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An Examination of the Relationship between Board Characteristics and Firm Risks in the Thai Service Industry

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Abstract

The aim of this paper is to identify the relationship between board characteristics and firm risk. The data was collected from a sample of 65 Thai service firms listed in SET during the period 2010 to 2014. In this research, the fixed effect panel data regression model is applied to examine the effect of independent variables toward firm risk, including board characteristics and CEO compensation. The finding found that board independent, renumeration committee, and CEO compensation had positive relationship with capital adeqauacy risk beside board fee was found to have negative relationship with capital adequacy risk. Furthermore, board age, board gender and board meeting were found to have negative relationship with business risks. Furthermore, board independent and remuneration committee were found to have positive relationship with financial risk and board fee was found to have positive relationship with financial risk. Lastly, board gender and remuneration committee were found to have positive relationship with investment risk on the other hand finding showed that board meeting is negatively related to investment risk. These results showed that board composition, a remuneration committee, and CEO compensation are positively related to firm risks while board age, board gender, board compensation, and board meetings are negatively related. The sample contains only Thai listed firms in the service industry, and may not be representative of all service industries in Thailand and other countries. The results could be useful to company owners for board construction based on the firm's desired risk levels, and also assist investors and creditors when considering a given company's risk level based on board characteristics. This research should also be helpful to those studying corporate governance in Thailand.

Keywords: Board of directors, Corporate governance, Service industry

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Introduction

The Thai economy relies heavily on the service industry since it provides the largest contribution to GDP at over 50 percent, and accounted for 0.6 to 3.4 percent of growth from 1993 to 2009, as well as generating the most employment: 18 million people in 2010 (Koonnathamdee, 2013). For this reason, the Thai service industry remains the sector with the highest potential for growth and consequently its performance receives a lot of attention from the government and stakeholders. However, there have been some reports of poor performance. The Thai service sector share of GDP has shown a continuous decrease (Koonnathamdee, 2013) and found to be inferior compared with other high-income economies in Asia and the Pacific (Asian Development Bank [ADB], 2015). Such poor performance could result in the cessation of operations for some service firms (Nkundabanyanga et al., 2013). One of the main causes of business failure is management deficiency (Kambwale et al., 2015) and the subsequent indictment that boards were ineffective (Nkundabanyanga et al., 2013). The board of directors plays an important role in service firms as they are resource providers, monitors, and decision-makers. In service firms, directors advise, guide, and support managerial activities (Kim et al., 2012). Board decisions significantly affect strategy direction including the firm risk level. Corporate risk management is a major issue for managers to consider when making investment decisions (Li and Wu, 2009) because as long as businesses are still in operation they will risk all for returns (Tennent, 2008). The importance of risk management, enabling companies to take risks in order to develop, is magnified by rapid changes in the environment, market uncertainty, and a variety of financial crises (Cheikh, 2014).

Therefore, board effectiveness is crucial for service firms because it involves important decision making that could lead to success or failure which is related to firm risks. In order for a business to be successful, an effective board should be appointed to improve value of serve firms. For this purpose, a mechanism for measuring board effectiveness should be identified. Board characteristics have been proposed as a machinism to measure board effectiveness since they provide fundamental internal control (Jensen, 1993). Ayadi and Boujèlbène, (2012) suggest that CEO compensation is a tool designed to reduce the moral hazard problem by rewarding CEOs based on their performance which establishes a linkage between CEO compensation and firm risk-taking. This study hopes to provide an understanding of the effect of board characteristics as well as CEO compensation on firm risk for the Thai service industry, and in doing so it may assist firms with the appointment of directors according to their desired risk level. Stakeholders would then be able to evaluate the risk level of a firm based on board

characteristics. In addition, this knowledge could prove advantageous for setting standards to improve Thai corporate governance systems, thereby reducing the problem of ineffective boards.

Research Objectives

1. To identify whether board characteristics and CEO compensation have a significant relationship with firm risk in terms of capital adequacy during the year 2010 to 2014.

2. To identify whether board characteristics and CEO compensation have a significant relationship with business risk during the year 2010 to 2014.

3. To identify whether board characteristics and CEO compensation have a significant relationship with financial risk during the year 2010 to 2014.

4. To identify whether board characteristics and CEO compensation have a significant relationship with investment risk during the year 2010 to 2014

Related Literature and Hypotheses Development

Agency Theory

This section reviews the principal literature regarding the effect of board characteristics including CEO compensation and firm risk. Complementary to agency theory, shareholders appoint a board of directors to act as the link between managers and owners for the purpose of reducing the moral hazard problem by monitoring managerial performance and serving shareholders' interests by directing firm strategy (Ayadi and Boujèlbène, 2012). Agency theory proposes that independent directors are more capable than insiders in the area of conflict resolution, agency cost reduction, and moral hazard, hence independent directors are supported for the supervision of management to protect their reputation as independent and competent decision-makers (Fama and Jensen, 1983).

Impact of Board Characteristics on Firm Risk-taking

In empirical studies on corporate governance, the ability of the board of directors to fulfill its duties is related to certain characteristics, mainly consisting of the composition and leadership structure (Wahba, 2015). The definition of board composition provided by Pathan (2009) is the presence of independent directors who are not employed by the firm and business professionals. Sarkar and Sarkar (2009) agree that a higher number of independent directors amplify value creation within the firm as they have better governance than those inside. Nevertheless, Pathan (2009) found a negative and statistically significant relationship between the presence of independent directors and bank risk (except insolvency). Hermalin and Weisbach (1991) stated that outside directors could be deficient in acting in the interests of shareholders

because they may lack understanding of the firm in terms of complex operations and policies; independent directors are faced with enormous difficulties when dealing with management.

Board leadership structure refers to whether a company has a chairman of the board, assuming the roles of CEO (i.e., CEO duality), or if it assigns these positions to different individuals (i.e., CEO non-duality) (Abdullah, 2004). The CEO should not assume the role of board chairman because he may be unable to separate his personal interests from that of the shareholders (Jensen, 1993). Adams et al. (2005) found that CEO power could intensify the volatility of firm performance because a CEO holding a high degree of power tends to take high-risk decisions. Wright and Helms (2000) stated that when the CEO assumes the role of board chair, insiders have a tendency to consent with the chair's decision. Despite the tendency to act in its own interest, CEO duality tends to limit excessive risk-taking in order to protect human capital. The financial risk levels of a firm reduce when the CEO is also chair of the board of directors (Simpson and Gleason, 1999).

Various researchers found that there is a relationship between board size or number of board members and firm risk-taking. Conforming to agency theory, a large board can dominate managers, leading to conflict of interest (Jensen, 1993). Lipton and Lorsch (1992) and Yermack (1996) show that there is a negative relationship between firm value and board size. Lipton and Lorsch (1992) noted that a smaller board can efficiently protect the interests of shareholders by control, aligning decisions between the board and managers, and reducing agency costs. This implies a larger board has greater difficulty in organizing meetings, reaching conclusions, and reacting effectively to important matters due to the costs of communication and coordination.

MacCrimmon and Wehrung (1990) conducted research on the characteristics of risk-taking management. Factors used in their research fall into three categories: personal attributes (age, dependents, education, and nationality), financial attributes (wealth and income), and professional attributes (position, authority, seniority, firm size, and industry). They also found that older board members are the most risk-averse, and the most successful are big risk-takers. Similar results were found in the study by Cheikh (2014), indicating that as the age and tenure of CEOs increase, the more risk-averse they become, and the less likely they are to make risky decisions and undertake innovative strategies. There are contradicting results regarding gender diversity. Carter et al. (2003) unearthed complementary results for the influence of board gender diversity on firm accomplishments in various ways. Firstly, board gender diversity improves marketing proficiency. Secondly, it magnifies creativity, innovativeness, attitudes, and beliefs which vary demographically. Thirdly, board diversity in terms of gender results in more effective problem-

solving, because the board has differing opinions when making decisions. They also found board gender diversity positively influenced firm value when measured by Tobin's Q ratio. However, Schubert (2006), who examined the differences in risk perspective between males and females, learned that females were more cautious concerning gains than males, which reduced firm risk. The author suggested that company success results from the collaboration between men and women in senior management, and the development of firm risk analysis and risk management. Lenard et al. (2014) also showed that higher board gender diversity could impact on firm risk-taking by contributing to lower variability in stock market returns and firm performance.

Ayadi and Boujèlbène (2012) stated that board compensation (fees for directors' services on the board), board meeting (frequency of meetings of board meeting), and precence of the remuneration committee possibly influence firm risk-taking. Adams (2003) used board fees to measure its effectiveness, because this method is capable of capturing the number of board meetings during a year, the skills and effort of the board in discussing and establishing overall strategic management, surveillance of financial and managerial actions, and evaluating the performance of executive management. Ferrero-Ferrero et al. (2012) found a positive relationship between board fees and firm risk-taking. The authors explained that high board fees weaken corporate governance, which in turn weakens performance and increases risk. However, Merle (2013) suggested that if its members are given high compensation, the board's effectiveness might be seriously obstructed because members want to maintain their position and are reluctant to take risks, thus causing a reduction in firm risk-taking, especially in the presence of CEO duality. In addition, Board ownership or the percentage of stock owned by board members was found to have relationship with firm risk-taking. Wright and Helms (2000) stated that board stock ownership can encourage board members to make more risky decisions but this only occurs when the chairman is not the CEO. Moreover, board members own company stock they have more power and can weaken that of the CEO to achieve higher board effectiveness which could lead to higher risk-taking (Merle, 2013).

Vafeas (1999) stated that meeting frequency affects the way the board works, since board meetings allow members to meet, discuss, and exchange ideas on bank strategy, and find ways to monitor managers. The author also found that more frequent meetings increase firm value. Nevertheless, the findings stated that more frequent board meetings were not always beneficial, since as a consequence, busy board members may be unable to effectively perform their roles in firm monitoring, leading to lower performance (Jackling and Johl, 2009).

The quality of corporate governance in remuneration committees directly affects executive remuneration, since when associated with incentive alignment the quality of corporate governance is high. Improving governance quality by strengthening the incentive alignment may reduce agency problems and therefore result in improved business performance (Ayadi and Boujèlbène, 2012). However, the effectiveness of a remuneration committee is also in question because certain literature indicates that it does not necessarily improve governance quality. Ali and Teulon (2014), who studied the effect of corporate governance toward CEO compensation in the French stock market, found a positive relationship between CEO compensation and independent remuneration.

Impact of CEO Compensation on Firm Risk-taking

Belkhir and Chazi (2010), who studied the relationship between CEO compensation and management risk-taking on a sample of 156 banks during the years from 1993 to 2006, and found a positive relationship between CEO compensation and bank risk-taking, suggesting that a higher level of CEO incentives leads to higher risk-taking by the bank. Stock ownership is an indicator of CEO power (Cheikh, 2014). The more shares the CEO owns, the more power he or she holds which encourage CEO to take higher risk. However, when the ownership level of CEOs is higher, they may tend to became more conservative in firm risk-taking. An increase in CEO ownership level may hinder a growth-oriented firm in risk-taking and corporate innovation (Wright and Helms, 2000). Furthermore, if incentives permit a significant amount of share ownership, CEOs have a tendency to focus on their personal wealth and utility management rather than corporate risk-taking and firm performance (Merle, 2013). This paper examines the relationship between board characteristics as well as CEO compensation and firm risk, on which the literature shows a lack of consensus. Therefore, the researcher expects board characteristics and CEO compensation to affect firm risks.

Research Methodology

The study uses data from 83 service firms listed on the Stock Exchange of Thailand [SET] during the year 2010, collected during January to February 2016. According to SET, companies involved in services consist of commerce, health care services, media & publishing, professional services, tourism & leisure, and transportation & logistics, excluding financial services, and information or technology services, or other specialized services already classified. Due to the lack of incomplete data, the researcher has had to decrease the number of sample companies to

65, ammounting to 325 observations. The data were mainly obtained from the SETSMART and Bloomberg databases, and Form 56-1. Some data are not directly available from these sources, and was therefore calculated and organized by the researcher in order to make them suitable for analysis. In order to analyse the relationship between board characteristics and CEO compensation for listed service firms on the SET, and firm risk for the years 2010 to 2014, the fixed effect panel data regression model is applied as followed by Lenard et al. (2014) which leads to the basic model, presented as follows:

$$\text{Firm risks}_{i,t} = \alpha + \beta_1 \text{BSIZE}_{i,t} + \beta_2 \text{OUTSIDE}_{i,t} + \beta_3 \text{DUAL}_{i,t} + \beta_4 \text{AGE}_{i,t} + \beta_5 \text{PCT\_F\_DIR}_{i,t} + \beta_6 \text{BOARDOWN}_{i,t} + \beta_7 \text{BOARDFEES}_{i,t} + \beta_8 \text{MEYEAR}_{i,t} + \beta_9 \text{COMTE}_{i,t} + \beta_{10} \text{REMU}_{i,t} + \theta_1 \text{SIZE}_{i,t} + \theta_2 \text{CashFlow}_{i,t} + \theta_3 \text{CV}_{i,t} + \theta_4 \text{ROA}_{i,t} + \sum^{N-1} \gamma Dummy_i + \sum^{T-1} \gamma Dummy_t + u_{i,t}$$

This research identifies four firm risks as dependent variables:

Capital adequacy risk (CAPRISK) means the extent to which unexpected loss has to be covered by another form of capital (Krause, 2006) measured by the leverage ratio expressed as Tier 1 capital, which includes common stock, common stock surplus, retained earnings, and some perpetual preferred stock as a proportion of total adjusted assets.

Business risk is the chance that future profits and free cash flow will be materially lower than expected (Brigham and Ehrhardt, 2002). The researcher uses the standard deviation of monthly stock returns (SD_RET) in each year as a measurement of firm risk measurement as well as the standard deviation of income before extraordinary items and depreciation minus dividends, divided by total assets over a three-year period (SD_IN) as an alternative measurement for business risk.

Financial risk (DEB) is that related to the obligations of increasing debt finance usage (Ward, 1993), measured by debt ratio or debt to assets ratio calculated as total debt scale by total assets.

Investment risk (INV) is the variability which encompasses the return generated by a certain investment (Gitman et al., 2011), measured by the proportion of capital expenditure to total assets.

This research includes the following independent variables in the model. Board size (BSIZE) is the number of board members at the annual board meeting. Board composition (OUTSIDE) is the number of independent directors scaled by the total number of board members. Board leadership structure (DUAL) is a dummy variable that takes the value 1 when the CEO assumes the position of board chair and 0 otherwise. Board age (AGE) is the average age of board members. Board gender (PCT_F_DIR) is the percentage of female directors out of the

total number of board members. Board ownership (BOARDOWN) is the percentage of stock owned by board members. Board compensation (BOARDFEES) represents the fees for directors' services on the board plus fees to attend board meetings. Board meetings (MEYEAR) refer to the frequency of board meetings per year. Remuneration committee (COMTE) is a dummy variable that takes the value 1 if a remuneration committee exists and 0 otherwise. CEO compensation (REMU) is annual salary plus bonus.

The researcher controls the firm size (SIZE) using total assets, cash flow using income before extraordinary items and depreciation minus dividends, scaled by assets, charter value (CV) as the sum of the market value of equity plus the book value of liabilities divided by the book value of total assets, and firm performance (ROA) measured by the return on asset ratio. For reducing the omitted variable problem, the researcher estimates a firm dummy (Dummyi) and a year dummy (Dummyt).

Research Results

Discriptive Statistics

Table 1 indicates that the statistics of the listed service firms for the SET from 2010 to 2014 have a mean value for board size of 11.36 which is within the board size recommended by the Stock Exchange of Thailand [SET] (2012) of 5 to 12 members. Board composition average is 0.388 which is considered slightly above the requirement of the Securities and Exchange Commission at 0.3 of board size. Board leadership structure average accounted for 0.313 and the average board age is 59.5. The average percentage of female directors is 15.69. Board ownership average is 19.9 percent, and the mean of board compensation is 7.3 million baht. The average board meeting frequency of eight times per year is slightly higher than the recommendation of SET (2012) of at least six times per year. The average CEO compensation is 42.8 million baht. The control variable average firm size is 17,700 million baht, cash flow is 1,430 million baht, average charter value is 2.525 and firm performance is 5.2 percent on average.

Table 1 Descriptive statistics (n=325)

Variables	Mean	Maximum	Minimum	Std. Dev.
CAPRISK	0.633	0.999	-0.307	0.225
SD_IN	0.517	49.739	0.001	4.487
SD_RET	0.108	2.018	0.000	0.134
DEB	0.367	1.307	0.001	0.225
INV	0.704	0.992	0.145	0.219
BSIZE	11.360	18.000	5.000	2.690
OUTSIDE	0.389	0.800	0.231	0.086
DUAL	0.314	1.000	0.000	0.465
AGE	59.502	74.714	46.571	5.861
PCT_F_DIR	0.157	0.625	0.000	0.138

Table 1 Continued

Variables	Mean	Maximum	Minimum	Std. Dev.
BOARDFEES	7.3	60.8	0.0	8.6
MEYEAR	7.871	21.000	2.000	3.888
COMTE	0.631	1.000	0.000	0.483
REMU	42.8	318.0	2.0	47.5
SIZE	17,700.0	30,7000.0	48.4	47,700.0
CashFlow	1,430.0	10,4000.0	-7,260.0	6,870.0
CV	2.525	32.570	0.250	3.327
ROA	0.052	0.728	-0.691	0.136

Note: BOARDFEES, REMU, SIZE, and CashFlow are in million baht

Regression Results

According to Table 2, board composition (-0.374467), remuneration committee, and CEO compensation are significantly negatively related to CAPRISK or capital leverage ratio which means if these variables increase, capital leverage ratio will be decrease which increase capital adequacy risk. On the other hand, board compensation was found to positively relate to capital leverage ratio which means reduction of capital adequacy risk. While, board age and board gender are found to significantly and negatively relate to business risk in terms of stock return volatility.

Table 2 Regression results

	CAPRISK	SD_RET	SD_IN	DEB	INV
	0.947634	0.708386	1.132387	0.061278	0.844831
C	(3.189848)	(2.009222)	(0.172282)	(0.208022)	(3.320506)
	-0.00808	0.008317	0.087751	0.008145	-0.00384
BSIZE	(-1.179357)	(1.022759)	(0.578817)	(1.198719)	(-0.655009)
	-0.374467***	0.048146	-2.33616	0.373692***	0.082074
OUTSIDE	(-2.653245)	(0.287447)	(-0.74814)	(2.670275)	(0.679006)
	-0.05288	-0.00694	-0.25733	0.052264	0.013616
DUAL	(-1.333806)	(-0.147458)	(-0.293368)	(1.329476)	(0.401002)
	0.000596	-0.009469*	-0.00173	-0.00075	-0.00337
AGE	(0.127075)	(-1.701105)	(-0.01665)	(-0.160735)	(-0.837723)
	-0.01003	-0.00595	0.063833	0.010375	-0.02026
BOARDOWN	(-0.559115)	(-0.279425)	(0.160901)	(0.583521)	(-1.319513)
	5.23E-09**	2.77E-09	2.89E-08	-5.2E-09**	-7.28E-10
BOARDFEES	(2.222515)	(0.992167)	(0.554099)	(-2.229518)	(-0.360844)
	0.004196	-0.00512	-0.171069*	-0.00441	-0.006556*
MEYEAR	(1.026627)	(-1.054771)	(-1.891586)	(-1.087095)	(-1.872807)
	-0.01702	-0.525317***	0.337787	0.016118	0.262296**
PCT_F_DIR	(-0.126688)	(-3.295563)	(0.113668)	(0.121021)	(2.280213)
	-0.134136**	-0.04368	0.455164	0.135182**	0.11038**
COMTE	(-2.142184)	(-0.587734)	(0.328544)	(2.17724)	(2.058284)

Table 2 Continued

	CAPRISK	SD_RET	SD_IN	DEB	INV
	-1.27E-12***	3.60E-13	3.20E-12	1.28E-12***	2.13E-12***
SIZE	(-2.633071)	(0.630404)	(0.300273)	(2.669316)	(5.15671)
	1.04E-12	-1.24E-12	1.96E-10	-1.07E-12	6.13E-13
CASHFLOW	(0.899764)	(-0.898359)	(7.639944)	(-0.926231)	(0.617295)
	0.238623***	-0.07655	-2.4638	-0.238708***	-0.280102***
ROA	(2.913831)	(-0.787669)	(-1.359796)	(-2.939664)	(-3.993687)
	-0.009509***	0.003179	-0.0099	0.009548***	-0.005148**
CV	(-3.274276)	(0.92239)	(-0.154001)	(3.315577)	(-2.069609)

Note: *,**,*** Significant at 10, 5, and 1 percent respectively, t-statistics are in parentheses.

Meanwhile, board meeting frequency was found to negatively relate to business risk in terms of return volatility which means companies that held more board meeting have lower

variability of financial retun. Furthermore, Board composition, remuneration committee, and CEO compensation significantly positively relate to financial risk which means companies that have more indendent directors, appointed remuneration committee, and granted high sarary for CEO would have higher debt. However, board compensation was found to negatively relate to financial risk. In other word, company that gave higder board fees would use lower debt finacing. Board gender and a remuneration committee were found to have a positive effect on investment risk. Board that has more female member and have remuneration committee would generate more investment. Lastly, board meetings have negative effect toward investment risk. This verified that number of board meeting is a machisim to control investment risks.

Discussion and conclusion

From 2010 to 2014, board composition was shown to positively significantly relate to firm risk because independent directors increase the board's effectiveness, allowing them to accept more risk. The agency theory proposes that independent directors are more competent regarding conflict of interest, agency cost reduction, and the moral hazard problem (Fama & Jensen, 1983). The researcher found that board age is negatively significant to firm risk, which is in agreement with Cheikh (2014), who stated that mature executives are more conservative and unwilling to take risks. They rarely accept new ideas and remain inflexible, which lowers firm risk. Board gender diversity was found to inversly affect business risk in terms of stock return volatility, which is supported by Lenard et al. (2014). However, it positively affects investment risk, as supported by Carter et al. (2003) who found that board gender diversity could improve a firm's creativity, innovativeness, marketing proficiency, and problem-solving effectiveness. Board compensation is negatively related to firm risk. High board compensation can discourage risk-taking because members want to maintain their position and wealth (Merle, 2013). Furthermore, there has been a continuous drop in Thai service industry performance (Koonnathamdee, 2013) and it could be considered that boards were in quite a difficult situation, and higher board fees could make board members cautious, leading to lower firm risk-taking. Board meetings are negatively related to firm risk. A high frequency of board meetings obstructs boards in effective monitoring (Jackling & Johl, 2009). During the study period, the Thai service industry was in quite a difficult position, which made boards become more vigilant and created lower risk. A remuneration committee increases firm risk. Saat and Kallamu (2013) found that a remuneration committee is beneficial to corporate performance as it subdivides the design executive

remuneration duty which could cause conflict between the board and executives (McClogan, 2001), which implies increased firm risk.

Reccomendations

In context of Thai service firms, the reccomendations that could be made based on the findings are as follows. Firstly, in order to control risk level of the firms, firms could consider the setting up of a board with high seniority, high compensation, as well as holding frequent meetings. We suggest board to compose of member with high seniority as we found board with older age tend to have lower risk acceptance level which resulting in reduce firm risks. And the results also suggested that board that given high board fees tend to became conservative as a consequence reduce firm risks. Furthermore, frequently held board meeting allow members to meet, discuss, and exchange ideas on bank strategy, and find ways to monitor managers as which enable service firms to control their risk level.

On the contrary, for the purpose of promoting firm performance at cost of increase firm risks level, firms could consider setting up a highly independent board, along with a remuneration committee as well as high CEO compensation. Since the finding suggested that service firm with high proportion of independent directors were the high firm risks one. And, finding also implied that board that have remuneration committee to each their responsibility regard desing compensation of management work could work more effectively and such could accept higher risk. Last, firm that permited high salary for managements was the one that have higher risk which could result in improvement of performance.

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