorsch (1992) recommend limiting the membership of boards to ten, with a preferred size of eight or nine. They suggest that even if board capacities for monitoring increase with the board size, the benefits are outweighed by such costs as slower decision-making, less candid discussions of managerial performance, and biases against risk taking. The idea is that when boards get to be too big, agency problems increase and the board becomes more symbolic and less a part of the management process. The inverse relationship between board size and performance has been reported by Yermack (1996), Eisenberg *et al.* (1998), Mak and Kusnadi (2003), Alshimmiri (2004), and Andres *et al.* (2005).

However, Dalton *et al.* (1999) and Coles *et al.* (2008) came up with contrary results. Empirical work by Coles *et al.* (2008) moderates the view that larger boards are detrimental to shareholders. Their findings further suggest the issue of board size has not been definitively resolved by academic research and remains an open empirical question.

Due to the mixed findings, the following hypothesis is developed to test the relationship between size and financial performance:

H1: The size of the board has a significant effect on financial performance.

B. Board independence

Every company must be led by an effective board of directors whose key role is to monitor management decisions. To ensure active, unbiased and diverse advice is given to the company, the composition of the board should have a mix of executive, non-executive and independent directors. ‘Executive Directors’ are persons who are appointed to the board and concurrently hold a senior management position in the company including the CEO or the general manager. Executive directors are responsible for the day-to-day managing of the business of the company (Weir and Laing, 2001). ‘Independent directors’, on the other hand, are persons appointed to the board and have not held, or whose immediate family members have not held, a key position in the company and have not had any substantial financial dealings during the previous year. Lastly, ‘non-executive directors’ are persons appointed to the board that are not currently employed by the company.

Independent directors are seen as a tool for monitoring management and controlling behaviour. In this paper, board independence refers to the proportion of independent directors on the board of state-owned GLCs. The primary expectation of the researchers is that independent directors will be effective monitors of the executive directors. However the empirical evidence as detailed below is mixed.

The findings of Ezzamel and Watson (1993) show a positive relationship between the proportion of non-executive directors on the board and company performance. This is supported by Shawtari *et al.*

(2015) findings where they find board independence in GLCs has a positive and significant relationship with performance. Benefiting from established reputations as monitoring experts, independent non-executive directors have incentives to increase the quantity and quality of disclosure (Fama and Jensen, 1983; Chen and Jaggi, 2000). In contrast to that, Wan-Mohamad and Sulong (2010) find no relationship between independent non-executive directors and the level of disclosure. On the other hand, Laing and Wier (1999) find no evidence to suggest that the board characteristics recommended by Cadbury lead to an improved performance or that moving towards them improves performance. Daily and Dalton (1992), however, finds no relationship between those two.

H2: The proportion of independent directors on a board has a significant effect on financial performance.

C. Financial literacy

The effectiveness of a board is further enhanced if members of audit committees possess accounting and financial expertise (Yatim *et al.*, 2006). It is presumed that the better equipped the members of the board with accounting and auditing knowledge and expertise, the better the performance of the company will be. In contrast, a negative relationship between outside directors and firm performance is proven by Agrawal and Knoeber (1996). Similarly, Hartarska (2005) supports that a board with employee directors (non-independent directors) is associated with lower financial performance and lower outreach to poor clients. On the other hand, Laing and Weir (1999) find no strong evidence on the relationship between non-executive director representation and corporate performance. Knowledge and literacy of the board members about accounting and auditing are considered as important corporate governance mechanisms in firms. Board members are in charge of overseeing internal control and financial reporting so they should possess a certain level of financial competency (Be´dard *et al.*, 2004).

Board members should possess the ability to read and understand fundamental financial statements including balance sheets, income statements and statements of cash flows. This is essential in order to allow for a deep understanding about the nature and impact of complex business transactions such as derivative financial instruments, related party transactions and special purposes entities. The board of directors also needs to fulfill effectively the financial oversight function of the audit committee. Financially literate board members may provide advice on business activities, associated risks and proper accounting treatments. The board should be aware of these transactions, their risks, accounting treatments and ensure that they are adequately communicated to investors. Board members should be sufficiently knowledgeable to ask tough questions to management as well as to internal auditors and external auditors regarding the quality, transparency, and reliability of financial reports.

The presence of a literate board is believed by Laing and Wier (1999) to be a governance mechanism which positively affects corporate performance. However, the specific responsibility to oversight compliance is vested in audit committees. Empirical findings in DeZoort and Salterio (2001) also support the assertion that an audit committee should at least consist of one member with accounting and financial expertise. Audit committee expertise allows for a better understanding of auditing issues and risks and the audit procedures proposed to address and detect these issues and risks.

H3: The literacy of directors on a board has a significant effect on financial performance.

D. Multiple directorships

Multiple directorships or cross directorships, also known as “interlocking”, is a situation where a director sits on a few boards (Haniffa and Cooke, 2000). One of the reasons this situation occurs is because the interlocking director could be depended upon in offering their own valuable insights based on their experience being on the board of another company (Dahya *et al.* 1996). Beasley (1996) finds

that the number of additional directorships could reflect a director's prominent reputation as a good monitor of the companies.

Directors who served on more boards of directors will be likely to have more skills and more incentives to perform directorial duties, with a positive impact on the company's performance (Iturriaga and Rodríguez, 2014). This argument is consistent with the study conducted by Latif *et al.* (2013) who find that the multiple directorships affect a company's performance positively. Accordingly, the study by Lei and Dang (2014) found that there is a strong and positive relation between the number of multiple directorships of independent directors and firm value.

On the other hand, there are some studies that show the opposite impact between multiple directorships and firm performance. Fich and Shivdasani (2006) found that directors sitting on various boards concurrently were associated with weak corporate governance and thus led to lower operating profitability. This is supported by Kamardin *et al.* (2014) who found that directors with multiple directorships tend to be absent from the board meeting and thus affect the monitoring role of the business. The increasing trend of busy directors is also found to be a threat to effective corporate governance, and hence Bar-Hava *et al.* (2013) argue that reducing the number of multiple boards will increase the effectiveness of directors.

Due to the mixed findings, we do not set the direction of the hypothesis. Therefore, the hypothesis developed is:

H4: Multiple directorships have a significant effect on financial performance.

E. Frequency of board meeting

It is widely known that to determine the effectiveness of the board of director is difficult. One way to evaluate whether board members are playing their part in representing the shareholders is to look at the activity of the board. Vafeas (1999) analyses the association between the frequency of the board meetings and corporate performance for 307 firms between the year 1990 and 1994. The result of his study shows that an abnormally high frequency of meetings leads to improved operating performance in subsequent years. Thus, the present study posits that a diligent board needs to have assurance of their operating performance and financial performance.

An alternative way of looking at the situation is that a diligent board might act as a strong internal control mechanism. Lipton and Losch (1992) and Conger *et al.* (1998), as quoted in Vafeas (1999), support that board of directors that meet frequently are more likely to discharge their duties well. This indicates a good internal control mechanism. In addition, board meetings are found to have positive and significant relationship with GLC performance (Shawtari *et al.*, 2015).

H5: The frequency of board meetings has a significant effect on financial performance.

3. Research Designs

A. Sample selection

The study in this paper uses secondary data from the audited annual report of all state-owned GLCs listed on Bursa Malaysia for the financial years of 2008 to 2012. This type of data is chosen since the objective of this paper is to observe whether the state-owned GLCs match the criterion of PCG Best Practices. Furthermore, the relationship between governance mechanisms and financial performance can easily be assessed from the disclosure on annual reports. Therefore, the secondary data is the most suitable data that serves the need of this paper. For the purpose of this paper, the companies are considered GLCs if the substantial shareholders are the state corporation.

The study chose the year 2008 because we expect to see the impact of the GLC Transformation initiatives in 2006. Therefore, the year 2007 is the immediate year after the recommendation of the PCG

and companies are at the initial stage of adopting the recommendations. We believe that the impact is clearer in 2008 rather than in 2007. We chose the year 2012 because we expect to see the impact of the GLC transformation initiatives in 2006. It is expected that five years should provide a sufficient amount of time for the state-owned GLCs to implement the best practices recommended by the PCG. Besides that, it is expected that these companies are already aware and have improved their corporate governance mechanisms in line with the most recent rules and regulations and the best practices of corporate governance. We are expecting that the model will be more robust by selecting five years of annual reports between 2008 and 2012.

Both the information on corporate governance and financial data are obtained from the audited annual reports for the financial year 2008 to 2012 of state-owned GLCs which are available either from the Bursa Malaysia website, SEDC websites, GLICs' (government-linked investment companies) websites or the websites of the respective companies under the study.

Initially, the sample of companies in this paper included 28 state-owned GLCs of Bursa Malaysia. However due to the unavailability of certain data (due to a few companies being delisted), the sample was further reduced to 18 samples for each year whereby the total become 90 samples or observations for five years. The paper focuses only on the listed companies due to their reliable and publicly available financial and accounting data. This paper uses a regression analysis to assess the relationship between board structure and financial performance.

B. Variables measurement

Financial performance is the dependent variable used in this paper. A variety of measures were used in the literature to evaluate firm performance. Some used accounting-based measure while others used market-based performance measures. The studies of Kiel and Nicholson (2003), Klapper and Love (2004), and Boubakri et al. (2005) used accounting-based performance measures as an indicator of firm performance. These were return on assets (ROA) or return on equity (ROE) and Tobin's Q as found in Seifert et al. (2004) which upholds market-based performance measures.

According to Rhyne (1998) and later Mersland and Strom (2007), financial performance is measured using the ROA method. With regards to studies done previously, this paper uses ROA as a proxy for the corporate financial performance of state-owned GLCs. The higher the score on these dimensions of the governance mechanisms tested, the better the financial performance. Thus, our firm financial performance measures should cover a number of interesting features of state-owned GLCs.

For firm performance, the ROA used a measurement for the accounting returns of the company. The formula is profit before interest and tax divided by total assets. It is found that the higher ROA indicates the effective use of a company's assets in serving shareholder economic interests. The ROA indicator has also been used in previous studies on firm performance (Daily and Dalton, 1998; Rhyne 1998; McConnell and Servaes, 1990; Rhoades *et al.*, 2001 and Mersland and Strom, 2007).

For this paper, the definition of Tobin's Q provided by Chung and Pruitt (1994) is used to measure the firm performance of state-owned GLCs. The control variable used in this study is firm size (SIZE) and is measured by total assets.

Five independent variables used in this paper are examined to represent corporate governance mechanisms variables. The five measures are as follows:

- (i) Board size (BODSIZE): Number of board of directors
- (ii) Board independent (INED): Proportion of independent non-executive directors to total number of directors
- (iii) Financial literacy (FINLIT): Number of directors with accounting, finance, economic, banking qualifications, over board size
- (iv) Multiple directorships (MULTIDIR): Number of multiple directorships by board members over board size

(v) Board meeting (MEET): Number of board meetings in the financial year

The model that is used in this paper is developed based on the above measurements. It is as below:

$$\text{FINPERF} = \alpha + \beta_1\text{BODSIZE} + \beta_2\text{INED} + \beta_3\text{FINLIT} + \beta_4\text{MULTIDIR} + \beta_5\text{MEET} + \beta_6\text{SIZE} + \Sigma$$

where:

| | |
|----------|---|
| FINPERF | Financial performance |
| BODSIZE | Number of board of directors |
| INED | Proportion of independent non-executive directors to total number of directors |
| FINLIT | Number of directors with accounting, finance, economic, banking qualifications, over board size |
| MULTIDIR | Number of multiple directorships by board members over board size |
| MEET | Number of board meetings in the financial year |

Data is analysed using a descriptive analysis, correlation analysis and regression analysis. Descriptive statistics is applied to represent the mean, median, standard deviation, minimum and maximum. This paper uses a correlation analysis to assess the preliminary relationship between board structure and financial performance. Lastly, a regression analysis is conducted to explain the variables. It explores the relationship between the variables and could tell how well a set of variables is able to predict a particular outcome.

Table 1. Summary of variables used in the GLC performance model

| PANEL A: Dependent Variable | | |
|--------------------------------|--|---|
| Attribute | Measure | Reference |
| Financial performance | Return on asset = Profit before interest and tax divided by total assets | Kiel and Nicholson (2003), Klapper and Love (2004), Boubakri <i>et al.</i> (2005), Rhyne (1998), Mersland and Strom (2007), Daily and Dalton (1998), McConnel and Servaes (1990), Rhoades <i>et al.</i> (2001) |
| PANEL B: Independent Variables | | |
| Attribute | Measure | Reference |
| Board size | Number of board of directors | Jensen (1993), Lipton and Lorsch (1992), Yermack (1996), Eisenberg, Sundgren and Wells (1998), Mak and Kusnadi (2003), Alshimmiri (2004), Andres, Azofra and Lopez (2005), Dalton <i>et al.</i> (1999) and Coles <i>et al.</i> (2008) |
| Board independent | Proportion of independent directors to total number of directors. | Ezzamel and Watson (1993); Fama and Jensen, (1983); Chen and Jaggi, (2000); Laing and Wier (1999); |

| | | |
|------------------------|--|--|
| Financial literacy | Number of directors with accounting, finance, economic, banking qualifications, over board size | Be´dard et al. (2004), Yatim et. al. (2006), Laing and Wier (1999) and DeZoort and Salterio (2001) |
| Multiple directorships | Number of multiple directorships by board members over board size | Kamardin et al (2014), Iturriaga and Rodríguez (2014), Latif et al., (2013), Lei and Dang (2014), Fich and Shivdasani (2006) and Bar-Hava, Feng and Lev (2013) |
| Board meeting | Number of board meetings in the financial year | Vafeas (1999), Lipton and Losch (1992) |
| Firm size | Total assets (log) | Andersson and Daoud (2005), Ben-Amar and Boujenoui (2007), Bujaki and McConomy (2002), and others |
| FINPERF | $= \alpha + \beta_1 BODSIZE + \beta_2 INED + \beta_3 FINLIT + \beta_4 MULTIDIR + \beta_5 MEET + \beta_6 SIZE + \Sigma$ | |

4. Results

A. Descriptive statistics

Table 2 reports the descriptive statistics on all the variables used in the sample. The descriptive statistics are explained on the basis of the raw data. Panel A of Table 1 depicts the descriptive statistics of the dependent variables while Panel B provides the distribution of the independent variables. The average total asset (size) is RM1, 479 million¹. The mean ratio of state ownership to total shares outstanding is 52.14 percent. In terms of the corporate governance structure of the state-owned GLCs, the average board size is eight members. An average of 50 percent of the board of the state-owned GLCs is found to be independent. Every board member holds an average of two positions in other companies' boards and about 64 percent of the board members have experience in accounting, banking, economics or finance. To oversee the operation of the firms, the board of directors have an average of 7 meetings.

Table 2. Descriptive statistics for all the variables in the study

| Panel A: Descriptive Statistics for Independent Continuous Variables | | | | | |
|--|---------|---------|--------|--------------------|--------|
| Variable | Minimum | Maximum | Mean | Standard deviation | Median |
| Dependent Variables: | | | | | |
| <i>FINPERF</i> | 0.100 | 1.800 | 0.591 | 0.3442 | 0.50 |
| Independent Variables: | | | | | |
| <i>BODSIZE</i> | 5 | 14 | 7.96 | 2.149 | 7.00 |
| <i>INED</i> | 0 | 1.14 | 0.4991 | 0.1618 | 0.50 |
| <i>FINLIT</i> | 0.29 | 1.00 | 0.6426 | 0.1721 | 0.64 |

¹All the figures in this section are rounded up.

| | | | | | |
|-----------------|------------|----------------|---------------|---------------|-------------|
| <i>MULTIDIR</i> | 0 | 5.80 | 2.3647 | 1.7008 | 2.00 |
| <i>MEET</i> | 3 | 14 | 6.97 | 2.651 | 7.00 |
| <i>SIZE</i> | 77,621,737 | 11,520,238,000 | 1,479,370,309 | 2,191,723,972 | 736,901,651 |

In summary, it can be said that the state-owned GLCs meet the criteria of a high-performing board as recommended by the PCG. This is supported by Che Azmi and English (2016) where they find that GLCs exhibit higher levels of standard-related compliance compared to non-GLCs. The comparison between recommendation by PCG and the findings of the paper is presented in Table 3.

Table 3. Comparison between recommendation by PCG and the findings in the paper

| Corporate governance mechanism | Recommendation by PCG | Finding in the paper (Mean) | Remarks |
|--------------------------------|---|-----------------------------|---|
| Board size | 10 directors or less but not less than 6 directors | 7.96 | Meet the requirement which is not too small (i.e. less than 6) and not too large (i.e. more than 10). |
| Board independent | At least one-third is independent | 0.4991 | Meet the requirement whereby more than one-third (i.e. 50%) of the board is independent. |
| Financial literacy | Directors' background and experiences are balanced | 0.6426 | Meet the requirement where 64% of the board is balanced in term of financial literacy. |
| Multiple directorship | Number of directorships in listed companies capped at 5 | 2.3647 | Meet the requirements for number of directorships in listed companies not greater than 5. |

B. Correlation analysis

Table 4 provides the univariate analysis for the dependent and continuous variables based on the actual data. The following discussion is based on the non-parametric Spearman correlations due to the small sample size and the violation of normality assumptions by many variables. The results reveal that there is a highly significant (at the 1 percent level) and positive correlation between performance and board size. The result is consistent with Kiel and Nicholson's (2003) findings where there is a significant correlation between board size and financial performance. From an agency perspective, the agency problems would simply be solved due to the greater number of people who will review management actions. Jensen (1993) proposes that the maximum number of directors on the board be at around eight, which is in line with the PCG recommendation that a GLC board should have the number at 10 directors or less than 6.

The results also find that there is a highly significant (at the 1 percent level) and positive correlation between performance and multiple directorship. The finding is consistent with prior studies by Hillman et al. (2000) and Kiel and Nicholson (2003). The result shows that the board is a potentially important resource in linking the company to external resources and is thus able to increase the market performance.

Furthermore, the results indicate significant negative correlation with board meeting (at the 5 percent significance level). There is also a significant and positive correlation between firm size and performance. The results provide preliminary evidence that the stronger the corporate governance mechanisms, the higher the level of state-owned GLC performance. The other variables (namely board independence and financial literacy) are not supported in this paper.

Table 4. Results of Univariate testing - Spearman Pairwise Correlation analysis

| Spearman (Correlation coefficient) | <i>FINPERF</i> | <i>BDSIZE</i> | <i>INED</i> | <i>FINLIT</i> | <i>MULTIDIR</i> | <i>MEET</i> | <i>SIZE</i> |
|--|----------------|---------------|-------------|---------------|-----------------|-------------|-------------|
| <i>FINPERF</i> | 1.000 | 0.363** | -0.120 | 0.080 | 0.417** | -0.237* | 0.267* |
| <i>BODSIZE</i> | 0.363** | 1.000 | -0.275** | 0.104 | 0.118 | -0.218* | 0.408** |
| <i>INED</i> | -0.120 | -0.275** | 1.000 | -0.191 | 0.058 | 0.108 | -0.043 |
| <i>FINLIT</i> | 0.080 | 0.104 | -0.191 | 1.000 | 0.171 | 0.074 | 0.238* |
| <i>MULTIDIR</i> | 0.417** | 0.118 | 0.058 | 0.171 | 1.000 | -0.132 | 0.389** |
| <i>MEET</i> | -0.237* | -0.218* | 0.108 | 0.074 | -0.132 | 1.000 | 0.150 |
| <i>SIZE</i> | 0.267* | 0.408** | -0.043 | 0.238* | 0.389** | 0.150 | 1.000 |

Note: **Correlation is significant at the 0.01 level, *Correlation is significant at the 0.05 level

C. Regression analysis

The data for each variable is not normally distributed as revealed by the Shapiro-Wilk test. The tests on normality show that the pooled least square distributions are inappropriate to test the estimation model. We also run the Breush Pagan and the Larangian Multiplier Test. The results show that the utilization of panel data is well suited for this type of sample based on such data.

The model estimation results for the panel regression analysis are shown in table 5. The analysis used generalized least square (GLS) for none effect, fixed effect and random effect. In order to test the best model between the fixed and the random effect, the Hausmann test is utilized. GLS with random effects is found to be better relative to the fixed effects where the null hypothesis for the fixed effect is rejected ($p < 0.1\%$) (untabulated). Thus, the following discussion focuses on the random effect model.

The individual coefficient of the estimated model is where the computed t test suggests that *BODSIZE* is significant at the 10% level in determining the financial performance of the state-owned GLCs.

The results of this paper are consistent with the arguments that larger boards could incorporate more representatives and thereby provide a greater breadth of experience, expertise, and specialised skills and could come from different stakeholders groups (Chaganti *et al.*, 1985; Klein, 2002). The increased opportunity of interactions among directors is more likely to improve bank performance as well as prevent corporate failure. Thus, as suggested by Kent and Stewart (2008), disclosure increases as board size increases.

Board size is also argued to have an association with director monitoring (Beasley, 1996; Jensen, 1993; Lipton and Lorsch, 1992; Williams *et al.*, 2005). Ntim *et al.* (2012) found that board size significantly influences corporate governance reporting in South African corporations due to the

emphasis made by the 2002 King Report on an effective board size. Accordingly, the argument is that the larger the board, the more extensive the corporate governance disclosure.

Since the results on the other variables' relationships are not statistically significant, it is concluded that the predictions in agency theory are only partly supported for these state-owned GLCs in determining their financial performance.

The insignificance of results on the remaining corporate governance mechanisms relationships with financial performance might be due to the fact that the MCCG has been implemented comprehensively in all of the companies. The results on the size (i.e. total asset) of the state-owned GLCs showing insignificance is probably due to the fact that they are all owned by the state government and are more or less under a similar budget from the federal government.

Table 5. Panel estimation results

| | Fixed effects | Random effects |
|----------------|----------------------|--------------------|
| C | 9.6014 (1.23) | -4.1131 (-1.06) |
| LNBOFSIZE | 0.6854 (-1.69) | 0.9611* (1.94) |
| LNINED | -0.7227* (-1.69) | -0.4342 (-1.07) |
| LNFINLIT | 0.9856 (1.53) | 0.1284 (0.25) |
| LNMULTIDIR | -0.0060 (-0.02) | 0.0914 (0.48) |
| LNMEET | 0.2675 (0.64) | 0.1841 (0.52) |
| LNSTATEOSHIP | -0.2063 (-0.59) | -0.2871 (-1.59) |
| LNASSET | -0.7201** (-2.60) | 0.0270 (-1.06) |
| R ² | 0.3187 | 0.1186 |
| F | 2.54 | 8.69 |
| P | 0.0302 | 0.2754 |

Note: *significant at the 10% level, **significant at the 5% level

5. Conclusion

Failure to comply with the principles of PCG could expose the state-owned GLCs to reputational risk. Therefore, given the emphasis placed on corporate governance, our paper focuses on the relationship between the state-owned GLCs performance with several corporate governance mechanisms (based on the PCG).

The results indicate that, as expected, there is a significant positive association between board size as well as multiple directorships with the state-owned GLC performance. However, contrary to expectations, the findings indicate that there is no significant association between the state-owned GLCs performance and the independence of the board, financial literacy of the board of directors, and the frequency of board meetings.

This paper presents the theoretical contribution on agency theory in addition to managerial implications. From agency theory, the board of directors is considered to be one of the mechanisms to mitigate the agency conflict in the company between shareholders and directors. However, among the board of directors' characteristics (i.e. independent directors, financial literacy of board members, multiple directorship and the frequency of board meeting), it is only board size that has an association with financial performance. Thus, it is claimed that board size has an association with director monitoring. This paper provides empirical evidence that the predictions in agency theory are only partly supported for by these state-owned GLCs in determining their financial performance.

The study adds to previous literature on the corporate governance practices of state-owned GLCs and has implications for regulators and standard setters. The corporate governance standard setters, the Ministry, and the State SEDC could play an important role in influencing the corporate governance structure of state-owned GLCs in order to enhance the performance of the state-owned GLCs. The evidence suggests the need for the mandatory enforcement of standards on certain corporate governance mechanisms. However, any proposed standards or guidelines must be suitable to the state-owned GLC's structure and environment. The enforcement of standards on certain corporate governance mechanisms (for instance, board size and multiple directorships) should lead to an increase in the state-owned GLC performance.

The findings of this paper are not without limitations. First, the small sample size prevents us from performing a more rigorous analysis with more conclusive findings. Thus, this paper only provides some early indicators on factors specific to state-owned GLCs which may have associations with the financial performance of firms.

There are a number of avenues for future research. Additional studies, using a larger data set, are needed in order to provide further evidence on the financial performance behaviour of the state-owned GLCs. Studies across times or panel data study could generate stronger results and enable additional factors and theories to be explored.

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