A Mediated Moderation between Firm Size and the Level of Voluntary Disclosure Index of Companies Listed on the SET

Jakkravudhi Chobpichien[1]

Abstract

Despite intensive efforts to determine the nature of the relationship between the firm size and the level of voluntary disclosure index (VDI), empirical studies of this issue have produced mixed results. This paper attempts to delve deeper into this complex phenomenon by employing a resource dependency perspective to hypothesize a model of mediation as board of directors' quality index (BOQI) is moderated by a high concentration of CEO's ownership (HCEO). The findings suggest that the larger firm size, the higher is the level of BOQI and this in turn will lead to the higher the level of VDI. These relationships appear to be weaker when there is moderation as HCEO, produced by the mediation process of the level of BOQI, and when this process is controlled, the residual moderation of the treatment effect is reduced. Thus, the relationship between firm size and the level of VDI of companies listed on the SET will be mediated by the level of BOQI, as moderated by a HCEO. Further, board size as control variable is found to have a positive significant influence on the level of BOQI and VDI.

Keywords: Firm Size, Quality of Board of Directors Index, CEO Controlling Ownership, Voluntary Disclosure Index; The Stock Exchange of Thailand (SET)

Corresponding Author: Jakkravudhi Chobpichien
E-mail: Jakkravudhi.22@gmail.com

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[1] Assistant Professor of Accounting Curriculum, Faculty of Management Science, Suratthani Rajabhat University.
  E-mail: Jakkravudhi.22@gmail.com

การแทรกซ้อนและกดดันระหว่างขนาดของบริษัทกับระดับของดัชนีการเปิดเผยข้อมูลภาคสมัครใจของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย

จักรวุฒิ ชอบพิเชียร[1]

บทคัดย่อ

แม้จะมีความพยายามอย่างมากที่จะกำหนดลักษณะของความสัมพันธ์ระหว่างขนาดของบริษัทกับระดับของดัชนีการเปิดเผยข้อมูลภาคสมัครใจ การศึกษาเชิงประจักษ์ของปัญหานี้ได้สร้างผลลัพธ์ที่หลากหลาย บทความนี้พยายามเจาะลึกลงไปในปรากฏการณ์ที่ซับซ้อนดังกล่าวข้างต้น โดยการใช้มุมมองการพึ่งพาทรัพยากรเพื่อกำหนดสมมติฐานในรูปแบบของการแทรกซ้อนจากดัชนีคุณภาพของคณะกรรมการบริษัทที่ถูกกดดัน โดยซีอีโอที่มีความเป็นเจ้าของอยู่ในระดับความเข้มข้นสูง ผลการวิจัย พบว่า ขนาดของบริษัทที่มีขนาดใหญ่กว่า มีระดับดัชนีคุณภาพของคณะกรรมการบริษัทสูงกว่า ซึ่งจะมีผลทำให้ระดับของดัชนีการเปิดเผยข้อมูลภาคสมัครใจสูงขึ้น ความสัมพันธ์เหล่านี้ดูเหมือนจะอ่อนแอลงเมื่อถูกกดดันโดยซีอีโอที่มีความเป็นเจ้าของอยู่ในระดับความเข้มข้นสูง ซึ่งเกิดขึ้นในขั้นตอนการแทรกซ้อนจากดัชนีคุณภาพของคณะกรรมการบริษัท และเมื่อกระบวนการนี้ได้รับการควบคุมโดยซีอีโอมีความเป็นเจ้าของอยู่ในระดับความเข้มข้นลดลง ผลกระทบก็จะลดลงเช่นเดียวกัน ดังนั้น ความสัมพันธ์ระหว่างขนาดของบริษัทกับระดับของดัชนีการเปิดเผยข้อมูลภาคสมัครใจของบริษัท จดทะเบียนในตลาดหลักทรัพย์จะขึ้นอยู่กับการแทรกซ้อนจากดัชนีคุณภาพของคณะกรรมการบริษัทที่ถูกกดดันโดยซีอีโอที่มีความเป็นเจ้าของอยู่ในระดับความเข้มข้นสูง นอกจากนี้ยัง พบว่า ขนาดของคณะกรรมการบริษัท ซึ่งเป็นตัวแปรควบคุมมีผลต่อระดับดัชนีคุณภาพของคณะกรรมการบริษัทและระดับของดัชนีการเปิดเผยข้อมูลภาคสมัครใจอย่างมีนัยสำคัญ

คำสำคัญ: ขนาดบริษัท ดัชนีคุณภาพของคณะกรรมการบริษัท การควบคุมความเป็นเจ้าของของซีอีโอ ดัชนีการเปิดเผยข้อมูลภาคสมัครใจ ตลาดหลักทรัพย์แห่งประเทศไทย

ชื่อผู้ติดต่อบทความ: จักรวุฒิ ชอบพิเชียร

E-mail: Jakkravudhi.22@gmail.com

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[1] ผู้ช่วยศาสตราจารย์ ดร. สาขาวิชาการบัญชี คณะวิทยาการจัดการ มหาวิทยาลัยราชภัฏสุราษฎร์ธานี
  E-mail: Jakkravudhi.22@gmail.com

Introduction

Transparency and adequate disclosure are also important in order to ensure the protection of minority shareholders' rights. Outsiders can use relevant company's information, such as company objectives and policies, financial results, majority shareholders' ownership structure and executive directors' remuneration to make decisions. The adoption of internationally accepted disclosures (sometimes voluntary in Thailand) represents free choices on the part of company management to provide accounting and other information deemed relevant to decision needs of users of their annual reports (Meek et al., 1995). In addition, a study by Toplin et al. (2002) extended sixty annual reports from companies in Australia, Hong Kong, Malaysia, Philippines, Singapore and Thailand are analyzed to create several compliance indices based on all universally applicable IAS rules at the time. Companies in the four Asian countries with British colonial links had lower levels of non-disclosure than Philippines or Thailand entities. However, the problem of voluntary disclosure in Thailand comes from a study by the Center for International Financial Analysis & Research (CIFAR, 1995). There is a perception that the adequacy in voluntary disclosure in emerging capital market (ECMs) including Thai public listed companies was in the bottom half in terms of disclosure levels and lags behind that in developed capital markets. Companies in Asia appear to have fewer incentives for transparent disclosure than their Anglo-American counterparts (Ball et al., 2003). This is probably due to the fact that the disclosure orientation of companies in Asian countries is significantly influenced by the cultural environment in which they operate (Gray, 1988).

The disclosure orientation of companies in Thailand is also greatly influenced by the form of ownership and management structure (Limpaphayom, 2000). Thai listed companies are usually controlled by a family group whose staff are in the senior positions and also function as the largest shareholder. Thai ownership is highly concentrated and most of the shares are owned by executive directors. As a result, managers and owners are of the same person (Wiwattanakantung, 2000).

An important mechanism in protecting shareholders is the board of directors and its fiduciary responsibilities. This is because the board of directors is supposed to monitor managers and control companies on behalf of the shareholders. The board is expected to formulate corporate policy, approve strategic plans, and, if necessary, remove management. However, the board of directors of most listed companies in Thailand is mostly controlled by the large shareholders (Limpaphayom, 2000).

The Objective of This Study

The objective of this study such as: (1) To examine the relationship between firm size and the level of board of directors' quality index; (2) To examine the relationship between the level of board of directors' quality index and the level of voluntary disclosure index; (3) To examine whether the level of board of directors' quality index mediate the relationship between firm size and the level of voluntary disclosure index; and (4) To examine whether CEO's ownership moderate the relationship between the board of directors' quality index and the level of voluntary disclosure index. Under the implicit assumption of agency theory, this study hypothesized that improved the board of directors' quality and CEO's ownership structure of Thai public listed companies leads to more voluntary disclosure practices, and the voluntary disclosure practices is used as a means to reduce information asymmetry and agency problems.

Theoretical Background

1. Agency Theory, Firm Characteristics and Corporate Disclosures

There has been extensive empirical work relating firm-specific characteristics to the extent of voluntary disclosure based on a number of theoretical arguments for structure-related characteristics which include agency theory, information and political costs, proprietary costs, and capital need such as firm size (e.g., Cooke, 1989; Haniffa & Cooke, 2002; and Hossain et al., 1995). The study of Haniffa and Cooke (2002) argued that size may be important because the need to raise capital at the lowest cost (Choi, 1973), pressure from shareholders themselves and investment analyst for greater disclosure (Schipper, 1981), closer monitoring by regulatory authorities (Firth, 1979), the complexity of the business structure (Buzby, 1975), and greater demands to provide information to various user groups for entities of economic significance.

1.1 Agency Theory, Board of Directors and Corporate Disclosures

Jensen and Meckling (1976) found that the primary function of the board of directors is monitoring the actions of agents (managers) to protect the interests of the principals (owners). They have argued for a high level of corporate disclosure based upon the agency theory. Board of directors as corporate governance mechanisms are introduced to control the agency problem and ensure that managers act in the best interest of the shareholders. In theory, the impact of internal governance mechanisms on corporate disclosures may be complementary or substitutive. If it is complementary, agency theory predicts that a greater extent of disclosure is expected since the adoption of more governance mechanisms will lead to better governance practice and strengthen the internal control

of companies and provide an intensive monitoring package of a firm in order to reduce opportunistic behaviors and information asymmetry (Leftwich et al., 1981).

1.2 Firm Size, Board of Directors, Managerial Ownership and Voluntary Disclosure

The study will use board of directors as mediation is moderated by managerial ownership help explain the relationship (positive or negative) between firm size and the level of voluntary disclosure. The study of Cooke (1989) argued that size can also be an important variable in explaining the variability in the extent of voluntary disclosure. Fama and Jensen (1983) argued that outside directors, who tend to be major decision-makers at other organizations, have incentives to signal to the labor market that they are experts in decision control by acting in shareholder interests. This discussion leads the authors to hypothesize that larger firm size is more like to have number of outside directors than smaller firm size. However, this study defined managerial ownership as the percentage of ordinary shares held by the CEO. When managerial ownership is low, there is a greater agency problem. That is, the manager has greater incentives to consume perks and reduced incentives to maximize job performance. Hence, outside shareholders will increase monitoring of manager's behavior to reduce the agency problem (Jensen & Meckling, 1976). Monitoring by outside shareholders may be reduced if managers can provide voluntary disclosure. That is, voluntary disclosure is a substitute for monitoring (Eng & Mak, 2003).

2. Conceptual Framework

The level of board of directors' quality as mediation is moderated by CEO's ownership to the extent that it accounts for the relationship (positive or negative) between firm size and the level of voluntary disclosure. Further, this study will use board size as control variable. The definitions of each attribute are presented in Figure 1 and which are then discussed in the following sections.
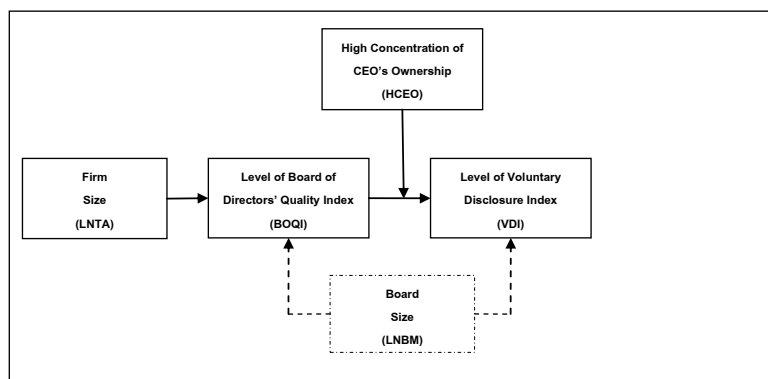

Figure 1 Conceptual framework
Source: (Adopted from Chobpichien, 2009, p.78).

3. Hypotheses Development

From discussion in section 3 firm sizes has been hypothesized to have an indirect effect on voluntary disclosure by mediation as board of directors' quality index (BOQI) is moderated by CEO's ownership. The study adopted conceptual framework from Chobpichien (2009, p.78) and have been added for studying moderated mediating model is outlined more clearly in figure 1. This discussion leads the author of this paper to hypothesize that:

H1: There is a positive relationship between firm size and the level of board of directors' quality index of companies listed on the SET.

H2: There is a positive relationship between the level of board of directors' quality index and the level of voluntary disclosure index of companies listed on the SET.

H3: The relationship between firm size and level of voluntary disclosure index of companies listed on the SET will be mediated by the level of board of directors' quality index.

H4: A high concentration of CEO's ownership will negatively moderate the relationship between the level of board of directors' quality index and the level of voluntary disclosure index of companies listed on the SET.

H5: The relationship between firm size and level of voluntary disclosure index of companies listed on the SET will be mediated by the level of board of directors' quality index, as moderated by a high concentration of CEO's ownership.

There has been extensive empirical work relating firm size, board composition, independence and size, and managerial ownership to the extent of voluntary disclosure based on agency theory (e.g., Balachandran & Bliss, 2004; Enk & Mak, 2003; Evans, 2004; Gul & Leung, 2004; Ho & Wong, 2001; and Willekens et al., 2004). Thus, this study will use board size as control variables. Because it is unclear whether small or large boards are more effective monitors. This discussion leads the authors of this paper to do not predict the direction.

Research Design

1. Sample

The sampling method of this survey was purposive sampling that covered all 371 non-financial listed companies on the Stock Exchange of Thailand (SET) in year 2004. The study was conducted on a sample of 317 non-financial listed companies and excluded 54 non-financial listed companies that failed to meet the criteria for audit committees which were under the plan administrator. This survey covers all non-financial companies listed on the Stock Exchange of Thailand (SET) as at 2004 to be a base year for education comparable to another year that the researcher

interested in comparing. Since the research involves secondary data, annual reports of the companies were obtained. Study uses secondary data from various sources namely, annual reports (Form 56 - 2); report on the disclosure of additional information (Form 56 - 1); Face Book of the SET; and listed companies information from www.setsmart.com of SET.

2. Voluntary Disclosure Index

The study initially combines both the index of Meek et al. (1995) and Chau and Gray (2002). Whenever an item appears in either of the study, it will be included in the study's index. Upon completion of this, the study ended up with a total of 115 items in its voluntary disclosure index. After this stage, the study then eliminated the items that were mandated by SET. The mandatory items were determined through interview with the regulators and also through examination of the regulatory requirements of Thailand, namely, the Accounting Act 2000, the Stock Exchange of Thailand (SET), the Stock Exchange Commission of Thailand (SEC), and Public Companies Act 1992. This resulted in a voluntary disclosure checklist comprising of 70 items.

To validate that the index did include only voluntary disclosure items, the index was subjected to the evaluation of a few Certified Public Accountants in Thailand. They confirmed that the 70 items of the voluntary disclosure index can be used for the purpose of the study.

3. Scoring the Voluntary Disclosure Items and Disclosure Index

Voluntary Disclosure Index is based on the 70 disclosure items. Scoring the voluntary disclosure items under the unweighted voluntary disclosure index was adopted from Cooke (1989). The scores for each item were then added and equally weighted to derive a final score for each company. The voluntary disclosure index (VDI j) for each company is calculated as follows:

$$VDI_j = \frac{\sum_{i=1}^{m_j} d_{ij}}{MVD_j}$$

where,

MVD_j = the maximum possible number of voluntary disclosure items
expected to be disclosed by a company j, MVD j ≤ 70;

VDI_j = the voluntary disclosure index for company j;

d_{ij} = 1 if the voluntary disclosure item di is disclosed and
0 if the voluntary disclosure item di is not disclosed for company j;

m_j ≤ MVD j (when not applicable that particular item is not included in the annual report);

So that 0 ≤ VDIj ≤ 1.

3.1 Quality of Board of Directors Index

The 10 characteristics of board of directors are used to measure the board of directors' quality index (BOQI). This study assigns a score of "1" if the characteristic is present and "0" if the characteristic is absent. The study assumes that the higher the score (or the BOQI), the higher is the quality of BOD. The measurement of each of the characteristic such as (1) Quality of board's leadership structure (BCEO) (Evans, 2004); (2) Quality of board's composition (BI51) (Vafeas, 1999; Willekens et al., 2004); (3) Quality of board's meetings (BMAL) (Evans, 2004; Vafeas, 1999); (4) Quality of board's controlling system and internal audit (BIAD) (Willekens et al., 2004); (5) Quality of AC's leadership structure (ACCI) (Haniffa & Cooke, 2002); (6) Quality of AC's composition (IDAC) (Ho & Wong, 2001; Willekens et al., 2004); (7) Quality of AC's meetings (ACMA) (Evans, 2004; Liu, 2004); (8) Quality of AC's knowledge and expertise (ACEX) (Mangena & Pike, 2005); (9) Quality of RC's leadership structure (RCCI) (Haniffa & Cooke, 2002); (10) Quality of RC's composition (RCPR) (Vafeas & Theodorou, 1998).

3.2 CEO Controlling Ownership

A CEO controlling ownership is defined as the percentage of a firm's total outstanding common shares owned by CEO. Measurement used by McClelland and Barker III (2004). Controlling ownership is divided into high level and low level based on median of the sampled companies.

3.3 Control Variables

Control variables used are similar to those used by Willekens et al. (2004) such as size of board of directors which measured by natural logarithm of board size.

3.4 Data Analysis

3.7.1 A four-step hierarchical regression is used to test the hypothesis 1, 2 and 3. The Model 1 (Muller et al., 2005) can be stated as follows:

$$VDI_j = \beta_{10} + \beta_{11}LNTA_j + \beta_{12}LNBM_j + \varepsilon1_j \quad \ldots\ldots\ldots(1)$$
$$BOQI_j = \beta_{20} + \beta_{21}LNTA_j + \beta_{22}LNBM_j + \varepsilon2_j \quad \ldots\ldots\ldots(2)$$
$$VDI_j = \beta_{30} + \beta_{31}LNTA_j + \beta_{32}BOQI_j + \beta_{33}LNBM_j$$
$$+ \varepsilon3_j \quad \ldots\ldots\ldots(3)$$

3.7.2 A four-step hierarchical regression is used to test the hypothesis 4. The Model 2 (Muller et al., 2005) can be stated as follows:

$$VDI_j = \beta_{40} + \beta_{41}BOQI_j + \beta_{42}HCEO_j + \beta_{43}BOQI\_HCEO_j + \beta_{44}LNBM_j + \varepsilon4_j \quad\ldots\ldots\ldots(4)$$

3.7.3 A four-step hierarchical regression is used to test the hypothesis 5. The Model 3 (Muller et al., 2005) can be stated as follows:

$$BOQI\_HCEOj = \beta_{50} + \beta_{51}LNTA_j + \beta_{52}LNBM_j + \varepsilon1_j \quad\ldots\ldots\ldots(5)$$
$$VDIj = \beta_{60} + \beta_{61}LNTA_j + \beta_{62}BOQI\_HCEO_j + \beta_{63}LNBM_j + \varepsilon6_j \quad\ldots\ldots\ldots(6)$$

Results and Discussions

1. Results

1.1 Level of Board of Directors Quality Index

Table 2 presents the frequency of board of directors' quality is first measurement.

Table 2 Descriptive Statistics of Measurement in Step of the level of board of directors' quality (N = 317)

Mediator Variables	Companies Comply	
	Frequency	Percentage
BCEO	186	58.7%
BI51	10	3.2%
BMAL	18	5.7%
BIAD	238	75.1%
ACCI	283	89.3%
IDAC	242	76.3%
ACMA	79	24.9%
ACEX	54	17.0%
RCCI	31	9.8%
RCPR	69	21.8%
Overall Compliance	1,210	38.2%

1.2 Statistics for Major Variables

Table 3 contains the univariate statistics and bivariate correlations for all five variables.

Table 3 Univariate and Bivariate Statistics for Major Variable

Variables	VDI (Dependent)	LNTA (Independent)	BOQI (Mediator)	HCEO (Moderator)	LNBM (Control)
Mean	0.37	3.44	0.38	0.15	2.38
SD	.11	1.36	.12	.19	.25
Correlations					
VDI	1.00	.54**	.54**	-.38**	.14*
LNTA		1.00	.37**	-.25**	.25**
BOQI			1.00	-.22**	.14*
HCEO				1.00	-.19**
LNBM					1.00

* $p < .05$, ** $p < .01$.

Note. Multicollinearity between independent variables becomes a problem when the correlation between the variables exceeds .80 or .90 (Field, 2000 as cited in Mangena and Pike, 2005).

1.3 Goodness of Measures

The instruments as voluntary disclosure checklist items used in the study were reliable, with coefficients ranging from .85 to .87, which exceeded the minimum acceptance level of .70 (Nunnally, 1978; Sureshchandar et al., 2002). Furthermore, in this hierarchical regressions have Tolerance more than .10, indicating that multicollinearity did not exist in the hierarchical regression analysis (Hair et al., 1998). In addition, another more formal method for detecting multicollinearity involves the calculation of Durbin-Watson. The Durbin-Watson test is used to test autocorrelation. As a focused test, the Durbin-Watson test does not address autocorrelation of 1.65 to 2.35 (Prasertratthasin, 2005).

1.4 The Hierarchical Regression Results and Discussion

1.4.1 Hierarchical Regression Results

Table 4.1, 4.2 and 4.3 provides hierarchical regression results using control variable, independent variable, mediator variable, and moderator variable, in model 1 and 2 on the relationship between firm size and the level of voluntary disclosure adjusted for items that are not applicable to the firm.

Table 4.1 Hierarchical regression results of Hypotheses 1 and 3 (N = 317)

Variables	Standardized Beta					
	Equation 1		Equation 2		Equation 3	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	(Criterion VDI)		(Criterion BOQI)		(Criterion VDI)	
CV: LNBM	.15**	.01	.15**	.06	.15**	-.01
X: LNTA		.54**		.36**		.40**
		(β_{11})		(β_{21})		(β_{31})
ME: BOQI						.39**
						(β_{32})
Statistics						
R^2	.02	.30	.02	.14	.02	.43
Adjusted R^2	.02	.29	.02	.14	.02	.42
R^2 Change	.02	.28	.02	.12	.02	.41
F Change	6.82**	122.51**	7.42**	44.08**	6.82**	110.31**
Durbin-Watson		1.80		1.84		2.00
Tolerance Min / Max		.94/.94		.94/.94		.94/.98

* p < .05, ** p < .01.

Note. VDI = voluntary disclosure index; CV = control variable, LNBM = natural logarithm of board members; X = independent variable; LNTA = natural logarithm of total assets; ME = mediator; BOQI = board of directors' quality index.

Table 4.2 Hierarchical regression results of Hypothesis 2 and 4 (N = 317)

Variables	Standardized Beta			
	Equation 4			
	Step 1	Step 2	Step 3	Step 4
	(Criterion VDI)			
CV: LNBM	.15**	.07	.03	.02
ME: BOQI		.53**	.47**	.62**
MO: HCEO			-.27**	.28
			(β_{42})	
MEMO: BOQI x HCEO				-.55**
				(β_{43})
Statistics				
R^2	.02	.29	.36	.39
Adjusted R^2	.02	.29	.35	.38
R^2 Change	.02	.27	.07	.03
F Change	6.82**	120.79**	31.64**	13.98**
Durbin-Watson				1.89
Tolerance Min / Max				.97/.98

* $p < .05$, ** $p < .01$.

Note. VDI = voluntary disclosure index; CV = control variable, LNBM = natural logarithm of board members; ME = mediator; BOQI = board of directors' quality index; MO = moderator; HCEO = a high concentration of CEO's ownership; MEMO = interaction term between mediator and moderator.

Table 4.3 Hierarchical regression results of Hypotheses 5 (N = 317)

Variables	Standardized Beta					
	Equation 1		Equation 5		Equation 6	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	(Criterion VDI)		(Criterion BOQI x HCEO)		(Criterion VDI)	
CV: LNBM	.15**	.11	-.16**	-.12*	.01	-.01
X: LNTA		.54**		-.17**		.51**
		(β_{11})		(β_{51})		(β_{61})
MEMO: BOQI x HCEO						-.18**
						(β_{62})
Statistics						
R^2	.02	.30	.02	.05	.09	.33
Adjusted R^2	.02	.29	.02	.04	.08	.32
R^2 Change	.02	.28	.02	.03	.07	.03
F Change	6.82**	122.51**	7.86**	8.41**	23.15**	14.56**
Durbin-Watson		1.80		1.98		1.76
Tolerance Min / Max		.94/.94		.94/.94		.94/.98

* p < .05, ** p < .01.

1.4.2 Effects of Control Variable

As shown in Table 4.1, 4.2 and 4.3, when the natural logarithm of board size as control variable was entered into the regression equation in the first step of equation 1 to 6, the coefficient of determination (R^2) was found to be .02 indicating that 2 percent of dependent variables are explained by the natural logarithm of board size. It can be observed that control variable of equation 1, 3, 4, and 6 (Std. Beta = .15) showed a significant and positive relationship with VDI at the .01 level, equation 2 (Std. Beta = .15) showed a significant and positive relationship with BOQI at the .01 level, and equation 5 (Std. Beta = -.16) showed a significant and negative relationship with BOQI x HCEO at the .01 level. These results provided support for LNBM of the study.

1.4.3 Effect of the Natural Logarithm of Firm Size (LNTA) on Board of Directors' quality index (BOQI)

As shown in Table 4.1 when the natural logarithm of total assets (LNTA) as independent variable was entered into the regression equation 2 in the step 2, by adding the one

independent variable, R^2 increased to 14 percent. This R^2 change (.12) is significant. This implies that the additional 12 percent of the variation in BOQI is explained by LNTA. LNTA (Std. Beta = .36) was found to have a significant and positive relationship with BOQI at the .01 level of significance. These results provided support for Hypothesis 1 of the study.

1.4.4 Effect of Board of Directors' quality index (BOQI) on Voluntary Disclosure Index (VDI)

As shown in Table 4.2 when the board of directors' quality index (BOQI) as mediator was entered into the regression equation 4 in the step 2, by adding the one mediator, R^2 increased to 29 percent. This R^2 change (.27) is significant. This implies that the additional 27 percent of the variation in VDI is explained by BOQI. BOQI (Std. Beta = .53) was found to have a significant and positive relationship with VDI at the .01 level of significance. These results provided support for Hypothesis 2 of the study.

1.4.5 Mediating Effects of BOQI between Firm Size and VDI

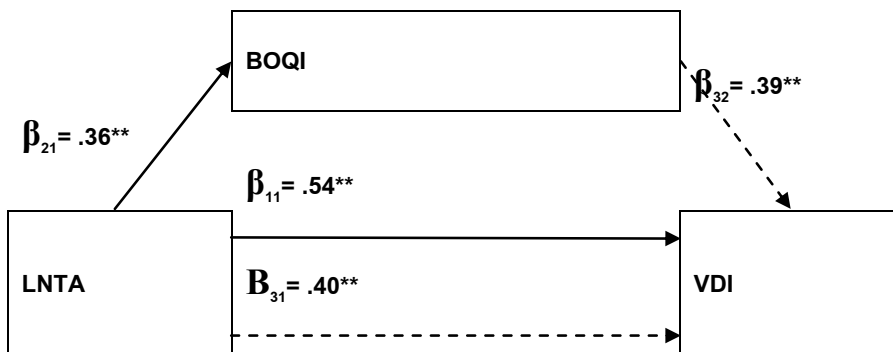A variable functions as a mediator when it meets the following figure 2.

Figure 2 Mediating effects of BOQI between firm size and the level of voluntary disclosure (VDI).

As shown in Table 4.1 when (1) Variations in the natural logarithm of total assets (LNTA) as independent variable (β_{11} = .54, p < .01) significantly account for variations in the dependent variable (VDI). (2) Variations in the LNTA (β_{21} = .36, p < .01) significantly account for variations in the mediating variable (BOQI). (3) When both LNTA and BOQI appear in the step 2 of Equation 1.3, a previously significant relationship between the BOQI (β_{32} = .39, p < .01) and the VDI, and between the LNTA (β_{31} = .40, p < .01) and the VDI. Further, the following equality relationship exists among the parameters of these models meaning that the difference between the overall treatment effect and the residual direct effect is equal to what is called the indirect effect via the mediator (i.e., β_{11} β_{31} = β_{21} * β_{32}; .54 - .40 = .36 * .39 = .14). These results provided support for Hypothesis 3 of the study

and the type of BOQI is a partial mediator. A partial mediator is more likely, the relation between firm size and voluntary disclosure index will be significantly smaller when BOQI is included but will still be greater than zero (Frazier et al., 2004).

1.4.6 Moderating Effects of HCEO between BOQI and VDI

As shown in Table 4.2 when the third step of Model 2, HCEO was entered into the equation in order to gauge its impact as an independent predictor. The R^2 increased from 29 percent to 36 percent indicating a change of 7 percent, which is significant ($p < .01$).

In the fourth and final step of Model 2, when the interaction term was entered into the Model 2, it can be seen that it yielded a significant F Change of 13.98, and the additional variance explained by the interaction terms are 3 percent. Further, a high concentration of CEO's ownership (HCEO) as independent is significant (β_{43} = -.55, $p < .01$) and interaction term between BOQI and HCEO is significant (β_{43} = -.55, $p < .01$), this indicates that a high concentration of CEO's ownership negative moderates the relationship of board of directors' quality index and voluntary disclosure index. These results provided support for Hypothesis 4 of the study and the type of HCEO is Quasi Moderators. A Quasi Moderator not only interacts with the predictor variable but is a predictor variable in itself (Sharma et al., 1981). The result of the significant interaction is presented in Figure 3.
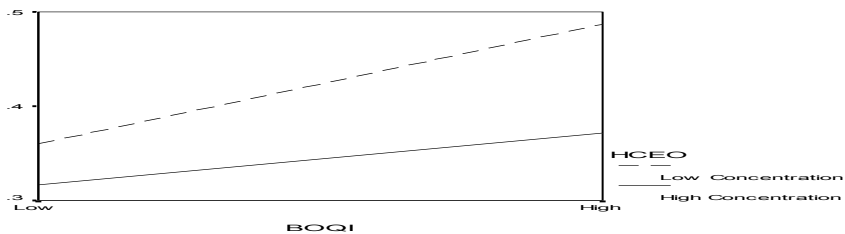

Figure 3 Interaction between the level of board of directors' quality (BOQI) and a CEO's ownership (HCEO) for the level of voluntary disclosure (VDI).

Plotting the interactions of BOQI and HCEO for VDI (Figure 3) shows that at low levels of BOQI with respondents with a high concentration of CEO's ownership (High Concentration) lower level of voluntary disclosure (VDI), while those with a low concentration of CEO's ownership (Low Concentration) report higher level of voluntary disclosure (VDI). This effect is further exacerbated (i.e., distance between high and low concentration increased) when board of directors' quality levels increase. At high BOQI, those with a high and low concentration of CEO's ownership report increased the level of voluntary disclosure (VDI).

1.4.6 Moderated Mediation Effects of BOQI and HCEO

A variable functions as a moderated mediation when it meets the following figure 4.
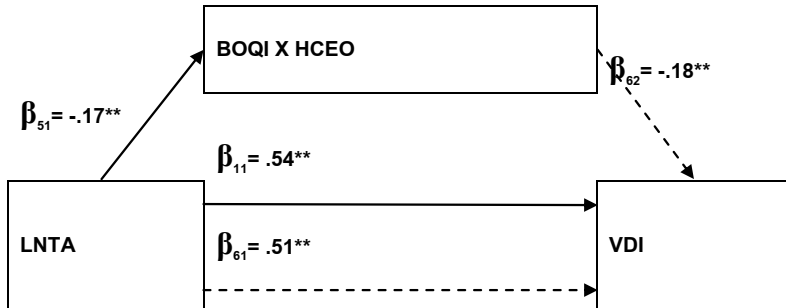

Figure 4 Effects of board of directors' quality index (BOQI) is moderated by a high concentration of CEO's ownership (HCEO).

As shown in Table 4.3 when (1) Variations in the independent variable (LNTA) significantly account for variations in the dependent variable (VDI). (2) Variations in the independent variable (LNTA) significantly account for variations in the moderated mediation variable (BOQI x HCEO). (3) Variations in BOQI x HCEO significantly account for variations in the dependent variable (VDI). (4) When both LNTA and BOQI x HCEO appear in the Model 3, a previously significant relationship between the LNTA and VDI, and BOQI x HCEO and VDI. These results provided support for Hypothesis 5 of the study and type of board of directors' quality index is moderated by CEO's ownership is partial mediator.

2. DISCUSSION

2.1 Level of the Quality of Board of Directors

The study found that the level of the quality of board of directors is 38%. Using SET's Study (SET, 2003) on good corporate governance characteristics of public listed companies in Thailand's rating as a guideline, that is "very high" to be more than 80 percent, "high" to be between 70 to 80 percent, "medium" to be 60 to 70 percent, "low" to be between 50 to 60 percent and "very low" to be less than 50 percent, the level of BOD's quality found in this study can be said to be at a "very low level".

2.2 Level of Voluntary Disclosure

The study found that the level of voluntary disclosure was 37%. Wallace (1988) rate the levels of voluntary disclosure as " high" if score is more than 50%, "medium" if score is

between 30% and 50% and "poor" if score is less than 30%. Using Wallace's study as a guideline, the level of voluntary disclosure in Thailand can be said to be at a "medium" level.

2.3 Mediating Effects of Board of Directors' Quality Index (BOQI)

The study found that the larger firm size, the higher is the level of board of directors' quality as a mediating link to the higher is the level of voluntary disclosure (VDI). The results are consistent with Owusu-Ansah, (1998) argued that central managements of such companies will require outside directors' expert. Because large companies tend to be multi-product business entities; operating over wider geographical areas with several divisional units. Hence, outside shareholders will increase monitoring of manager's behavior to reduce the agency problem (Jensen & Meckling, 1976). Monitoring by outside shareholders may be reduced if managers can provide voluntary disclosure. Therefore, rather than simple mediation, it is expected that one mediated relation between firm size and voluntary disclosure can use board of directors' quality. Further, Willekens et al. (2004) suggested that internal governance mechanisms as board of directors can aid in enhancing corporate voluntary disclosure, and that voluntary disclosure is used as a means to reduce information asymmetry and agency problems. Thus, the firm size has been hypothesized to have an indirect effect on voluntary disclosure by the board of directors' quality index.

2.4 Moderating Effect of High Concentration of CEO's Ownership (HCEO)

This study found that HCEO will negatively moderate the relationship between BOQI and VDI. The result is consistent with McClelland and Barker III (2004) that the level of CEO ownership control negatively moderates the relationship between CEO age and firm performance. The traditional view of agency theory proposes that CEO and shareholder interests converge when CEO become shareholders (Jensen & Meckling, 1976). Further, it is expected that increase ownership in the hands of managers will lead to greater equity value for shareholders (Hubbard & Palia, 1995). This theory has been shown to be under-specified in explaining equity ownership effects. Indeed, higher levels of equity ownership also provide CEO with the power necessary to entrench themselves and increase their discretion. Thus, CEO with very high levels of ownership has a greater capacity to be free from the discipline of the firm's board, shareholders, or the market for corporate control namely, takeovers. Indeed, firms run by CEO with high ownership positions perform relatively poorly in the stock market (e.g., DeAngelo & DeAngelo, 1985; Morck et al, 1988; and Slovin & Sushka, 1993 as cited in McClelland & Barker III, 2004). Thus, CEO equity holdings can have differing effects on the alignment of CEO and shareholder interests, it becomes more difficult for shareholders to control the managers and thus will have a negative impact on the relationship of BOQI and VDI.

2.5 Effect of Moderated by High Concentration of CEO's Ownership on BOQI (BOQI x HCEO)

The study found that the larger firm size, the higher is the level of board of directors' quality as a mediating link to the higher is the level of voluntary disclosure (VDI). In contrast, when further moderated by a high concentration of CEO's ownership on the BOQI, these associations appear to be weaker. This finding is supported by Limpaphayom (2000) that chairman, managers and members of the board of directors, as well as the ones who nominated outside non-executive directors. The role of outside non-executive directors per se is minimal as firm ownership was dominated by CEO, the outside non-executive directors (those who did not hold management positions in the firm) would find it difficult to garner sufficient votes to influence or oust incumbent management, hence restricting the role of the market in corporate control. Further, this finding is supported by Limpaphayom (2000) found that family members were often insiders for Thai public listed companies. Shleifer and Vishny (1997) and Chen and Jaggi (2000) that the ratio of independent non-executive directors on corporate boards is positively associated with the comprehensiveness of financial disclosures, and this association appears to be weaker for family controlled firms compared to nonfamily controlled firms. Finally, Hill (1999) suggested that corporate governance is indeed a complex matter that its role relates not only to issues of efficiency but also accountability, and that since many mechanisms are flawed, it is desirable to have a system of overlapping checks and balance. Thus, CEO equity holdings can have differing effects on the alignment of CEO and shareholder interests, it becomes more difficult for shareholders to control the managers and thus will have a negative impact on the relationship of firm size and board of directors, and board of directors as a mediating link to the level of voluntary disclosure.

2.6 Control variables

2.6.1 Effect of Board Size on Board of Directors' Quality Index and voluntary disclosure index

Board size as control variable is found to have positive significant influence on the Board of Directors' Quality Index and the voluntary disclosure index. The results are consistent with e.g. Balachandran and Bliss (2004), Enk and Mak (2003), Evans (2004), Gul and Leung (2004), Ho and Wong (2001), and Willekens et al. (2004). This result indicates increased the Board of Directors' Quality Index and the voluntary disclosure index is a driver for firms as they increase their board size.

2.6.2 Effect of Board Size on Board of Directors' Quality Index is moderated by a high concentration of CEO's ownership

Board size as control variable is found to have negative significant when further moderated by a high concentration of CEO's ownership on the Board of Directors' Quality Index. The results are consistent with Jensen (1993). These results indicates that when further moderated by a high concentration of CEO's ownership on the Board of Directors' Quality Index they are less likely to function effectively and are easier for the CEO to control.

Conclusions

This study extends the previous literature by examining voluntary disclosure in a developing country, namely Thailand. Over the last decade, the Thai Government has initiated several far-reaching reforms at the Stock Exchange of Thailand (SET) in order to mobilize domestic savings and to attract foreign capital investment. These measures include privatization of state corporations through the stock exchange and allowing foreign investors to own shares in listed companies. Despite intensive efforts to determine the nature of the relationship between the firm size and the level of voluntary disclosure (VDI), empirical studies of this issue have produced mixed results. This paper attempts to delve deeper into this complex phenomenon by employing a resource dependency perspective to hypothesize a model of mediation as board of directors' quality index (BOQI) is moderated by CEO's ownership.

The proposed framework was the relationship between the firm size and the level of voluntary disclosure. It is expected that one mediated relation between firm size and voluntary disclosure can use board of directors' quality index is moderated by CEO's ownership substantially validated. These are the study highlights of the overall contribution on the whole body of research in agency theory which this study contributes to practice in voluntary disclosure checklist for the extent of level of voluntary disclosure in non-financial listed companies on the Stock Exchange of Thailand. The voluntary disclosure checklist was based on developing country thus it also provides a useful benchmark for comparison with previous research. These results have a significant contribution to the agency theory as there is evidence to show that the relationship between firm size and voluntary disclosure will not necessarily be the same between a firm with high concentration of CEO's ownership will negative and a firm without high concentration of CEO's ownership will positive. Finally, board size as control variable was found to have a significant influence on the level of board of directors' quality and the level of voluntary disclosure.

References

Balachandran, J., & Bliss, M. (2004). **Board independence and voluntary disclosure: Evidence from Malaysia.** Working Paper, Department of Accountancy City University of Hong Kong.

Ball, R., Robin, A., & Wu, J.S. (2003). Incentives versus standards: Properties of accounting income In four East Asian countries, and implications for acceptance of IAS. **Journal of Accounting & Economics,** 36(1-3), 235 - 270.

Buzby, S.L. (1975). Company size, listed versus unlisted stocks, and the extent of financial disclosure. **Journal of Accounting Research,** 13(1), Spring, 16 - 37.

Chau, G.K., & Gray, S.J. (2002). Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore. **The International Journal of Accounting,** 37, 247 - 265.

Chen, C.J.P., & Jaggi, B. (2000). The association between independent non-executive directors, family control and financial disclosures. **Journal of Accounting and Public Policy,** 19(4 - 5), 285 - 310.

Chobpichien, J. (2009). Corporate governance mechanisms influencing the relationship between firm size and level of voluntary disclosure of listed companies in Thailand. **Panyapiwat Journal**, 1 (1), 69 - 95.

Choi, F.D.S. (1973). Financial disclosure and entry to the European capital market. **Journal of Accounting Research**, 11, Autumn, 159 - 175.

CIFAR (Center for International Financial Analysis & Research). (1995). **International accounting and auditing trends. 4th edition.** Edited by V.B. Bavishi. Princeton, NJ: CIFAR.

Cooke, T.E. (1989). Voluntary corporate disclosure by Swedish companies. **Journal of International Financial Management and Accounting**, 1(2), Summer, 171 - 195.

DeAngelo, H., & DeAngelo, L. (1985). Managerial ownership of voting rights: A study of public Corporations with dual classes of common stock. **Journal of Financial Economics,** 14, 33 - 69.

Eng, L.L., & Mak, Y.T. (2003). Corporate governance and voluntary disclosure. **Journal of Accounting and Public Policy**, 22, 325 - 345.

Evans, M. (2004). **Board characteristics, firm ownership and voluntary disclosure.** Working Paper, Fuqua School of Business, Duke University, Durham, NC. 27708, October.

Fama., & Jensen, M.C. (1983). Separation of ownership and control. **The Journal of Law and Economics,** 26(2), 301 - 325.

Firth, M. (1979). The impact of size, stock market listing, and auditors on voluntary disclosure in corporate annual reports. **Accounting and Business Research**, 9(33), Autumn, 273 - 280.

Frazier, P.A., Tix, A.P., & Barron, K.E. (2004). Testing moderator and mediator effects in counseling psychology. **Journal of Counseling Psychology**, 51(1), 115 - 134.

Gray, S.J. (1988). Towards a theory of cultural influence on the development of accounting systems internationally. **Abacus**, 24(1), March, 1 - 15.

Gul, F.A., & Leung, S. (2004). Board leadership, outside directors' expertise and voluntary corporate disclosures. **Journal of Accounting and Public Policy**, 23, 351 - 379.

Haniffa, R.M., & Cooke, T.E. (2002). Culture, corporate governance and disclosure in Malaysian corporations. **ABACUS**, 38(3), 317 - 349.

Hill, J.G. (1999). Deconstructing sunbeam-contemporary issues in corporate governance. **University of Cincinnati Law Review**, 67, 1099 - 1127.

Ho, S.S.M., & Wong, K.S. (2001). A study of the relationship between corporate governance structures and the extent of voluntary disclosure. **Journal of International Accounting Auditing & Taxation,** 10, 139 - 156.

Hossain, M.A., Perera, M.H.B., & Rahman, A.R. (1995). Voluntary disclosure in the annual reports of New Zealand companies. **Journal of International Financial Management and Accounting,** 6(1), 69 - 87.

Hubbard, G., & Palia, D. (1995). Benefits of control, managerial ownership, and the stock returns of acquiring firms. **RAND Journal of Economics**, 26(4), 782 - 792.

Jensen, M.C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. **The Journal of Finance**, 48(3), 831 - 880.

Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. **Journal of Financial Economics**, 3, October, 305 - 360.

Leftwich, R.W., Watts, R.L., & Zimmerman, J.L. (1981). Voluntary corporate disclosure: The case of interim reporting. **Journal of Accounting Research**, 19, Supplement, 50 - 77.

Limpaphayom, P. (2000). Corporate governance in Thailand before the crisis: Issues and implications. **Accountants' Journal**, 47(1), 10 - 20.

Liu, C. (2004). **The influence of audit committee oversight on corporate disclosure**. Working Paper, Department of Accounting and Law, School of Management, State University of New York at Buffalo.

Mangena, M., & Pike, R. (2005). **The effect of audit committee shareholding, financial expertise and size on interim financial disclosures.** *Accounting and Business Research*, 35(4), 327 - 349.

McClelland, P., & Barker III, V.L. (2004). **The interaction of CEO age and ownership control in publicly traded firms: Performance implications.** Working paper, School of Business, University of Kansas, Internet size: http://people.ku.edu/~pmcc11/Agexown.pdf.

Meek, G.K., Roberts, C.B., & Gray, S. (1995). Factors influencing voluntary annual report disclosures by US, UK and continental European multinational corporations. **Journal of International Business Studies**, 26(3), 555 - 572.

Morck, R., Shleifer, A., & Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. **Journal of Financial Economics**, 20, 293 - 316.

Muller, D., Judd, C.M., & Yzerbyt, V.Y. (2005). When moderation is mediated and mediation is moderated. **Journal of Personality and Social Psychology**, 89(6), 852 - 863.

Owusu-Ansah, S. (1998). The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe. **The International Journal of Accounting,** 33(5), 605 - 631.

Schipper, K. (1981). Discussion of voluntary corporate disclosure. The case of interim reporting. **Journal of Accounting Research**, 19, 85-88.

Sharma, S., Durand, R.M., & Gur-Arie, O. (1981). Identification and analysis of moderator variables. **Journal of Marketing Research,** XVIII, 291-300.

Shleifer, A., & Vishny, R.W. (1997). A survey of corporate governance. **Journal of Finance**, 52, 737 - 783.

Slovin, M., & Sushka, M. (1993). Ownership concentration, corporate control activity, and firm value: Evidence from the death of inside blockholders. **The Journal of Finance,** XLVIII (4), 1293 - 1321.

Toplin, R., Tower, G., & Hancock, P. (2002). Disclosure (discernibility) and compliance of accounting policies: Asia-Pacific evidence. **Blackwell Synergy: Accounting Forum**, 26(2), 172 - 190.

Vafeas, N. (1999). Board meeting frequency and firm performance. **Journal of Financial Economics,** 53(1), 113 - 142.

Vafeas, N., & Theodorou, E. (1998). The relationship between board structure and firm performance in the U.K. **The British Accounting Review**, 30, 383-407.

Wallace, R.S.O. (1988). Corporate financial reporting in Nigeria. **Accounting and Business Research,** 18(72), Autumn, 352 - 362.

Willekens, M., Vander Bauwhede, H., Gaeremynck, A., & Van de Gucht, L. (2004). **The impact of internal and external governance mechanisms on the voluntary disclosure of financial and non-financial performance.** Working Paper, Internet site: http://www.business.uiuc.edu/ accountancy/research/ vkzcenter/conferences/gottingen/papaers/willekens.pdf.

Wiwattanakantang, Y. (2000). **The equity ownership structure of Thai firms**. Unpublished Working
    Paper, Institute of Economic Research, Hitotsubashi University, Japan.

ประวัติแนบท้ายบทความ

Name and Surname:	Assistant Professor Dr.Jakkravudhi Chobpichien
Highest Education:	Ph.D. (Accounting)
University or Agency:	Universiti Sains Malaysia
Field of Expertise:	Accounting
Address:	Faculty of Management Sciences, Suratthani Rajabhat University, 272 Moo 9, Khuntalay Sub-district, Muang District, Surat Thani Province, 84100.
E-mail:	Jakkravudhi.22@gmail.com