The Relationship between Corporate Governance Mechanism and the Firm Value: The Case of Islamic Banks in Malaysia and Indonesia

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Abstract: Our study empirically examines the relationship between corporate governance mechanism and their interactions on the firm value. We concentrated on the banking industry in Indonesia and Malaysia given that majority of the literature are primarily focused on the non-financial industry due to stringent regulation on disclosure in the financial banking counterparts. We measure firm’s value using Tobin’s q, while corporate governance mechanisms comprised of independent directors, the presence of audit committee, the institutional ownership as well as the percentage of female directors on the board. Using 48 observations during the year 2016-2018, our result exhibit that there is a significant positive association between audit committee independence and firm value. Moreover, we also reported a negative link between board independent and the presence of female directors on the firm value. In respect to our interaction effects, we found that there is a complementary relationship between (i) audit committee independent and board independent and (ii) female directors and audit committee independent and firm value. Moreover, our regression also reported a significant substitutive relationship between (i) female directors and institutional ownership (ii) female directors and board independent as well as (iii) audit committee independent and institutional ownership and firm value. In contrary to the findings from the western counterpart, our result shows that the presence of female directors reduce firm value, thus suggesting that the role of female directors have been impaired due to the cultural aspect of the society.

Keywords: Corporate Governance Mechanism, Firm Value, Islamic Banks, Independent Directors, Audit Committee, Female Directors, Institutional Ownership

1. Introduction

Our study mainly concentrated on two main objectives. The first is to examine the relationship between female directors, audit committee existence, independent directors as well as institutional investors on firm’s value. The second objective of the research is to examine the interaction effects between female directors and other corporate governance mechanisms on firm’s value. Our study is particularly important in corporate governance research in several ways. First, we are examining the relationship between female directors and other governance mechanisms in Islamic Banking setting, something that predominantly neglected by previous study given that majority of the literature is concentrated on the non-financial firms. Second, our study utilized the emerging economy as sample, while prior studies are focusing on the link between corporate governance mechanisms and firms value using developed countries or non-Asian countries as their settings. Third, we fill the void in the literature by examining the interaction effects of corporate governance mechanism on firm value, something that has been under researched especially from the emerging market environment. While previous literatures mainly investigate the direct effect of corporate governance mechanism on firm value, our study contribute to the prior researches by examining the interactions between corporate governance variables in order to identify whether there is a complementary or substitute relationship between governance mechanism.

We are particularly interested in firm value since it is the benchmark of the shareholder’s wealth. We measure the firm value using Tobin’s q, which represent the ratio of the market value of a firm’s stock price with the book value of the firm’s equity (Weston & Copeland, 2001), a robust measure of the firm performance which is based on the shares traded on the capital market (Sudana, 2011). Company value is the actual value per share that will be received if the company’s assets are sold according to the stock price (Gitman, 2006).

We focus on the impact of corporate governance because the governance process in the firms are costly, and by understanding the effect, whether they are complementing or substitutive each other, firms can design their corporate governance structure based on their specific needs and agenda (Holm & Schöler, 2010). In order to create a positive image on the Islamic banking, they have to comply with the Malaysian Code on Corporate Governance. The implementation of sound corporate governance practices can improve company performance and long-term economic value for investors and stakeholders. The implementation of GCG in Indonesia is regulated in PBI No. 11/33 / PBI / 2009 concerning Implementation of Good Corporate Governance for Sharia
Commercial Banks and Sharia Business Units. The Malaysian Islamic banking governance system is regulated in a form of law issued by Bank Central Malaysia (Bank Negara Malaysia), specifically mentioned in the Islamic Financial Service Act 2013 (IFSA).

We rely on the agency theory in developing our hypotheses, since the principal-agent relationship suffer from the agency problems such as conflict of interest and information asymmetry. Therefore, in order to mitigate agency problem, a sound corporate governance structure need to be developed in order to improve the monitoring function of the board and institutional shareholders, that eventually lead to higher firm value.

Using 48 observations of Islamic banks in Malaysia and Indonesia, our results suggest that the firm value increases with audit committee independent and decreases with board independent and female directors. Our result also exhibits a significant complementary relationship between (i) audit committee independent and board independent, and (ii) female director and audit committee independent and firm value. Moreover, we also document a significant substitutive relationship between (i) female director and institutional ownership, (ii) female director and board independent, and (iii) audit committee independent and institutional ownership and firm value.

We organized our paper as follows. In the first part of the paper, we discuss about the introduction. Next, we describe the theoretical literature, empirical literature and the hypotheses development in the part 2. In the part 3, we explain about the research methodology including the sample and measurement. In the fourth part, we present our findings and discussion from our analysis. We conclude our paper in part 5.

2. Literature Review and Hypothesis Development

Agency Theory, Corporate Governance and Firm Performance

In this study, we rely on both agency theory in explaining the relationship between corporate governance and firm performance. According to Jensen & Meckling (1976), agency theory, it is mainly concerned about the relationship between agent and principal. In this instance, agent is the managers while the principal is the shareholders. In this relationship, agent have been appointed by the principal to make an economic decision on behalf of the shareholders. This suggest that, any decision taken by the principal must be aligned with the interest of the shareholders, in the sense that it must be intended to maximize the shareholders’ wealth.

Nevertheless, agency relationship is plague with two agency problems that are; (a) the conflict of interest, (b) the information asymmetry. In respect to the conflict of interest, as a rational human being, agent tend to maximize his/her own personal interest, rather than to serve the interest of the principal (Fields et al., 2001). While for information asymmetry, the information received by the principle is much lower than the information that the agent has in hand. The discrepancies of information between agent and principal lead the agent to be in the better position to manipulate the disclosure of information that they want to release or hold to the principal. In agency theory, it is assumed that all people in the capital market are rational, which means the agent, principal, financial analyst, government, creditors, etc. are all rational in their decision-making process. Nevertheless, when people are rational, they tend to make a decision that benefit themselves.

In order to solve the agency problems, there is a need to develop a sound corporate governance system in the firms. The corporate governance process can be divided into two main components; (a) internal governance mechanisms and (b) external governance mechanism. Internal governance mechanism refers to the effective function of board of directors, audit committee, remuneration committee, composition of independent directors, and all other related internal components of a firms’ governance structure. The external governance refers to the roles of the block holders, financial analyst as well as the external auditor. By practicing a sound governance system, it is expected that the conflict of interest among the managers can be mitigated, thus increasing the monitoring function of the board of directors. Thus, in our study, we focus on the important monitoring roles of the internal and external governance platform such as board independent, audit committee independent, female directors as well as the institutional investors.

Corporate governance can be defined as a part of control mechanism that is developed as a monitoring tool in checking the decision by the board, to ensure the efficiency of the operation as well as the alignment of the interest between principal and agent (Donnelly & Mulcahy, 2008, p. 416). In this instance, good corporate governance system consists of a set of legal instruments that explain the relationship between shareholders, managers, creditors, the government, and stakeholders with companies. This implies that sound corporate
governance can also be viewed as a mechanism that helps companies in enforcing laws and regulations that explain the relationship between the parties associated with the company (Rosadi, 2015).

The value of the firms is always associated with the value of the share price, in the sense that the higher the value of the share price, the higher the value of the firms. High share price is desirable in a company since it manifest the maximization of the shareholder’s wealth (Euis & Taswan, 2002). Therefore, it is expected that firms will be able to increase the firm value, when it is governed by a strong and effective board and institutional investors.

**Literature Review on Corporate Governance and Firm’s Value**

Several studies have been conducted in examining the relationship between corporate governance and firm’s value. In this section, we describe some of the literatures that has been conducted in the emerging market (e.g., Pakistan, Mexico, Portugal), and developed countries (such as United States of America). While the researches have been conducted in various countries, studies from Malaysia & Indonesia are extremely limited.

From the Indonesian environment, Prasjojo (2015) examines the relationship between corporate governance mechanism and firm performance in Shariah bank during the year 2013. He reported a significant positive relationship between corporate governance variables and firm performance. Another research conducted by Agus (2018) reveal that the presence of institutional ownership in a firm increases the firm value.

In Pakistan, Bhat, Chen, Jebnan, & Bhutto (2018) examine the relationship between corporate governance and firm’s value. Their sample focus on the firms with state ownership and firms without state ownership, as to see the difference on the impact of corporate governance and firm performance in these two groups of samples. By using a panel data analysis from the year 2010-2014, their findings reported a significant positive relationship between board independent and firm’s value in firms with state ownership only, while other governance variables such as board size and board meeting found to be insignificant in both groups.

Another study from Pakistan, Sajjad & Rashid (2015) examine the relationship between board diversity and firm performance for 20 firms in banking sector during the year 2007 to 2012. Using Tobin’s-q as the measurement for firms’ value, they found that the presence of female directors in the board reduces firm value.

Shahzad, Ahmed, Fareed, Zulfiqar, & Naeem (2015) Pakistan’s study investigate the impact of corporate governance and firm performance. They have utilized several corporate governance variables in their study which includes the composition of the board, the size of the board as well as CEO duality. In regards to the firm performance, it has been measured by ROA in their study. Their regression analysis exhibit that there is a significant negative relationship between CEO duality and firm performance at p<0.01, coef=-8.96, t-stat = -2.086. Moreover, their finding also reported a significant positive link between board size and firm performance at p<0.01, coef=4.004, t-stat=0.7533. As to see the association between agency cost, only audit committee expertise shows positive association with firm performance.

Aldamen, Duncan, Kelly, McNamara, & Nagel (2012) empirically examine the impact of audit committee characteristics on firm performance in Australian capital market. By using global financial crisis as a backdrop (that is from the year 2008 to 2009), they focused on three main attributes of audit committee that are audit committee expertise, audit committee independence and audit committee meeting & size, and created a composite measure of audit committee based on the median cut of all audit committee variables. They measure firm performance based on the change in share price during the year 2008-2009. Using a final sample of 120 firms, their findings reported that there is a significant positive link between composite audit committee and firm performance at p<0.05 (coef=0.042, t-stat= 2.324). When they run the regression using individual variable of audit committee, only audit committee expertise shows positive association with firm performance.

In Sri Lanka, Wellalage & Locke (2012) investigate the association between the presence of female directors in the board and firm performance. They also study the impact of female directors on agency cost. They measured firm performance using Tobin’s Q, while gender diversity is measured using three different measures that are (i) Blau Index, (ii) Dummy variable and (iii) the percentage of female directors in the board. By using 88 listed firms in the Colombo Stock Exchange during the year 2006 to 2010, their Dynamic Panel GMM regression reported a significant negative association between percentage of woman on board (p<0.01, coef= -7.327, t-stat=1.103) as well as gender diversity (p<0.01, coef=-1.718, t-stat=0.398) and firm performance. Another regression analysis on agency cost reported a significant positive association between the dummy variable of the existence of woman director...
(p<0.05) and gender diversity (p<0.05) on agency cost, which is measured using Q-dummy free cash flows (which represent growth opportunities). The finding from their study suggest that the placement of female on board reduce firm performance and also increase the agency cost.

Li, Chu, Lam, & Liao (2011) focus on the impact of age diversity on the firm’s performance in China. They measured firm performance using return on assets (ROA) and employee productivity. By using local firms in insurance sector during the year 2002-2007 (337 observation overall), they found that there is a significant and positive association between age diversity and firm performance.

Marn & Romuald (2012) examine the relationship between corporate governance and firm performance from the Malaysian context. Their study is using a panel data of 20 listed firms in Bursa Malaysia from the year 2006 to 2010. The corporate governance mechanism that have been tested in their study are the size of the board, board independent, audit committee independent, the status of the chairman whether he/she is an executive or non-executive as well as the director’s share ownership. In their regression analysis, Marn & Romuald (2012) finding’s exhibit a significant positive relationship between board size and board independent at p<0.10 and p<0.10 respectively. Nevertheless, other variables found to be insignificant in influencing firm performance. The adjusted R² in their regression analysis is considerably low, that is just merely 0.0423.

Carter, Simkins & Simpson (2003) study the impact of board diversity on the firm value by using top 1000 largest firms in the United States. By using 2SLS estimation, their finding revealed that the existence of female directors in the board (measured using dummy 1,0) and percentage of female on board area able to increase the Tobin’s-Q at p<0.05 and p<0.05 respectively. Other important corporate governance variables such as board independent and audit committee independent are not included in their regression model.

Jara, López-Iturriaga, San-Martín, & Saona (2019) investigate the impact of power of large blockholders (contestability) and firm value on 595 listed firms in Latin American countries such as Argentina, Peru, Brazil, Colombia, Mexico and Chile during the year 2000-2015. They utilized Tobin’s, market to book value and ROA as proxies for firm performance. They found that contestability shows a significant positive link between contestability and firm performance. Specifically, positive association is reported between contestability and Tobin’s q, Market to book and ROA at α<0.01, p<0.05 and p<0.10 respectively. This suggest that the existence of large concentrated ownership is able to offer monitoring effects to the firms, thus enhance firm performance.

Anwar & Aziz (2019) examine the relationship between corporate governance characteristics and firm performance in Asian regime. Their sample comprise of 123 multinational firms in Asian countries during the year 2008 to 2017 that are operating in non-financial sector. They measured firm performance using the growth of sales, while corporate governance attributes that have been included in their analysis are audit committee independence, CEO duality, board independence and ownership structure. Based on their 2 Stage Least Square regression, they found a significant positive association between board independence, ownership structure and audit committee independent at p<0.05 (coef=0.240), p<0.01 (coef=0.186) and p<0.05 (coef=0.06) respectively. Other control variables such as firm size reported a significant negative link to performance at p<0.01, while ROA shows a significant positive association at p<0.01.

In Egypt, Abdelzaher & Abdelzaher (2019) examine the impact of female directors and firm performance using 114 non-financial firms during the year 2013. They measure firm value using ROE and Tobin’s-q. They found that there is a positive association between the percentage of female directors in the board and firm performance.

Chong, Guillen, & Lopez-de-Silanes (2009) investigate the impact of corporate governance and firm value in the Mexican listed firms in the year 2002. The dependent variable is measured using ROA, ROE, price to book value as well as Tobin’s-q. The corporate governance index has been developed in measuring corporate governance practices in the firms, which includes important components in corporate governance such as the composition of the board, the function of audit committee & compensation committee, duties of board of directors, etc. In their regression analysis, they found that corporate governance index increases the Tobin’s Q and ROA at p<0.01 and p<0.05 respectively. Furthermore, they also reported a significant positive association between corporate governance index as well as the dividend payouts.

Lee & Barnes (2017) empirically examine the relationship between corporate governance and firm performance in Hong Kong. By using 75 listed firms in Hong Kong, they concentrated on the impact of family firms’ characteristics on firm performance (which is measured using Tobin’s q, ROA and return on equity (ROE). They found that family firms that are managed by founders are having positive relationship with firm
The Relationship between Corporate Governance Mechanism and the Firm Value: The Case of Islamic Banks in Malaysia and Indonesia

Performance, while other characteristics such as family firm that are managed by successors and professional managers are insignificant in influencing firm performance.

Ntim (2016) examine the impact of corporate health disclosure, corporate governance and firm value in Africa. They found that there is a significant positive association between corporate health disclosure and firm value. Furthermore, interaction terms between firm’s health disclosure and corporate governance index shows a significant positive relationship to firm value at p<0.01. This suggest that there is a complementary relationship between corporate governance index as well as health disclosure in increasing the firm value.

Major & Marques (2009) investigate the link between corporate governance, the IFRS application as well as firm performance in Portugal. By using ROA as a proxy for firm performance, they found that there is a significant positive link between corporate governance and firm performance. Fox, Gilson, & Palia (2019) investigate the relationship between corporate governance and firm performance. By using a corporate governance score based on an index of 24 governance attributes. The firms are given a score of “0” if they have a positive attribute and vice-versa. This means that firms with lower governance score indicates a strong governance practice. This suggest a negative link between corporate governance and firm performance. They measure firm performance using Tobin’s Q. In their fixed effects regression, they found that there is a negative link between governance indices and firm performance, which means firms with sound corporate governance practices perform better than firms with lower governance practices.

Hypothesis Development

Board Independence & Audit Committee Independence

According to the agency theory, the placement of independent directors in the board are important to create balance in the decision-making process. The existence of independent directors in the board and audit committee is viewed as a credible referee in monitoring the board activities in ensuring higher board effectiveness. The strong board is expected to offer better strategies that lead to competitive advantage, thus increasing the firm performance. In this regard, investors rely on the monitoring roles of the independent directors in the board and audit committee, as a guardian to protect their investment (Rosenstein and Wyatt, 1990). It is expected that the presence of independent directors are able offer independent judgment and credible decision for the interest of the shareholders, thus suppressing the conflict of interest in the firms (Klein, 2002). Previous literature such as Anwar & Aziz (2019) and Bhat et al. (2018) found that there are positive association between board independent and firm value. Therefore, in line with the agency theory, our first and second hypotheses are;

\[ H_1: \text{Ceteris paribus}, \text{ there is a positive relationship between the Independent Directors (BODIND) and Firm Value (TOBINS-Q)} \]

\[ H_2: \text{Ceteris paribus, there is a positive relationship between the Audit Committee Independent (ACIND) and Firm Value (TOBINS-Q)} \]

Female Directors

In one hand, the existence of female directors in the board is expected to enhance the monitoring mechanism of the board, thus positive relationship between female directors and firm performance is expected. As an evidence, Carter et al. (2003) US study found a positive relationship between female director and firm performance.

On the other hand, in the context of emerging economies, the existence of female directors might be unintended due to different cultural system when compared to developed nations. In an emerging market of Southeast Asia, the presence of female directors might create barriers and communication restriction in the board. Moreover, from the cultural perspective of the people in Malaysia and Indonesia, female is expected to be obedient and silent. Therefore, it is potential that the appointment of female directors in the board might reduce the firm performance in the firms due to cultural factor. Therefore, study from Sri Lanka such as Wellalage & Locke (2012) found a negative relationship between the existence of female director and firm value.

In this instance, we follow the agency theory perspective that female director’s function as a monitoring mechanism in improving board effectiveness, thus will increase the firm value. Our next hypothesis is;
**H**\(^3\): Ceteris paribus, there is a positive relationship between Female Directors (FEMALE) and Firm Value (TOBINS-Q)

**Institutional Investors**

Institutional investor is one form of external governance mechanism that function as a monitoring mechanism in ensuring that the board of directors are in the right track in running the organization. In the corporate governance system, the block holders are having huge power to appoint the Chief Executive Officer, to dismiss the current Chief Executive Officer as well as to ask for more information or disclosure from the firms (Ronen & Yaari, 2008; Heflin & Shaw, 2000; Andres, 2008).

Previous literature such as Agus (2018) and Seifert, Gonenc & Wright (2005) also found that large ownership by the institutional investors are effective in improving the firms’ performance.

Therefore, we set our hypothesis 4 as below;

**H**\(^4\): Ceteris paribus, there is a positive relationship between Institutional Ownership (INST) and Firm Value (TOBINS-Q)

**3. Research Methodology**

**Sample Selection and Data Collection**

We utilized the purposive sampling technique with certain considerations in determining the sample in our study. The criteria for selecting the research sample are; (a) The Islamic Bank was listed on the Indonesia Stock Exchange (IDX) or Bursa Malaysia during 2016 - 2018. This is because, in order to collect the data for Tobin’s-q, market information such as the share prices is necessary (b) The Islamic Bank must have published a quarterly financial statements for the year 2016-2018 for the collection of data on Tobin’s-q (c) The bank have available data on corporate governance mechanisms such as independent directors, audit committee, female director, institutional ownership and total assets. We mainly collected the financial data from the firm’s annual report, quarterly financial reports, Bursa Malaysia website and Indonesia Stock Exchange website.

**Sample Overview**

Our study collected the data for 3 years that is from the year 2016 to 2018. Based on our initial observation, only 6 companies that meet the sample selection criteria. Nonetheless, there are missing data on the share price for 2 firms, thus these 2 firms were removed from the list of samples. Our final sample comprise of 4 companies (1 firm from Indonesia and 3 firms from Malaysia).

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank</th>
<th>Country</th>
<th>Number of Observations</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>2018</td>
<td>2017</td>
<td>2016</td>
</tr>
<tr>
<td>1.</td>
<td>Panin Dubai Syariah</td>
<td>Indonesia</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>Bank Islam Malaysia Bhd</td>
<td>Malaysia</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Hong Leong Islamic Bank</td>
<td>Malaysia</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>MBSB</td>
<td>Malaysia</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
Measurement of Variables

Dependent Variable

Firm value

In line with Weston & Copeland (2001), we measure firm’s value using Tobin’s Q, which is calculated by comparing the ratio of the market value of the company's shares with the book value of the company's equity. The formula is: \( Q = \frac{EMV + D}{EBV + D} \), where \( Q \) = Firms Value; \( EMV \) = Market Value of Equity; \( EBV \) = Book Value of Equity; \( D \) = Book Value of Total Debts.

Independent Variable

Independent Directors

Independent directors are members of the Board of directors who do not have financial, management, share ownership and / or family relations with other members of the Board of Directors, Directors and / or controlling Shareholders or other relationships that can affect their ability to act independently. Independent Directors is measured based on the percentage of Independent directors on the Board in corroboration with (Ulfa, 2017).

Audit Committee Independence

In the Good Corporate Governance guidelines issued by the National Committee on Corporate Governance Policy (KNKCG) in Indonesia, the audit committee nominate the prospective external auditors as well as proposing the auditor fees to the board of directors. The number of members of the audit committee must be adjusted to the complexity of the company while paying attention to the effectiveness in decision making.

In Malaysian Code on Corporate Governance, audit committee must be consisting of at least three members, one of whom is an independent director of the firm as well as being the chair of the committee, while the other is an external party who is independent and at least one of whom has capabilities in accounting and finance (Reviani & Sudantoko, 2012). We measure audit committee independent based on the percentage of independent directors in the audit committee.

Female Directors

In line with Winasis & Yuyetta (2017) we measure Female Directors in the company using the percentage of female directors in the board.

Institutional Ownership

Institutional ownership is measured based on the percentage of ownership of institutional investors (Novalia, 2006).

Control Variable

We control for firm size in our regression model and we measure (SIZE) using the natural logarithm of the total assets of the firms.

Data analysis

We run several classical analysis tests on our dataset before we pursue with the regression analysis. In particular, we check on the fulfillment of regression assumptions tests which include normality, heteroscedasticity, linearity, autocorrelation as well as multicollinearity. We found that our dataset is normally distributed and fulfilled the requirement for us to conduct the Ordinary Least Square (OLS) Regression. We also check on the normality of our residual value and we found that the residual value is normally distributed. This suggest that the regression analysis can be carried out at a later stage.

We run several main analyses on our dataset. Firstly, we run the descriptive statistics on the dataset where we can see the mean, standard deviation, median, minimum, maximum as well the percentile of our dataset.
Secondly, we run the pairwise correlation on our variables to check on the correlation coefficient and its significance between one variable and another. Thirdly, we run the OLS regression where we intend to analyze the relationship between corporate governance mechanisms and firm’s value.

**Regression Equation Model**

When we test the relationship between corporate governance mechanism and firm value, our regression equation is specified as follow;

\[
\text{TOBINS} \ Q = \alpha + \text{FEMALE} + \text{BODIND} + \text{ACIND} + \text{INST} + \text{SIZE} + e
\]

**Interaction between Female Directors and Corporate Governance Mechanism**

The interaction between female directors in the banking industry and other corporate governance mechanisms is expected to be able to enhance firm’s value given that the synergies between the presence of female directors and other governance components. The synergies might lead to the complementary relationship or substitutive relationship. In this instance, if the interaction terms show a positive link to firm value, which suggest a complementary relationship, while the negative association to firm value indicates a substitutive effect between governance mechanisms (Oh, Chang & Kim, 2018). Thus, we created the interaction terms between all of our corporate governance mechanisms.

When we include the interaction term of FEMALE and other governance mechanisms, the regression equation will be;

\[
\text{TOBINS} \ Q = \alpha + \text{FEMALE} + \text{BODIND} + \text{ACIND} + \text{INST} + \text{SIZE} + \text{FEMALE} \times \text{BODIND} + \text{FEMALE} \times \text{ACIND} + \text{FEMALE} \times \text{INST} + e
\]

In the third regression, we include other interaction terms related to BODIND, ACIND and INST, and our regression equation will be;

\[
\text{TOBINS} \ Q = \alpha + \text{FEMALE} + \text{BODIND} + \text{ACIND} + \text{INST} + \text{SIZE} + \text{FEMALE} \times \text{BODIND} + \text{FEMALE} \times \text{ACIND} + \text{FEMALE} \times \text{INST} + \text{ACIND} \times \text{BODIND} + \text{ACIND} \times \text{INST} + \text{BODIND} \times \text{INST} + e
\]

Where;

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha )</td>
<td>Constant</td>
</tr>
<tr>
<td>( \text{TOBINS-Q} )</td>
<td>Firms value measured using Tobin’s-Q</td>
</tr>
<tr>
<td>( \text{FEMALE} )</td>
<td>Percentage of female directors in the board</td>
</tr>
<tr>
<td>( \text{BODIND} )</td>
<td>Percentage of independent directors in the board</td>
</tr>
<tr>
<td>( \text{ACIND} )</td>
<td>Percentage of independent directors in the audit committee</td>
</tr>
<tr>
<td>( \text{INST} )</td>
<td>Percentage of institutional ownership in a firm</td>
</tr>
<tr>
<td>( \text{SIZE} )</td>
<td>Natural log of firm’s total assets</td>
</tr>
<tr>
<td>( \text{FEMALE} \times \text{BODIND} )</td>
<td>Interaction terms between FEMALE* BODIND</td>
</tr>
<tr>
<td>( \text{FEMALE} \times \text{ACIND} )</td>
<td>Interaction terms between FEMALE * ACIND</td>
</tr>
<tr>
<td>( \text{FEMALE} \times \text{INST} )</td>
<td>Interaction terms between FEMALE * INST</td>
</tr>
<tr>
<td>( \text{ACIND} \times \text{BODIND} )</td>
<td>Interaction terms between ACIND * BODIND</td>
</tr>
<tr>
<td>( \text{ACIND} \times \text{INST} )</td>
<td>Interaction terms between ACIND * INST</td>
</tr>
<tr>
<td>( \text{BODIND} \times \text{INST} )</td>
<td>Interaction terms between BODIND * INST</td>
</tr>
<tr>
<td>( e )</td>
<td>Error term</td>
</tr>
</tbody>
</table>
4. Findings and Discussion

In this section, we provide our results from descriptive statistics, pairwise correlation and linear regression.

**Descriptive statistics**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>25% Perc</th>
<th>75% Perc</th>
<th>Std. Dev.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOBINS-Q</td>
<td>0.367</td>
<td>0.4725</td>
<td>0.032</td>
<td>0.482</td>
<td>0.1365</td>
<td>0.4805</td>
<td>0.1702</td>
<td>-0.9459</td>
<td>1.957</td>
</tr>
<tr>
<td>FEMALE</td>
<td>0.225</td>
<td>0.25</td>
<td>0</td>
<td>0.33</td>
<td>0.2</td>
<td>0.29</td>
<td>0.0936</td>
<td>-1.056</td>
<td>3.621</td>
</tr>
<tr>
<td>BODIND</td>
<td>0.6166</td>
<td>0.635</td>
<td>0.5</td>
<td>0.75</td>
<td>0.55</td>
<td>0.67</td>
<td>0.7918</td>
<td>-0.285</td>
<td>2.0178</td>
</tr>
<tr>
<td>ACIND</td>
<td>0.425</td>
<td>0.35</td>
<td>0.3</td>
<td>0.7</td>
<td>0.35</td>
<td>0.35</td>
<td>0.1656</td>
<td>0.957</td>
<td>2.148</td>
</tr>
<tr>
<td>INST</td>
<td>0.9291</td>
<td>0.96</td>
<td>0.81</td>
<td>1</td>
<td>0.84</td>
<td>1</td>
<td>0.077</td>
<td>-0.363</td>
<td>1.390</td>
</tr>
<tr>
<td>SIZE</td>
<td>15.146</td>
<td>15.8</td>
<td>6.49</td>
<td>16.54</td>
<td>13.91</td>
<td>16.24</td>
<td>1.763</td>
<td>-2.68</td>
<td>12.99</td>
</tr>
</tbody>
</table>

We tabulate our descriptive statistics result in Table 2. The descriptive statistics comprise of the mean, median, minimum, maximum, standard deviation as well as the percentile of 25%, 50% and 75%. Using 48 observations, our result reported that the mean for dependent variable (i.e., TOBINS-Q) is 0.367 with the median of 0.4725. The minimum and maximum value for TOBINS-Q are 0.032 and 0.482 respectively. If we examine the skewness and the kurtosis for TOBINS-Q, our results showed that the data for TOBINS-Q is normally distributed since the skewness and kurtosis are within the range of $\pm 2$ to $-2$.

In regards to our independent variables, the average (median) for BODIND and ACIND are 0.6166 (0.635) and 0.425 (0.35) respectively. The range for BODIND is from 0.5 to 0.75, while the range for ACIND is from 0.3 to 0.7. Based on the range of BODIND, we found that the firms comply with the minimum percentage of 50% BODIND that has been outlined by the Malaysian Code on Corporate Governance (MCCG) in Malaysia.

In regards to INST, the average of INST is 0.9291, with the minimum value of 0.81 and the maximum value of 1. The skewness and kurtosis for all of our independent variables are within the range of $\pm 2$ to $-2$, except for FEMALE which revealed a kurtosis of 3.621. We consider that this as mild given that it is not too far from the general guidelines of kurtosis that is $\pm 2$, and it only affect one variable in our regression.

**Pairwise Correlation**

<table>
<thead>
<tr>
<th></th>
<th>TOBINS-Q</th>
<th>BODIND</th>
<th>ACIND</th>
<th>FEMALE</th>
<th>INST</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOBINS-Q</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODIND</td>
<td><strong>-0.5946</strong>*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACIND</td>
<td><strong>0.4937</strong>*</td>
<td>-0.123</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALE</td>
<td><strong>-0.592</strong>*</td>
<td><strong>0.511</strong>*</td>
<td>0.0233</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INST</td>
<td><strong>0.5067</strong>*</td>
<td>-0.358</td>
<td>0.5073</td>
<td>-0.5153</td>
<td><strong>0.395</strong>*</td>
<td>1.000</td>
</tr>
<tr>
<td>SIZE</td>
<td><strong>0.5841</strong>*</td>
<td></td>
<td>0.5073</td>
<td>-0.5153</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** indicates that the coefficient correlation is significant at p<0.01.

We run our pairwise regression for all variables that we used in the regression and we tabulate the result in Table 3. In Table 3, our results revealed that the correlation coefficient are all below 80%, which suggesting that...
there is no multicollinearity between all of our independent variables as suggested by Hair et al. (2008). At this stage, we can see that there is a significant positive correlation between TOBINS-Q and ACIND (coef= 0.4937, p<0.01), INST (coef= 0.5067, p<0.01) and SIZE (coef = 0.5841, p<0.01). This suggest that an increase in ACIND, INST and SIZE will also improve firms’ value which is measured using TOBINS-Q. Nevertheless, our pairwise regression result also reported a significant negative relationship between TOBINS-Q and BODIND (coef= -0.5946, p<0.01) and FEMALE (coef= -0.592, p<0.01). This finding indicates that an increase in BODIND and FEMALE in the board will reduce the firm value as measured using TOBINS-Q.

**Linear Regression**

**Table 4. Linear Regression on Firm’s Value**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Predicted Sign</th>
<th>Model 1 Coef (t-stat)</th>
<th>Model 2 Coef (t-stat)</th>
<th>Model 3 Coef (t-stat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV= Tobins-q</td>
<td></td>
<td>DV= Tobins-q</td>
<td>DV= Tobins-q</td>
<td>DV= Tobins-q</td>
</tr>
<tr>
<td>ACIND*BODIND</td>
<td>+/-</td>
<td>2.3613*** (11.55)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACIND*INST</td>
<td>+/-</td>
<td>-9.996* (-1.75)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODIND*INST</td>
<td>+/-</td>
<td>-0.8233 (-0.14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALE*BODIND</td>
<td>+/-</td>
<td>-20.021*** (-5.53)</td>
<td>-21.241*** (-9.55)</td>
<td></td>
</tr>
<tr>
<td>FEMALE*ACIND</td>
<td>+/-</td>
<td>4.155 (0.96)</td>
<td>8.7846*** (9.80)</td>
<td></td>
</tr>
<tr>
<td>FEMALE*INST</td>
<td>+/-</td>
<td>-4.5053** (-2.20)</td>
<td>-7.8133*** (-7.61)</td>
<td></td>
</tr>
<tr>
<td>BODIND</td>
<td>+</td>
<td>-0.6009** (-2.57)</td>
<td>4.3763*** (4.22)</td>
<td>4.4902 (0.75)</td>
</tr>
<tr>
<td>ACIND</td>
<td>+</td>
<td>0.4471** (2.31)</td>
<td>-0.735 (-0.70)</td>
<td>6.6945 (1.16)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>+</td>
<td>-0.806*** (-2.88)</td>
<td>13.084*** (4.46)</td>
<td>15.752*** (8.55)</td>
</tr>
<tr>
<td>INST</td>
<td>+</td>
<td>0.1275 (0.51)</td>
<td>1.513*** (4.36)</td>
<td>6.0364 (1.11)</td>
</tr>
<tr>
<td>FIRM SIZE</td>
<td>+</td>
<td>0.0011 (0.92)</td>
<td>-0.033 (-1.64)</td>
<td>-0.0373* (-1.92)</td>
</tr>
<tr>
<td>Cons_</td>
<td></td>
<td>0.5938 (0.92)</td>
<td>-2.471*** (4.40)</td>
<td>-6.1647 (-1.14)</td>
</tr>
</tbody>
</table>

| N                              | 48             | 48                    | 48                    |
| R²                             | 0.6802         | 0.8306                | 0.8779                |
| F-stat                         | 21.76          | 158.67                | 370.5                 |
| p>F                            | 0.000          | 0.000                 | 0.000                 |

We run the linear regression in stages in examining the relationship between corporate governance mechanisms and firm value, and we tabulate the results in Table 4. In Model 1, we regress all of our corporate governance mechanisms on firm performance. We found that there is a positive relationship between ACIND and TOBINS-Q at p<0.05 (coef=0.4471, t-stat=2.31).
This suggest that an increase in the percentage of audit committee independence improve firms’ value. Furthermore, our result also demonstrated a negative relationship between BODIND (p<0.05; coef = -0.6009; t-stat= -2.57) and FEMALE (p<0.01; coef = -0.806; t-state=-2.88) on firm performance, hence suggesting that high percentage of BODIND and FEMALE in the board reduce the firms’ value. Both INST and SIZE are insignificant in influencing TOBINS-Q in the Model 1. The $R^2$ is quite high that is 68%, thus suggesting that the independent variables are able to explain 68% of the dependent variable in our model.

In Model 2 (Table 4), we add several interaction variables related to FEMALE. We acknowledge that the government in Malaysia has set 30% minimum regulation for the female director to be in the board. We therefore generate the interaction term between female directors and other governance mechanisms such as FEMALE*BODIND; FEMALE*ACIND and FEMALE*INST. We tabulate the result in Model 2. As findings, our results reported that the interaction term FEMALE*BODIND is negatively related to TOBINS-Q at p<0.01 (coef= -0.0201). This suggest that there is a substitutive relationship between FEMALE and BODIND on TOBINS-Q. In other words, in the present of FEMALE in the board, the existence of BODIND will reduce the firm performance. We also discovered that FEMALE*INST also reported a significant negative association with TOBINS-Q at p<0.05 (coef = -4.5053), which means, in the presence of FEMALE, the monitoring by INST will reduce the TOBINS-Q. Our result in Model 2 also revealed insignificant relationship between FEMALE*ACIND and TOBINS-Q. In regards to the $R^2$, we can see that the $R^2$ is now has increased from 68% (in Model 1) to 83% after the interaction terms are added into the Model 2.

In Model 3, we include another interaction term related to the BODIND and ACIND that are ACIND*BODIND, ACIND*INST and BODIND*INST. Our results in Model 3 exhibit that ACIND*BODIND positively influence TOBINS-Q at p<0.01 (coef=2.3613), thus suggesting a complementary relationship between ACIND and BODIND on TOBINS-Q. In particular, in the presence of ACIND, the existence of BODIND will increase the TOBINS-Q. Nevertheless, our Model 3 also reported an inverse relationship between ACIND*INST on TOBINS-Q (coef=-9.9960 at p<0.10), thus suggesting a substitutive effect between ACIND and INST on TOBINS-Q. In particular, in the presence of ACIND, the presence of INST in the firm will reduce the firm value. The $R^2$ in Model 3 is now has increased to 87%, which is quite high when compared to other research in this area.

Another interesting finding is where the FEMALE*ACIND that are previously reported insignificant link to TOBINS-Q in Model 2, now shows a strong positive relationship to TOBINS-Q in Model 3 at p<0.01 (coefficient of 5.8784). This imply that, in the presence of high interaction environment between ACIND and BODIND, the FEMALE*ACIND that was previously insignificant shows a strong complementary relationship to firm value. This signal that the presence of independent directors in the audit committee are able to stimulate higher monitoring function in the firm, thus improving the firm value. Other interaction term that is BODIND*INST found to be insignificant in Model 3.

In general, the presence of FEMALE in the board is not favorable in improving the firm value, based on the findings in Model 1, 2 and 3. This finding support prior literature in the Asian context where the role of female in the board is less effective when compared to the studies in the Western regime such as Carter et al. (2003) whom reported a significant positive association with firm value in the US setting. In the light of this finding, we argue that in the Asian context, the presence of female directors alleviates the board function due to cultural effect of the emerging economy. This is because, from the Asian context, female is not encouraged to be outspoken, while silent and obedient are viewed as the remarkable characteristics from the cultural perspective.

5. Conclusion

We investigate the impact of corporate governance mechanism and the interaction of each governance mechanism on the firm value. We contribute to the prior literature by providing evidence on the complementary or substitutive effects of governance from the emerging market that is Malaysia and Indonesia. Using 48 observations, our study reported several interesting findings. In the first instance, we found that there is a significant positive relationship between ACIND and TOBINS-Q at p<0.05, while BODIND and FEMALE reported an inverse link to TOBINS-Q at p<0.05 and p<0.01 respectively. These finding suggest that ACIND increases TOBINS-Q, while the presence of BODIND and FEMALE reduce TOBINS-Q. In regards to the interaction effects between our governance mechanisms, our finding reveals that there is a complementary relationship between ACIND*BODIND and FEMALE*ACIND on TOBINS-Q at p<0.01 and p<0.01 respectively. Moreover, our result also exhibits a substitutive effect between FEMALE*INST, FEMALE*BODIND and ACIND*INST at p<0.01, p<0.01 and p<0.10 respectively.
We acknowledge that our research is far from perfect. We acknowledge several limitations that should be addressed by the future studies. Our sample size is quite small due to lack of data on Tobin’s q. We suggest future research to extend the sample size in order to increase the generalizability of the findings. Moreover, we only concentrated limited number of governance mechanisms in a firm. We opine that by the inclusion of other governance elements such as the characteristics of shariah supervisory board, remuneration committee, board diversity, etc. will be able to provide more space in understanding the interactions between governance structures in the firms.

References


