The Effect of Board Structure on Banks Financial Performance by Moderating Firm Size

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Abstract

The objective of this study is to provide a comprehensive overview of possible influences that the key players of determinants of board structure - board size and board independence, might have on banks financial performance path to success. Dissimilar with recent researches which were focused to test corporate governance influences on firm performance, this study investigates the role of bank size (log of asset) as moderator on relationship between board size and board independence with banks financial performance. The data of 37 Malaysian banks (21 conventional, 16 Islamic) is analyzed by regression models using StataSE 12 software. The results show that the relationship between determinants of board structure (board size, and board independence) and financial performance moderated by firm size.

Keywords: Board Structure, Banks Financial Performance, Firm Size

1. Introduction

The last few decades have witnessed several economic downturns and a large number of corporate scandals across the world. Corporate governance is an important issue due to these financial scandals, and has been taken in to consideration by researchers as well as investors. Investigations the causes and conditions of the scandals have identified, lack of management oversight, and weakness of corporate governance structure. Furthermore, entrusting unlimited authority to executives also provided desirable ground for abuse. All those conditions led to scandals in big companies around the world, including well-known companies like; World Come Inc, Enron, and Adelphia (Munzig, 2003). To avoid such situations, proper governance of stakeholders through regular monitoring and auditing of the executive management is required, which is a process known as corporate governance. The current study investigates the relationship between board structure (size of board, board independence) and financial performance of banks. Regardless of investigating the linkage of these variables, the role of firm size as moderator, recognized on relationship between determinants of board structure and banks financial performance.

Generally, this study fills the gap in the literature series by capturing the impact of size of firm in financial performance of banks as moderator. In relation to this point, number of studies such as; (Ferrero-Ferrero, Fernández-Izquierdo, & Muñoz-Torres, 2012; Haniffa & Hudaib, 2006; Hu & Izumida, 2008; Kryvko, 2012; Munisi & Randøy, 2013), investigated the effect of corporate governance determinants such as size of board, board independence, on firm performance. They did not address the effect of size of firm on the relationship between those determinants and performance. This study provides useful guidelines for the corporate sectors, financial institutions, shareholders, depositors, and investors. The guidelines could assist firms to react effectively and efficiently during different economic conditions. Moreover, this study provides a good recipe for managers to consider an appropriate set of corporate governance model related to specific systems of banks in their decision making. It highly important to explore the role of variables that may influence the financial performance of banks.

2. Literature Review

Since the study of Williamson (1979) corporate governance becomes an important issue in both financial and non-financial firms. Based on his study, the subject of corporate governance mechanisms is of great practical importance and

it is mentioned as a concept for the first time. This subject either in advanced financial markets have a great deal of differences on how good or bad the existing governance systems are. For instance, Romano (1993) and Easterbrook (1996) created an incredibly beneficial analysis for the U.S corporate governance system, whereas Jensen (1989) and Jensen (1993) believed that the current corporate systems should move toward a more leveraged organization. Understanding corporate governance not only clarifies the debate associated with possible change in rich economies but also induce significant institutional changes where they must be implemented.

Majority of the discussion in the area of corporate governance has focused on understanding the relationship between corporate governance and firm performance (Cadbury et al., 1992; Dunlop, 1998; Shleifer & Vishny, 1997). Prior research on the relationship between corporate governance and company performance mentioned that a stronger corporate governance is related to a stronger company performance (Ammann, Oesch, & Schmid, 2011; Bebchuk, Cohen, & Ferrell, 2009; Core, Guay, & Rusticus, 2006; Cremers & Nair, 2005; Gompers, Ishii, & Metrick, 2003; Yermack, 1996). In addition, the role of corporate governance in the banking industry was examined in many studies which showed that effective corporate governance had positive effect on bank performance (Laeven & Levine, 2009; Macey & O'hara, 2003; Mishra & Nielsen, 2000; Sierra, Talmor, & Wallace, 2006). However number of study mentioned that banks corporate governance is different from nonfinancial firms it might because banks has many more stakeholders and business of banks are opaque and complex (Adams & Mehran, 2003; Andres & Vallelado, 2008; Bolton, Mehran, & Shapiro, 2011). Dedu and Chitan (2013), investigate the influence of internal corporate governance on bank performance and find negative relationship between them. Moreover, many scholars recommended that better financial performance relates to good governance, and powerful procedures may constraint managerial opportunisms (Bebchuk et al., 2009; Cremers & Nair, 2005; Gompers et al., 2003).

Regarding to the factors, that may influence firm performance; the firm size is an important factor that has a considerable effect on performance. Researchers indicated that firm size can potentially affect performance level (Serrasqueiro & Nunes, 2008; Singh & Whittington, 1975; Yang & Chen, 2009). A number of studies mentioned that firm size is a significant determinant may be related to the firms failure or success (Altman & McGough, 1974; Ohlson, 1980). In contrast, according to Akkaya and Uzar (2011), large firms are more diversified, therefore they face less possibility of default than smaller firms. Other empirical studies showed positive relationship between small-sized firms and performance, while the relationship was inversed for larger firms (Diaz & Sanchez, 2008; Serrasqueiro & Nunes, 2008).

In addition, with regard to effect of size of a firm on performance, many scholars have investigated the role of firm size as a control variable on firm performance (Diaz & Sanchez, 2008; Yang & Chen, 2009). However, Serrasqueiro and Nunes (2008) used the same variable as independent variable and found positive relationship between size and firms performance. There is no evidence to show the effect of size as a moderate variable on the relationship between corporate governance and performance. Therefore, the role of firm size investigated as a moderator variable.

3. Data Collection and Variables Definitions

This study utilizes panel data techniques due to the nature of data that involves the combination of cross-sections and time series, and is based on the number of banks across a 10 year period, data collected from annual reports of banks. By using panel data analysis, the degree of freedom can be increased and its lead to efficient estimates (Antoniou, Guney, & Paudyal, 2008). Table 1, shows the variables and their description in this study

Table 1: Variables

Variables	Description	Measurement
ROA	Return on Asset	Net income /total asset
ROE	Return on Equity	Net income/total equity
BIND	Board Independence	Number of independent non-executive directors in a board
BSIZE	Board size	Number of directors in a board
FSIZE	Firm Size	Natural log of total asset

4. Methods and Hypotheses Testing

There are two objectives in this study which are; (a) to investigate whether there is significant relationship between board independence and board size with banks financial performance. (b) To investigate the role of firm size as moderate variables on relationship between board independence and board size with financial performance. Therefore the

hypotheses of this study are as follows:

H₁. There is a significant and positive relationship between board size and financial performance of bank.

H₂. There is a significant and positive relationship between board independence and financial performance of bank.

The following econometric models used to tests these hypotheses:

$$p_{it} = \alpha + \beta_1 \text{Bind}_{it} + \beta_2 \text{Bsize}_{it} + \varepsilon_{it} \quad (1)$$

$p_{it} = \alpha + \beta_1 \text{Bind}_{it} + \beta_2 \text{Bsize}_{it} + \mu_i + \varepsilon_{it}$ (2) Where: p_{it} = Financial performance (ROE, ROA); Bind, board independence; Bsize, board size; μ_i firm fixed effect cross sectional differences in firm characteristics. Table indicate the result of fixed effect regression of corporate governance on financial performance.

H₃. Firm size moderated the relationship between board structure and banks financial performance.

$$p_{it} = \alpha + \beta_1 \text{Bind}_{it} + \beta_2 \text{Bsize}_{it} + \beta_3 \text{Fsize}_{it} + \beta_4 \text{Bind}_{it} * \text{Fsize}_{it}$$

+ $\beta_5 \text{Bsize}_{it} * \text{Fsize}_{it} + \varepsilon_{it}$ (3) Where: p_{it} = Financial performance (ROE, ROA), Bind: board independence, Bsize: board size, Bind*Fsize and Bsize*Fsize: interaction terms.

In testing this model, Hierarchical moderated multiple regression models is used to minor extension of an ordinary multiple regression. This method allowed the relationship between independent variables and dependent variables influence by third variable (i.e. moderator). According to (Bisbe & Otley, 2004), the Hierarchical moderated multiple regression models is an appropriate method for identifying the effect of moderating variables. The current study used three model or steps in order to testing hierarchical moderated multiple regression. Model 1, banks financial performance is regressed on the independent variables. Model2, banks financial performance is regressed on the independent variables and bank size as moderator variable. Model3. Finally in model 3, the banks financial performance is regressed on independent variables, moderating variables and interaction terms (independent variables x moderating variable).

5. Empirical Results

This study employs the econometric analysis using panel data that combines the features of time-series and cross-sectional data. In line with the objectives of this study, this study used two main estimations; Ordinary Least Squares (OLS) and Fixed Effect Method. Table 2 shows the result of Variable inflation factors and Heteroscedasticity test.

Table 2: VIF and Hetttest results

Variable	ROE, ROA		Hottest, Breusch-Pagan , heteroskedasticity	
	VIF	Tolerance	ROE	ROA
Bind	1.80	0.556	chi2(1) = 0.02	chi2(1) = 2.54
Bsize	1.80	0.556		
Mean VIF	1.80		Prob > chi2 = 0.893	Prob > chi2 = 0.1107

*the result shows that p-value for ROE and ROA are insignificant therefor the variance of these residuals is homoscedastic.

The result of variable inflation factors (VIF) and tolerance values were less than 10 and more than 0.10 respectively, table 2 shows that there is no multicollinearity problem among independent variables. To test the equal variance of dependent variable (homoscedasticity), Breusch-Pagan or Cook-Weisberg test was applied (Breusch and Pagan1979), table 2. This table presents that there is no Heteroscedasticity problem in variance of independent variable. Therefore the model regressed by using ordinary least squares regression (OLS), and fixed effect model as additional test, Table 3.

Table 3: OLS and Fixed effect

Variables	OLS		Fixed Effect Method	
	ROE	ROA	ROE	ROA
BIND	0.966**	0.4369*	0.540**	0.1269*
BSIZE	0.1912*	0.1113*	0.4490*	0.1471*
-CON	7.9122	3.9510	8.3207	4.7298
R-squared	0.0592	0.0430	0.0546	0.05706
Adj R-squared	0.0539	0.0351		
F-Value(Sig.F)	11.10 (0.000)	8.10 (0007)	11.74 (0.0000)	15.15 (0.0000)
NO of Obs	356	356	356	356

Table 3, presents the results of OLS and fixed effects regression on the relationship between board independence and board size with banks financial performance. As shown in Table 3, board independence and board size positively and significantly influence the banks financial performance in both OLS and Fixed effect methods, which indicated that there is significant relationship between these variables and financial performance. According to the agency theory which predicts that where a board of director is more independent of management; firm performance would be positively influenced. The result of this study is consistent with findings of number of researches such as; (Belkhir, 2009; Johl, Kaur, & Cooper, 2013; Liu, Miletkov, Wei, & Yang, 2015; Nodeh, Anuar, Ramakrishnan, Rafatnia, & Nodeh, 2015; Sanda, Garba, & Mikailu, 2011; Shukeri, Shin, & Shaari, 2012). Table 4, shows the results of moderator variable on relationship between independent variables (BIND, BSIZE) and financial performance (ROE, ROA).

Table 4: The moderating effect of Fsize among Bind, Bsize and financial performance

Variables	Model 1		Model 2		Model 3	
Financial performance	ROE	ROA	ROE	ROA	ROE	ROA
Bind	0.966***	0.4369*	0.988***	0.3485**	5.498**	0.5511*
Bsize	0.1912*	0.1113*	0.3923**	0.2127*	20.154**	2.084*
FSIZE			6.782***	0.4673***	27.062***	1.528**
Bind*FSIZE					1.60193**	0.074*
Bsize*FSIZE					2.7692**	0.2805*
Prob > F	0.0000	0.0007	0.0000	0.0018	0.0000	0.0009
R ²	0.0592	0.0430	0.1494	0.0417	0.1748	0.0575
Adjust R ²	0.0539	0.0351	0.1566	0.0335	0.1631	0.0440
No of observation	356		356		356	

* significant at the 0.1 level, ** significance at the 0.05 level, *** significant at the 0.01 level

Finding for regression in table 4 answer the hypotheses of H1 and H2 as indicated in table 2 also. Further, model 2 indicate a significant result of SIZE, showing the significant impact of bank size on financial performance. In addition, the regression result on the interaction effects of bank size on the relationship between BIND and BSIZ with financial performance demonstrated that firm size has positive effect on financial performance (model3). According to the model 3 results, firm size (size) play as a moderator, which lead to acceptance of hypothesis H3. The finding suggests that firm size have impact on banks financial performance which is consistent with the results of (Ntim, Lindop, & Thomas, 2013; Serrasqueiro & Nunes, 2008).

6. Conclusion

This study empirically investigates the effects of board structure determinants (board independence, board size) on banks financial performance. Covers the entire populations of commercial banks in Malaysia (37 banks, 21 conventional and 16 Islamic) from 2005 - 2014, however this study examine the role of firm size as moderator on relationship between board independence and board size with firm financial performance. Using panel data analysis, OLS and fixed effect models indicated that board independence and board size positively has impact on firm financial performance. In addition, firm size positively moderated the relationship between board structure determinants and bank financial performance.

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