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Board of directors and profitability ratio of Thai non-life insurers

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ABSTRACT

The aim of this paper was to investigate the impact of board of directors' characteristics on the profitability ratio of Thai public non-life insurers. A Hausman test was employed on the selection between fixed and random effects in our panel data for a sample of 208 firm-years from 2000 to 2012. Return on total assets (ROA), return on equity (ROE), and return on net written premiums (RNP) were used as proxies for the profitability ratio. The findings of our analyses revealed positively related and statistically significant results between board size and the profitability ratio. On the contrary, board meeting frequency was negatively related and statistically significant with ROA and RNP. In addition, firm size was negatively related and statistically significant with the profitability ratio.

Introduction

The board of directors is a top component of the management of a firm for running the business. The board has important roles in monitoring, controlling, and supervising the management team to follow the planned policies of its company. The board is more mentioned nowadays because it is an important component of corporate governance that is employed for running the business of a company. Corporate governance is a good principle of management because it is a systematic process for managing, supervision, monitoring, and controlling the management team to achieve efficiency, transparency, fairness, and high responsibility, and it can be used to investigate the effects of the credibility and sustainable growth of that firm.

Corporate governance has been discussed in general ever since the Thai Financial Crisis in 1997. The Thai government, at that time, found that an important cause of the financial crisis was a lack of strength and insufficient strictness by the boards of directors in monitoring their management teams; as a result, many companies were shutdown in Thailand. Meanwhile, the attack on the baht's exchange rate by speculators and foreign investors when it had never before been devalued resulted in an aggressive economic crisis in the country and spread to other countries in Asia and, ultimately resulted in the Asian financial crisis (Gonjanar & Sutthirak, 2012). The Thai government had to solve this problem by implementing good corporate governance for managing the business of a company with an efficient board of directors and strict monitoring of the management team of the company. The first target group to implement good corporate governance included listed companies on the Stock Exchange of Thailand.

For insurance companies in Thailand, the Office of Insurance Commission (OIC) has applied a good corporate governance system to all insurers after the Thai government announced that 2002 would be the first year of a good corporate governance campaign in each company. The objectives were to develop stability, a good monitoring system, effectiveness in operation, transparency, and disclosure of information to investors and the general public. The board of directors, as the representative of shareholders, is selected and appointed from shareholders and has a duty to protect the benefits of the firm, especially

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protecting the benefits to shareholders, monitoring the management team to follow the policies and plans of their company, as well as reducing agency costs that could happen in the future.

Generally, the board of directors has important duties in making decision on the policies and strategies of each firm, has the right to select, appoint, and dismiss the management team, and has another role in appointing other committees. Moreover, the board plays other roles in monitoring the management team, supervising risk management, and oversight compliances with law, rules, and regulations. In addition, the board has to promote the culture of controlling the standard of good practice and supervise the disclosure of the company's information and communication with the stakeholders.

Insurance companies in Thailand have to operate their business under the conditions of OIC, the Securities and Exchange Commission (SEC), and the Public Limited Company Act B.E. 2535. Under the conditions of OIC, the board should not comprise less than seven committee members, and should comprise at least 25 percent independent directors on the board, and the executive on the board should be no more than half of all members. A board director must have educational qualifications, experience in operations, or other requirements according to the regulatory agencies' descriptions. Moreover, the board should meet at least four times a year. Following the Public Limited Company Act B.E. 2535, the board has to consist of at least five committee members. However, the SEC requires the board to have at least one third independent directors and not less than three independent directors.

In Thailand, there is little in the literature on the study of the relation between the board of directors and the return on the business. Pathan, Skully, and Wickramanayake (2007) studied the relation of size of the board, independent directors on the board, and performance of the banks in Thailand. They found that a larger board reduced the performance of a bank. On the contrary, a larger board independence encouraged a firm to increase performance. The study of Yammeesri and Herath (2010) on the characteristics of the board of directors and a firm's value in Thailand revealed that changing the number of independent directors on the board had no effect on a firm's value.

One paper investigated the relation between board characteristics and a life insurance company's performance in Thailand in 2000–2001 (Connelly & Limpaphayom, 2004). The results indicated that more outside directors on the board increased profitability. In addition, the larger the firm, the greater the profitability. However, the size of the board had no relation with profitability.

To ensure that good corporate governance under an efficient board could be implemented in a firm, we investigated the impact of the board of directors' characteristics on the profitability ratio of Thai public non-life insurers from 2000 to 2012. The board characteristics included the size of the board, the number of independent directors on the board, and the frequency of board meetings. This study differed from that of Connelly and Limpaphayom (2004) that employed the size of a board and outside directors on a board as proxies for board characteristics. The profitability ratio is an instrument for evaluating the ability of a company in receiving income or profit. Return on total assets (ROA), return on equity (ROE), and return on net written premiums (RNP) were used as proxies for the profitability ratio, which differed from the study of Connelly and Limpaphayom (2004) as they used ROA, ROE, ROI, and ROP (Return on Premium) as proxies for the profitability ratio. A Hausman test was employed in the test for the selection between fixed and random effects in our panel data. The results indicated a statistically significant and positive relationship between board size and the profitability ratio. On the contrary, board meeting frequency was negatively related to ROA and RNP. In addition, firm size was negatively related and statistically significant with the profitability ratio.

Our paper contributes to the literature in many ways. First, this paper contributes to the understanding of whether the board of directors' characteristics enhanced the profitability ratio of Thai non-life insurers since the financial crisis in Thailand. Second, this paper is one of the few studies in Southeast Asia that studied investigated non-life insurers and the relationship between the board of directors' characteristics and the profitability ratio. Third, besides using return on total assets and return on equity as proxies for the profitability ratio, this paper also utilizes return on net written premiums as a proxy for the profitability ratio. The return on net written premiums should be increased when the board performs its duties well and vice versa.

Theoretical Background and Hypotheses Development

The board of directors, as the representative of the shareholders of a company, is a top executive position of a firm. The board not only makes decisions on strategies but also determines polices, decides on financial objectives, sets operational budgeting and supervises operations in line with the plans of the company. Using their expertise and experience, directors on the board to assist the CEO is a duty of the board (Fama & Jensen, 1983). Moreover, the board encourages the management team to follow the strategies and policies of the company to maximize the benefits to shareholders as well as to achieve a high profitability ratio. Strict monitoring of the management team by the board not only reduces poor management but also increases the profitability ratio of a company. The profitability ratio is a tool for measuring the ability of a company to receive income or profit. Many researchers have not employed the same representatives of the profitability ratio. For example, Belkhir (2009) used return on total assets, Connelly and Limpaphayom (2004) and Lin (2011) used return on equity, and Bauer, Eichholtz, and Kok (2010) used net profit margin as proxies for the profitability ratio.

The number of directors on the board should effect efficient monitoring of the management team. Kiel and Nicholson (2003) suggested that networking and the personal ability of a member on the board should benefit a firm. Huang, Lai, and Wang (2008) indicated that the large size of the board with more business experience, information, and background knowledge could provide better opinions and options to run the business and solve a firm's problems. Beasley (1996) suggested that financial fraud

could be reduced if the board concentrated more on checking the performance of the management team. Jensen (1993) and Cheng (2008) revealed that it was not easy to obtain a decision from a large board of directors because the large board took more time to discuss each idea, thus reducing the efficiency on making decisions. The studies of Dowen (1995), Belkhir (2009), and Lin (2011) showed that board size was positively related to return on total assets. Moreover, Uadiale (2010) found that increasing the number of board members could increase the return on equity of a firm. On the contrary, Guest (2009), Connell and Cramer (2010), and Rashid, Zoysa, Lodh, and Rudkin (2010) found that more members on the board decreased return on total assets. In addition, Doğan and Yildiz (2013) and Pathan et al. (2007) revealed that board size was negatively associated with return on equity. Pathan et al. (2007) indicated that the smaller board had greater efficiency in monitoring the performance of the management team of a firm than did a larger board, thus increasing the profitability ratio. Therefore, the hypothesis should be developed as follows:

H1: Board size has a relationship with the profitability ratio.

The board invites independent directors to oversee the management of a firm. Independent directors on the board are important because they can dedicate themselves to monitor activities of the management team to protect against racketeering without pressure from major shareholders, administration or other relevant parties. Therefore, they can work freely to provide equitable prevention for shareholders. Moreover, Jensen (1993) explained that to build up their reputation the independent directors had to work hard to investigate the management team. Priebjrivat and Jiamsagul (2010) found that independent directors had a statistically significant positive relationship with return on total assets. In addition, Pathan et al. (2007) indicated that number of independent directors on the board was positively associated with return on equity. However, Guest (2009) revealed that independent directors were negatively related to return on total assets. In the same direction, Shukeri, Shin, and Shaari (2012) found that increasing the number of independent directors affected a decrease in return on equity. Collectively, another hypothesis could be formulated as follows:

H2: Board independence has a relationship with the profitability ratio.

Agency theory indicates that board meeting frequency can help a firm to improve the performance of the management team by frequent overseeing, strict monitoring, and providing useful advice and appropriate management from the board. Diligence of the board is not directly observable, but Ntim and Osei (2011) employed meeting frequency of a board as a proxy of board diligence. They found that more meeting time of the board encouraged a firm to increase the profitability ratio, and was positively related and statistically significant. Jensen (1993) indicated that board meeting frequency was an important proxy for board diligence because it gave an opportunity for the board to monitor the management team. However, Rebeiz and Salameh (2006) suggested that the quality of the meeting time of the board was more important than its quantity. Jensen (1993) indicated that the cost of board meetings might increase when a board meeting was not overseeing the management team, but paying attention to other tasks. Vafeas (1999) found that board meeting frequency was negatively associated with firm value. In addition, Danoshana and Ravivathani (2013) revealed that the board meeting frequency was negative related to and statistically significant with the profitability ratio, suggesting that the board's longer meeting times increased the cost of management, decreased the time for managing the company management team, and decreased the profitability ratio. The profitability ratio decreased because a member on the board took more time to discuss and make a conclusion and, thus, a problem was solved slowly. However, Priebjrivat and Jiamsagul (2010) revealed that board meeting frequency had no relation with the profitability ratio. Therefore, a hypothesis could be stated as follows:

H3: Board meeting frequency has a relationship with the profitability ratio.

Methods

Data Collection

To investigate the relationship between the board of directors' characteristics and the profitability ratio of Thai non-life insurers, listed non-life insurance companies, without one professional reinsurer, in Thailand were employed as a sample because the board of directors' characteristics were reported on the Stock Exchanges of Thailand (SEC) in the Annual Registration Statement (Form 56-1). Moreover, we also received financial data from the Annual Insurance Report of Thailand produced by the Office of Insurance Commission (OIC). Because of mergers and consolidations, a few companies were removed. Therefore, unbalanced panel data of 208 firm-years made up our final sample over the period 2000–2012.

Data Analysis

To test our hypotheses with the panel data on relationship between the board of directors' characteristics and the profitability ratio of non-life insurers, we employed fixed and random effects. Moreover, the random effects method did not allow the unobserved effect to be correlated with independent variables, but fixed effects method did (Wooldridge, 2009). A Hausman test (Hausman, 1978) was employed for the selection between fixed and random effects. We tested whether the unobserved effect was correlated with any independent variables in the model. If it was, the null hypothesis was random effects. However, if it was not, the alternative hypothesis was fixed effects.

The following model was used to examine the relationship of the board of directors' characteristics and the profitability ratio:

$$\text{Profitability ratio}_{i,t} = \alpha + \beta_1 \text{Lnbdsize}_{i,t} + \beta_2 \text{Pbdind}_{i,t} + \beta_3 \text{Lnbdmeet}_{i,t} + \beta_4 \text{Pbdown}_{i,t} + \beta_5 \text{Lnbdcom}_{i,t} + \beta_6 \text{Lnbdage}_{i,t} + \beta_7 \text{Lnsize}_{i,t} + \beta_8 \text{Firm}_i + \beta_9 \text{Year}_t + \varepsilon_{i,t} \quad (1)$$

where, i is the insurer index, t is the year index, and Profitability ratio is return on total assets (ROA), return on equity (ROE), and return on net written premiums (RNP).

Variables

Dependent Variables

Return on total assets (ROA), return on equity (ROE), and return on net written premiums (RNP) were proxies for the profitability ratio. ROA was defined as the square root of net profit divided by total assets. ROE was defined as the square root of net profit divided by equity. RNP was defined as the cube root of net profit divided by net written premiums.

Table 1
Definition of variables

Variable	Definition
Dependent Variables	
Return on total assets (ROA)	Square root of net profit divided by total assets
Return on equity (ROE)	Square root of net profit divided by equity
Return on net written premiums (RNP)	Cube root of net profit divided by net written premiums
Independent Variables	
Board size (Lnbdsize)	Natural logarithm of the number of directors serve on the board
Board independence (Pbdind)	Proportion of independent directors serve on the board
Board meeting (Lnbdmeet)	Natural logarithm of the number of board meetings
Board ownership (Pbdown)	Proportion of share held by members serve on the board
Board compensation (Lnbdcom)	Natural logarithm of total cash compensation of directors serve on the board divided by total assets
Board age (Lnbdage)	Natural logarithm of the average age of directors serve on the board
Firm size (Lnsize)	Natural logarithm of total assets divided by one million

Board of Director Variables

In this paper, we employed board size, board independence, and board diligence to be proxies for the board of directors' ability. Following Evans, Evans, and Loh (2002), board size (Lnbdsize) was defined as the natural logarithm of the number of directors serving on the board. Moreover, we followed Pathan et al. (2007) to define board independence (Pbdind) as the proportion of independent directors serving on the board. In addition, following Vafeas (1999) and Ntim and Osei (2011), board meeting frequency (Lnbdmeet), a proxy for board diligence, was defined as the natural logarithm of the number of board meetings.

Firm-specific Control Variables

Board ownership, board compensation, board age, and firm size were included as control variables. Board ownership was defined as the proportion of share held by members serving on the board. Morck, Shleifer, and Vishny (1988) indicated that increasing the ownership of the board reduced conflict of interest between a manager and shareholders. The results of Lin, Huang, and Young (2008) revealed that board ownership was positively related to the profitability ratio. However, Uadiale (2010) found that board ownership was negatively related and statistically significant with the profitability ratio. Therefore, we expected board ownership to have a relationship with the profitability ratio.

A higher level of compensation to the board members should depend on their performance. Thus, enough compensation to the board encouraged a member to work harder with increased profitability for the firm as well as keeping the board position. Andreas, Rapp, and Wolff (2012) found that the profitability ratio was positively related to the level of director compensation. However, high compensation to the board would reduce efficiency of performance. Li and Qian (2011) revealed that excessive compensation was negatively associated with the profitability ratio. Board compensation was defined as the natural logarithm of total cash compensation of directors serving on the board divided by total assets. Thus, we

Table 2
Descriptive statistics

Variables	Mean	Median	Standard Deviation	Minimum	Maximum
ROA	0.028	0.029	0.032	−0.108	0.113
ROE	0.04	0.61	0.176	−1.579	0.266
RNP	0.075	0.050	0.106	−0.263	0.417
Board size	12.163	12.000	2.242	8.000	18.000
Proportion of independence board	0.329	0.333	0.111	0.176	0.750
Board independence	3.947	3.000	1.370	3.000	9.000
Board meeting	6.788	6.000	3.120	4.000	17.000
Board ownership	0.122	0.064	0.127	0.000	0.588
Board compensation	3.861	2.360	3.525	0.313	26.250
Board age	59.894	59.871	4.152	48.600	69.769
Firm size	54.129	28.265	86.122	3.647	555.078

expected board compensation to have a relationship with the profitability ratio.

Board age was defined as the natural logarithm of the average age of directors serving on the board. A member on the board who was older represented greater experience and knowledge, and so such a member should make more discretionary decisions, be more effective in monitoring, and increase profitability. Letting, Aosa, and Machuki (2012) showed that board age was positively related to the profitability ratio. However, discretionary and inactive decisions due to senility might be a barrier for profitability. Bonn, Yoshikawa, and Phan (2004) found that board age was negatively related to the profitability ratio. Therefore, we expected board age to have a relationship with the profitability ratio.

Finally, we defined firm size as the natural logarithm of total assets divided by one million. Larger firms had more credibility, power, and opportunity to access more resources and do business than smaller firms. Thus, larger firms should be able to increase their profitability more than small firms. Doğan (2013) and Topak (2011) indicated that firm size was positively related and statistically significant with the profitability ratio. However, Himmelberg, Hubbard, and Palia (1999) suggested that larger firms might have less efficiency in monitoring the management team because they paid more attention to economy of scale to reduce the cost than smaller firms and, thus, caused lower profitability. Lehmann, Warning, and Weigand (2004) and Shepherd (1972) revealed that firm size was negatively correlated and statistically significant with profitability ratio. Thus, we expected firm size to have a relationship with the profitability ratio. We summarized the definitions of all variables in Table 1.

Results

Summary Statistics

The descriptive statistics of the variables are shown in Table 2. When we considered the profitability variables, the results were not greater than one. The evidence showed that, on average, return on total assets (ROA) was 0.028. The average return on equity (ROE) was 0.04, higher than ROA. No less than ROE, the average return on net written premiums (RNP) was 0.075. Board size varied from 8 to 18 directors, with an average of 12.2 directors. Independent directors comprised 3.9 members on average, and the range was from 3 to 9 members. The average board meeting frequency was 6.8 times each year. Moreover, board ownership was about 0.12. On average, board compensation was 3.9. The average age of directors on the board was 59.9 years. Finally, firm size was 54.1 on average.

Table 3 presents Pearson's pair-wise correlation coefficients of profitability and board variables. RNP was positively correlated with board size. All measures of the profitability ratio (ROA, ROE, and RNP) were negatively but not statistically significantly correlated with board independence. Positive, but not statistically significant correlations were presented between two measures of the profitability ratio (ROA and ROE) and board meeting frequency. All measures of the profitability ratio (ROA, ROE,

Table 3
Correlation matrix of variables

	ROA	ROE	RNP	Lnbdsize	Pbdind	Lnbdmeet	Pbdown	Lnbdcom	Lnbdage	Lnsize
ROA	1.000									
ROE	0.809*** (0.000)	1.000								
RNP	0.841*** (0.000)	0.631*** (0.000)	1.000							
Lnbdsize	0.107 (0.126)	0.098 (0.159)	0.127* (0.067)	1.000						
Pbdind	−0.015 (0.828)	−0.002 (0.975)	−0.005 (0.945)	−0.233*** (0.001)	1.000					
Lnbdmeet	0.013 (0.848)	0.112 (0.106)	−0.052 (0.453)	0.042 (0.544)	−0.113 (0.105)	1.000				
Pbdown	−0.068 (0.327)	0.005 (0.948)	−0.003 (0.971)	−0.224*** (0.001)	−0.137** (0.049)	−0.395*** (0.000)	1.000			
Lnbdcom	0.438*** (0.000)	0.417*** (0.000)	0.378*** (0.000)	0.193*** (0.005)	0.116 (0.095)	0.268*** (0.000)	−0.364*** (0.000)	1.000		
Lnbdage	−0.065 (0.355)	−0.083 (0.234)	0.092 (0.0186)	−0.170** (0.014)	0.356*** (0.000)	−0.243*** (0.000)	0.046 (0.507)	−0.077 (0.269)	1.000	
Lnsize	0.170 (0.014)	0.292 90.000)	0.192 (0.006)	0.201*** (0.004)	0.321*** (0.000)	−0.005 (0.939)	−0.183*** (0.008)	0.676*** (0.000)	0.075 (0.285)	1.000

Statistical significance at the 10, 5, and 1 percentage levels are indicated by *, **, and *** respectively.

Table 4
Regression results of profitability ratio and board of directors

	ROA	ROE	RNP
Constant	−0.357 (0.480)	−0.689 (0.958)	−0.971 (0.994)
Lnbdsize	0.115** (0.049)	0.160* (0.096)	0.272** (0.136)
Pbdind	0.010 (0.082)	0.042 (0.128)	−0.021 (0.137)
Lnbdmeet	−0.046*** (0.017)	−0.019 (0.034)	−0.135** (0.058)
Pbdown	−0.040 (0.118)	−0.162 (0.162)	−0.034 (0.146)
Lnbdcom	0.017** (0.008)	0.003 (0.019)	0.009 (0.020)
Lnbdage	0.138 (0.123)	0.275 (0.210)	0.415** (0.211)
Lnsize	−0.062*** (0.016)	−0.078*** (0.020)	−0.114*** (0.029)
Dummy if Year = 2005–2008	0.007 (0.10)	0.008 (0.014)	0.016 (0.019)
Dummy if Year = 2009–2012	0.021 (0.017)	0.043* (0.026)	0.024 (0.035)
Lagrange Multiplier	32.74***	8.29***	8.29***
Hausman Test	13.11***	93.86***	33.21***
Test results suggest model	Fixed Effect	Fixed Effect	Fixed Effect
Number of Observations	208	208	208

Statistical significance at the 10, 5, and 1 percentage levels are indicated by *, **, and *** respectively.

and RNP) were positively correlated with board compensation. Board size was negatively correlated with the number of independent directors. In addition, board size was negatively correlated with board ownership and board age. On the contrary, board size was positively correlated with board compensation and firm size. Board independence was negatively correlated with board ownership. In contrast, board independence was positively correlated with board age. Board meeting frequency was negative and statistically significantly correlated with board ownership and board age. However, board meeting frequency was positive and statistically significantly correlated with board compensation. Board ownership was negatively correlated with board compensation. Finally, correlations between firm size and board characteristics (board size, board independence, board ownership, and board compensation) were positive and statistically significant.

Regression Results

Table 4 presents the regression results of all profitability measures and board variables. The results showed that board size was positively and statistically significantly associated with all profitability measures. However, board independence was positively but not statistically significant correlated with all profitability measures. Board meeting frequency was negatively and statistically significantly correlated with ROA and RNP. When we considered board ownership, the results revealed that it was negatively but not statistically significantly correlated with all measures of the profitability ratio. Board compensation was positively related to ROA but not ROE and RNP. Moreover, board age was positively associated with RNP but not ROA and ROE. Finally, firm size was negatively and statistically significantly correlated with all profitability measures.

Discussion

This paper examined the relationship between the board of directors' characteristics and the profitability ratio of Thai non-life insurers. The results supported the hypothesis that board size has a relationship with the profitability ratio, and was consistent with Huang et al. (2008), who suggested that more members on the board resulted in a greater number of opinions on options for doing business, based on members' experience, information, and background knowledge and, thus, increased the profitability ratio of a firm. However, increasing the board by one extra member did not increase the profitability ratio by much. Board independence has no effect on profitability. Yammeesri and Herath (2010) explained that independent directors were appointed following the SET rule and were responsible for supervising the management team (Baysinger & Butler, 1985) with not sufficient knowledge of the company and its data to improve profitability (Koontz, 1967). Consistent with Vafeas (1999) and Danoshana and Ravivathani (2013), the results indicated that more meeting times of the board increased the cost of management, thus, decreasing the profitability ratio. This supported the hypothesis that board meeting frequency has a relationship with the profitability ratio. However, the number of meetings of the board by one did not decrease the profitability ratio much. Finally, the results supported Himmelberg et al. (1999) in that large firms might have a lower profitability ratio when the board pays attention to the economy of scale to reduce the cost of monitoring the management team.

Conclusions

The results of this study are useful for an insurer in Thailand to adjust board numbers and meeting frequency. The empirical results revealed that the profitability ratio is positively influenced by board size. Consistent with Huang et al. (2008), more members on the board bring about more effective information and ideas to add to the profitability ratio. However, the profitability ratio is negatively influenced by board meeting frequency. This result suggests that more meeting times of the board decrease the profitability ratio. In addition, the profitability ratio is negatively influenced by firm size. This result is consistent with Himmelberg et al. (1999) in that large firms might have a lower profitability ratio when the board pays attention to the economy of scale to reduce the cost of monitoring the management team.

Conflict of Interest

There is no conflict of interest.

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