THE EFFECTS OF CONTROLLING SHAREHOLDERS AND INFORMATION ASYMMETRY ON EARNINGS QUALITY OF THAI LISTED COMPANIES

KANOKNAPAT SOKHIAW

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
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FACULTY OF BUSINESS ADMINISTRATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
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ABSTRACT

This study aimed to examine the effects of controlling shareholders and information asymmetry on earnings quality of the listed companies on the Stock Exchange of Thailand (SET).

The research sample consisted of listed firms in all industry groups under SET except financial industry. The data used were secondary data collected during the year of 2012-2014 and were analyzed using the structural equation model. In terms of proxy variables, the percentage of shareholdings was represented for controlling the shareholders whereas the bid-ask spread was a proxy of information asymmetry. Regarding the earnings quality, this study employed two major aspects: 1) discretionary accruals, which the proxy variables were calculated from Modified Jones Model and Francis Model and 2) real earnings quality, which the proxy variable was examined from operating cash index.

The results showed that controlling shareholders had positive effect on both earnings quality and information asymmetry. Information asymmetry had negative effect on earnings quality. With regards to information asymmetry as mediation variable, controlling shareholders had negative effect on earnings quality through information asymmetry. Therefore, controlling shareholders provided both direct and indirect effects on earnings quality. The research results also implied that the increase of controlling shareholders led to the increase of information asymmetry, which brought about the decline of earnings quality.

Keywords: controlling shareholders, information asymmetry, earnings quality

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CHAPTER 1
INTRODUCTION

This dissertation investigated the effects of controlling shareholders on information asymmetry and earnings quality based on evidence from Thai listed companies. The first chapter of the study offered the following: background and statement of the problem, purpose of the study, research questions and hypotheses, theoretical perspectives, definition of terms, delimitation and limitation of the study, and the significance of the study.

1.1 Background and Statement of the Problem

Asian financial crisis in 1997 which occurred in Thailand is assumed to be caused by the concentration of ownership or controlled by families (World Bank, 1998) and weak governance. The concentration of ownership provides controlling shareholder exploitation benefit from non-controlling shareholder and stakeholders including the pursuit of personal gain, and then weak governance of family firms are occurred. Consistent with the view of some scholars, it was stated that family firms in Thailand may have institutional vulnerability (Suehiro & Wailerdsak, 2004). The result of the crisis caused many firms to declare bankruptcy or restructuring since controlling shareholder of such firms or family member or a related person does not prudently invest in the project, regardless of the minority shareholders (Limpaphayom & Connelly, 2004). Prior research and the Asian financial crisis has provided preliminary conclusion that shareholding structure and family firms management influence corporate governance, and corporate governance mechanism helps shareholders assure that the firms will have financial disclosures quality and transparency (Demise, 2006).

Prior research has conducted a study on corporate governance, particularly in the United States and England, and the study focused on conflicts of interest arising from the owners and managers (Jensen & Meckling, 1976). However, concentration of ownership is in the hands of one individual or only small amounts which is often the manager (La Porta et al., 1999). In an economy where there is a concentration of the shareholding, which is a conflict of interest between controlling shareholders and

minority shareholders rather than a conflict of interest between owners and managers, this becomes an issue that requires attention to corporate governance which are widespread shareholders with a controlling shareholding and voting rights in Thailand (Claessens et al., 2000; Wiwattanakantang, 1999, 2001). La Porta, Lopez-de-Silanes, and Shleifer (1999) examined the association between protection corporate ownership type and protection of minority and found evidence that firms are less concentration in the good protection countries. In contrast, the ownership structure greatly concentrated in poor protection countries, especially in developing countries. The major reason is that large shareholders are afraid that the level of voting rights are reduced, so they are still holding large proportion of corporate shares.

From the studies of Claessens, Djankov, and Lang (2000), La Porta, Lopez-de-Silanes, and Shleifer (1999), and Wiwattanakantang (2001), it was found that ownership structure of the companies on the Stock Exchange of Thailand are controlling shareholder and controlled by the families. Nevertheless, the study of Attig, Gadhoum, and Lang (2003) documented the mechanism of increasing control and found that the possession of large shareholder in the corporation will increase the bid-ask spread. Claessens, Djankov, and Lang (2000) and Wiwattanakantang (2001) illustrated the evidence of large controlling shareholders in Thai listed companies using pyramidal and cross-holding ownership structures. Ginglinger and Hamon (2012) examined concentrated ownership and the separation of ownership and control associated with market liquidity in France, and they found that large shareholder in the firms is associated with lower liquidity. Different concentrations affect liquidity in different forms. Prior research examined that when presence of large shareholder holds large proportion of corporate shares, it leads to less information quality, especially when control right exceeds cash-flow right, and there is unequal information between large shareholder and minority shareholder. Recent studies used the bid-ask spread as a measure of information asymmetry between controlling shareholder and minority shareholder. For example, Trainor (2013) examined the association between large shareholder and firms' information asymmetry by constructing two measures of ownership structure based on type and monitoring. The author found a positive relationship between large shareholder and firms' information asymmetry, which is

consistent with economic bonding theory proposing that large shareholder leads to large gaps of information between inside shareholders and outside shareholders.

Previous several studies found that ownership structure affects earning quality. For instance, Francis, Schipper, and Vincent (2005) found that firms with dual-class ownership structure have less informative earnings than single-class ownership structure firms. Fan and Wong (2002) examined the association of ownership structure and earning informativeness in seven East Asian countries. The authors found that ownership concentration with pyramidal and cross-holding structure leads to agency conflicts between inside and outside shareholders and presence of controlling shareholders as a result of lose credibility reported earning to outside shareholders, and controlling shareholders have a relationship with low earnings informativeness. On the other hand, Boubaker and Sami (2011) examined the impact of multiple large shareholders on earnings informativeness and found that ultimate ownership cash flow rights are significantly associated with earnings informativeness. Consistent with alignment effect, ownership structure aligns interest between shareholders and managers, which will reduce incentive to manipulate accounting information showing that large controlling shareholder reduces information asymmetry. Also, consistent with the study of Ahmad-Zaluki, Campbell, and Goodacre (2011), they investigated the association between ownership structure and earnings quality in Tehran listed companies and found an insignificant positive relationship between ownership centralization and institution ownership with earnings quality.

Prior several researches have little evidence on how controlling shareholders are related to information asymmetry and earnings quality. In Thailand the prevalence of shareholder concentration (Claessens et al., 2000; Wiwattanakantang, 2001) is a source of information which is useful in the study of the relationship between earnings quality and type of agency conflict between controlling shareholders and minority shareholders. As a result, this study was conducted to investigate the effect of controlling shareholders and information asymmetry on earnings quality as well as the presence of agency conflicts between controlling shareholders and minority shareholders.

1.2 Purpose of the Study

The purposes of the study were as follows:

1.2.1 To investigate the effect of controlling shareholders on earnings quality;

1.2.2 To investigate the effect of controlling shareholders on information asymmetry;

1.2.3 To investigate the effect of information asymmetry on earnings quality; and

1.2.4 To investigate whether controlling shareholders have an effect on earnings quality through information asymmetry.

1.3 Research Questions and Hypothesis

1.3.1 Research Questions

Based on the purposes of this study, four research questions were conducted as shown below.

1.3.1.1 Do controlling shareholders have an effect on earnings quality?

1.3.1.2 Do controlling shareholders have an effect on information asymmetry?

1.3.1.3 Does information asymmetry have an effect on earnings quality?

1.3.1.4 Do controlling shareholders have an effect on earnings quality through information asymmetry?

1.3.2 Hypothesis

To answer the above research questions, the hypotheses of this study were then conducted as follows:

H1a: Controlling shareholders have a negative effect on discretionary accruals from modified Jones model.

H1b: Controlling shareholders have a negative effect on discretionary accruals from Francis model.

H1c: Controlling shareholders have a positive effect on operating cash index.

H2: Controlling shareholders have a positive effect on information asymmetry.

H3a: Information asymmetry has a positive effect on discretionary accruals from modified Jones model.

H3b: Information asymmetry has a positive effect on discretionary accruals from Francis model.

H3c: Information asymmetry has a negative effect on operating cash index.

H4a: Controlling shareholders have a positive effect on discretionary accruals from modified Jones model through information asymmetry.

H4b: Controlling shareholders have a positive effect on discretionary accruals from Francis model through information asymmetry.

H4c: Controlling shareholders have a negative effect on operating cash index through information asymmetry.

1.4 Conceptual Framework

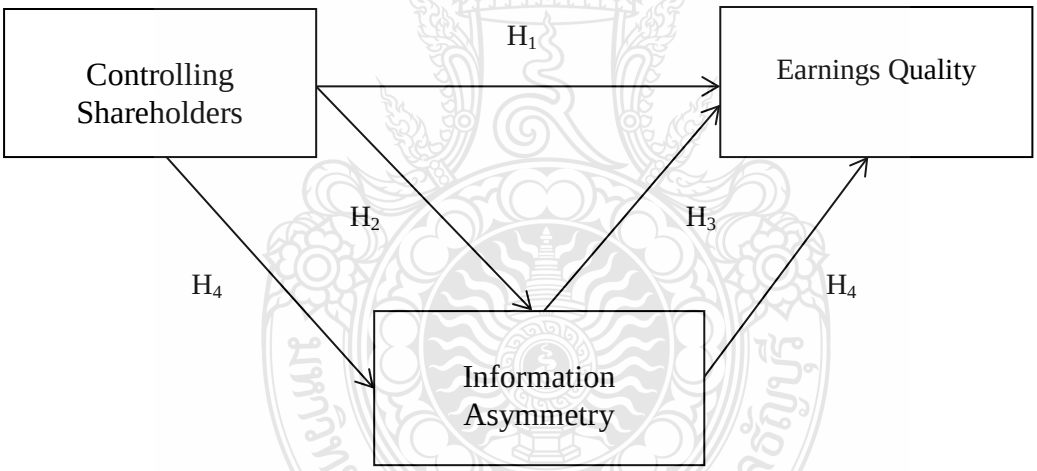

Figure 1.1 Conceptual Framework

1.5 Definition of Terms

1.5.1 Controlling shareholder is defined based on voting rights as a shareholder who owns 25% or more of the firm's share (La Porta et al., 1999; Wiwattanakantang, 2001). The 25% was employed as a cutoff level following the definition of controlling shareholder from the Stock Exchange of Thailand. This level of voting right should be sufficient to allow a controlling shareholder to effectively control

the firm. The controlling shareholders may be corporate, foreign, government agency, more than one group, individual, or family.

1.5.2 Information asymmetry is the condition that different information among market participants causes inequality of information between the controlling shareholders and minority shareholders. Information asymmetry is related to the idea that one party has better information than the other one, especially information about value relevant enterprise. In response, the spread between the bid and ask price are widen, thereby lowering liquidity. Therefore, information symmetry was measured by bid-ask spread.

1.5.3 Earnings quality means earnings from normal operation can change to cash sufficient to replacement of depreciable assets, and these earnings are derived from regular income. Earnings quality should be close to the cash flow from operation which shows that earnings arise from actual operation, and it is considered the earnings quality. Earnings quality is derived from the relationship between earnings from the accruals and cash flow as the element of earnings, and earnings are composed of high cash flow and low accruals element. This study measured earnings quality by using discretionary accruals, and the high level of discretionary accruals indicated that low earnings quality. Another measure of earnings quality was operating cash index.

1.5.4 Discretionary accruals are accrual items which are not caused by normal operation of the firm and have no relationship with the operation cash flow, which cannot be explained by the cash flow in the past, present, and future, and they are calculated as the difference between the total accruals and normal accruals. Discretionary accurals are used to measure earnings quality based on the concept that the earnings quality is derived from the relationship earnings, accuals, and cash flow which is the component of earnings. Earings which are composed of high discretionary accruals are low earnings quality. On the other hand, earnings whicgh are composed of low discretionary accruals are high earnings quality. Earnings quality has a negative relationship with discretionary accruals, if high discretionary accruals indicated low earnings quality. Therefore, high earnings quality must have low discretionary accruals.

1.5.5 Operating cash index is a measure of earnings quality by comparing the cash flow from operation to net income. This index indicated that if companies could

generate cash flow equaling to net income, it showed the earnings due to the actual operation and is considered the earnings quality. This index represents the earnings quality. If the index was closed to or equal to 1, it showed that earnings quality remained good. On the other hand, if cash flow from operation have been negative for several years while net income is positive or higher than cash flow from operation, the earnings are considered to be poor.

1.6 Limitation of the Study

This study used the secondary data obtained from the firm-level data of non-financial companies listed on the Stock Exchange of Thailand during 2012 - 2014. The equity ownership, number of share outstanding, and accounting data were available in the database of SETSMART.com while other data were obtained from the company's own website. The sample of this study consisted of non-financial companies on the Stock Exchange of Thailand excluding delisting companies, companies with incomplete data, companies suspended from trading by the SET, property funds, companies under bankruptcy proceedings, and companies which did not have controlling shareholders in all three years. The calculation of the shareholding used the data at the end of the year.

1.7 Scope of the Study

The main contribution issue of this study to the relevant literature fills the gap among previous literature which introduced the effect of the three parameters simultaneously, which are the effect of controlling shareholders and information asymmetry on earnings quality. The study of this issue is in the context of Thailand. In addition, the result of the study is beneficial for investors in evaluating investment decisions. As for regulators, it can be used as a mechanism to promote and support an effective governance concerning the regulation for corporate governance standard, and regulators may also consider the impact of recent regulatory influence ownership role and who are involved in capital market. For analysts, the result of this study could lead to additional investment analysis. Furthermore, accountants will also enhance the knowledge on the role of controlling shareholders in the firms and increase more awareness on the role of the controlling shareholders.

CHAPTER 2
LITERATURE REVIEW

This chapter presented a review of previous studies and relevant literatures to the study. The review included concepts and theoretical and practical perspectives such as ownership structure, controlling shareholders, information asymmetry, and earnings quality

2.1 Concentrated of Ownership in Thailand

High ownership concentration has occurred in East Asia including Thailand (Claessens et al., 2000). Claessens, Djankov, and Lang (2000) found that a significant corporate wealth in East Asian is concentrated among a few families in all countries, and pyramidal structures and cross-holding often cause voting rights to exceed cash-flow rights. Moreover, it was also found that the largest ten families in Indonesia, the Philippines, and Thailand control more than a half of the assets in their samples. The data also reflected that more than the two-third of the sample firms are not widely held and have single ultimate owners for Thailand accounting for 40.1%, and approximately 67.5% of the samples have top management who is related to the controlling family.

Wiwattanakantang (1999) studied the determinants of the capital structure of Thai firms. The results showed that the ownership structure of Thai non-financial firms is concentrated, and the largest shareholders of Thai firms are individuals who hold 54% of the outstanding shares while domestic corporations are the second largest shareholders. It was also found that ownership structure affects financial policy, single family owned firms which executive shareholders have a positive impact on firm leverage while large shareholders have a negative impact on the debt ratio. Kiatapiwat (2010b) stated that approximately 83% of initial sample firms in the 2005 have a controlling shareholder, and approximately 63% are controlled by Thai families. In addition, Wiwattanakantang (1999) showed that the largest shareholders of Thai firms are individuals which hold approximately 54% of the outstanding shares. The separation of ownership and control has distinguished between small firms and family-controlled firms, and the manager of the firms is often associated with the family-controlled

shareholders. Ownership concentration causes agency conflict between controlling shareholders and minority shareholders, unlike the conflicts between the ownership and management in developing countries (Shleifer & Vishny, 1997). Controlling shareholders have the substantial power to act in their own interest which may lead to the expropriation or transfer the wealth from the minority shareholders (Shleifer & Vishny, 1997). Expropriations are in several ways such as stealing profit from the firms, appointing a family member in management positions, having higher compensation than they should be, and deviating investment opportunities from the firms (La Porta et al., 2000; Mitton, 2002; Shleifer & Vishny, 1997). These expropriations remained to exist during the 1997 East Asian financial crisis (Johnson et al., 2000; Mitton, 2002).

Previous research suggested that the concentration of ownership resulted from the weakness of the legal system which is not sufficient to protect the right of minority shareholders (La Porta et al., 2000; Shleifer & Vishny, 1997). For example, the family controlling shareholders may want to retain the control of the firms because the reputation of the family can attract external financing when having poor protection of the rights of investors (La Porta et al., 2000).

2.2 Agency theory

Jensen and Meckling (1976) stated that the agency theory is based on economics concept. The theory identified the key concepts about the agents and principal, including varying benefit between agent and principal and discussing the relationship between principal and agent which is caused by a contract between two parties where one party is called principal, and the other one is called agent. The objective is to require that agent could take decision making authority on behalf of the firm, and the principal expects that the agent will create maximum benefits for the firm. However, if the agent uses the authority for other purposes such as exploitation for themselves and partisan these behaviors considered to exploitation of the benefits from the principal, the conflicts of interest between principal and agent will occur when the purposes of principal and agent are inconsistent, thus causing agency problem.

Jensen and Meckling (1976) stated that the conflicts between principal and agent could be reduced by two important mechanisms which are monitoring mechanism

and bonding mechanism. Monitoring mechanism is a mechanism used to check the management performance to control the behavior of the agent's management to ensure that decision making is in accordance with those specified in the contract. Bonding mechanism is a mechanism to give an incentive to agent for any decision that does not cause damage to principal. Nevertheless, due to the firm has different shareholder structures, the shareholder structure is thus a major reason that causes various firms to face with a different conflict of interest among the stakeholders. For instance, the firms with the dispersed shareholding structure have suffered from a conflict of interests between outside investors and managers (Berle & Means, 1932). On the other hand, the firms with concentration shareholders have suffered from a conflict of interest between outside investors and controlling shareholders (Shleifer & Vishny, 1997).

2.3 Alignment Effect Hypothesis

Alignment effect describes the relationship between controlling shareholders and non-controlling shareholders. Fan and Wong (2002) explained alignment effect theory that to reduce entrenchment effect by having controlling shareholder holds more than ever, it may be helpful to the interests of controlling shareholders that there are both managers and non-controlling shareholders corresponding to the same direction. Ownership alignment interest of management and shareholder can reduce the manager to manipulate earnings and high proportion shareholding of firms. Besides, the manager will protect the benefit of the firms and add the firm's value and not obtain the benefit of minority interest. Therefore, when holding a high proportion of management, it is as a promise that the controlling shareholder is not willing to exploit the non-controlling shareholder. In the view of non-controlling shareholders, the contract is considered reliable because if controlling shareholders continue to seek personal benefits, the value of their stocks will drop. If they manage to create a maximum value for the firm, the share price will inevitably rise, which is consistent with the study of Morck, Shleifer, and Vishny (1988) in regard to the convergence-of-interests hypothesis stating the executive holds even more shares, the market value of the firm will increase.

2.4 Entrenchment Effect Hypothesis

Entrenchment effect describes the relationship between controlling shareholders and non-controlling shareholders. Morck, Sheifer, and Vishny (1998) explained entrenchment effect hypothesis that the managers which have the large shareholders may maintain their own interest by allowing themselves to be in managerial position and high payment to themselves. The manager would not create maximized value to business. Consistent with Fan and Wong (2002), they explained that the large shareholders could control the firm and the dividend payment to shareholders. Even the minority shareholders would have the rights in cash flow according to the proportion of that holding. However, the minority shareholders may have been exploited, and controlling shareholders also seek for more personal benefit. This hypothesis explained the relationship between controlling shareholders and earnings quality. They had the authority to monitor the manager' behaviors and participate in corporate administration affair, and they could monitor the manager to manage for controlling shareholder's benefit which may affect financial reporting and earnings quality.

2.5 Ownership Structure and Controlling Shareholders

Prior several researches have studied about the ownership structure. For example, Berle and Means (1932), the authors of the Modern Corporation and Private Property, mentioned the separation of ownership and control in the corporation and found the spread of widely held corporations in the United States which dispersed ownership structure between the minority shareholders. Power of control is in the hand of the management and administered without causing the value to the firms they would manage by focusing on their own interests over the interest of the firms. Shleifer and Vishny (1986) investigated the large shareholders and corporate control. Empirical evidence showed the spread of extremely large shareholders, which is very important nowadays. According to a sample of 456 companies from Fortune 500, it was found that 354 companies had at least one holder who holds at least 5% of firm's shares, and the average holding of the large shareholders of 456 companies was 15.4%. Preliminary evidence suggested that large shareholders have a significant role in takeovers. When

large shareholders could not control the management, they will encourage third parties to make takeovers with a lot of gain to their own shares. Based on the studies of ownership structure and controlling shareholders by many researchers, the results were different in context. The results of these studies were shown in table 2.1.

Table 2.1 Previous researches on ownership structure and controlling shareholders

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Wiwattanakantang (1999) An empirical study on the determinant of the capital structure of Thai firms.	270 non-financial listed firms in 1996. The data were obtained from the Stock Exchange of Thailand.	Regression	Determinant of capital structure 1. Non-debt tax shields 2. Tangibility 3. Profitability 4. Business risk 5. Size 6. Agency variable - family firms (+) - conglomerate firms	Capital structure	Family has a positive and significant estimation associated with the level of both market and book leverage.
Thomsen and Pedersen (2000) Ownership structure and economic performance in the largest European companies.	435 non-financial companies during 1990-1995 in each of 12 European nations. The data were from Worldscope database.	Regression	Ownership structure 1. Ownership concentration 2. Family ownership (+/-) 3. Institutional investor 4. Bank ownership (+) 5. Corporate ownership (+/-) 6. Government	Economic performance	Positive effect of ownership concentration on shareholder value and profitability. Family ownership and corporate ownership have a positive and negative effect on company performance.
Wiwattanakantang (2001) Controlling shareholders and corporate value: Evidence from Thailand.	Non-financial companies listed on the Stock Exchange of Thailand and data were from the I-SIMS database.	OLS regression	1. Individual or family (+) 2. Foreign investors (+) 3. Thai government 4. A group more than one (+) 5. owns 25%-50% 6. owns 50%-75% (+) 7. owns 75%-100%	Firm performance	Individual or family, foreign investors, and a group of more than one controlling shareholders are positively associated with ROA.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Lemmon and Lins (2003) Ownership structure, corporate governance, and firm value: Evidence from the East Asian Financial crisis.	800 firms in eight East Asian countries. The data were from Worldscope and Datastream during 1995-1996.	Regression	1. Cash flow right leverage 2. High management group control 3. High management control and cash flow leverage 4. Management bolckholder 5. Management is largest blockholder	Firm value	Cash flow right leverage and management control leverage are negatively associated with the firm's value. High management control is positively associated with the firm's value.
Wei and Varela (2003) State ownership equity ownership and firm market performance: Evidence from China's newly private firms.	591 firms listed on Shanghai Stock Exchange during 1994-1996. The data were obtained from annual report and analysis of Shanghai Stock Market.	OLS regression	State ownership (-)	Firm market performance	State ownership has a negative effect on the firm's value.
Kane and Velury (2004) The role of institutional ownership in the market for auditing services: An empirical investigation.	6,870 Big 6 and 912 non-Big 6 firm-year observations. The data were from COMPUSTAT and the Compact Disclosure database during 1992-1996.	Logistic regression	Institutional ownership (+)	Auditor size	Institutional ownership is positively and significantly associated with large size auditors.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Maury and Pajuste (2005) Multiple large shareholders and firm value.	136 non-financial Finnish listed companies that have at least one large shareholder. The data were from annual report and Datastream during 1993-2000.	OLS regression	Large shareholders 1. Fraction of voting right (-) 2. Fraction of cash flow rights (-) 3. Hi-concentrate (-) 4. Hi-difference (-) 5. Multiple block (+) 6. High contestability (+)	Firm value	Large blockholder has a positive effect on the firm's value, and the result is particularly strong in family-controlled firms.
Mitra, Hossain, and Deis (2007) The empirical relationship between ownership characteristics and audit fees.	358 nonregulated industrial and non-financial firms audited by the Big five auditors in year 2000. The data were from EDGAR database, Compact disclosure database and Compustat Research Insight	OLS regression	Ownership characteristics 1. Diffused institutional stock (+) 2. Institutional blockhoder stock (-) 3. Non-institutional blockholder stock 4. Percentage stock ownership of managerial personnel (-)	Audit fees	A significant positive relationship between diffuse institutional stock ownership and audit fees. Institutional blockholder ownership and managerial stock ownership have a significant negative relationship with audit fees.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Cornett, Marcus, Saunders, and Tehranian (2007) The impact of institutional ownership on corporate operating performance.	676 firm-year observations of firms included in the S&P 100 from Standard and Poor's over the period 1993 through 2000. The data were obtained from the CDA Spectrum database.	OLS regression	Institutional investors 1. Fraction of shares owned by all institutional investors (+) 2. Ln (Number of institutional investors) (+) 3. Ln (Number of pressure-insensitive institutional investors) (+) 4. Ln (Number of pressure-sensitive institutional investors) 5. Ln (+) number of Institutional investors on board. 6. Fraction of board composed of institutional investors. 7. Fraction of firm owned by directors plus executive officer. 8. Fraction of board composed.	Firm performance	Fraction of shares owned by all institutional investors, ln (number of institutional investors), ln (number of pressure-insensitive institutional investors) and fraction of board composed of independent outside directors have a positive and significant relation on firm financial performance.
Attig, Guedhami, and Mishra (2008) Multiple large shareholders control contest, and implies cost of equity.	1,165 corporations from 8 East Asian and 13 Western European countries during 1995-1997. The data were from Worldscope and I/B/E/S database.	Regression	Multiple large shareholder 1. Excess1 (+) 2. Presence2 (-) 3. Nowners2345 (-) 4. Cont2 (-) 5. Cont2345 6. Hi_difference (+) 7. Shapleys 8. Cont2*family-family (+) 9. Cont2*family-State (-) 10. Cont2*family-Bank	Cost of equity	Exceed, Hi-difference, Cont2family-family have a significantly positive associated with cost of equity. Presence2, Nowner2345, Cont2, Cont2345, Cont2*family-family have a significantly negative with cost of equity.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Arosa, Iturralde, and Maseda (2010) Ownership structure and firm performance in non-listed firms: Evidence from Spanish	586 non-listed Spanish firms in the SABI database for 2006. The financial information was from the Spanish official Register	Regression	Ownership structure 1. Family firms 2. Generation managing 3. Family ownership concentration 4. Ownership concentration for non- family 5. FOC*Gen (+) 6. FOC^2*Gen (-)	Firm performance	Family firms in first generation have a positive relationship between ownership concentration and corporate performance.
Liu and Sun (2010) Ultimate ownership structure and corporate disclosure quality: Evidence from China.	405 Chinese listed firms in 2005. The data were from annual report, Shenzhen Stock Exchange website.	OLS regression (evaluate the rating of corporate disclosure quality) Logistic regression	Type of ultimate controlled 1. Private control (-) 2. State control 3. CASHCTRL 4. Private* CASHCTRL (+)	Corporate disclosure quality	The firm with ultimate controlled by individual has lower corporate disclosure quality than firms with ultimate controlled by the state. The negative effect of private ultimate ownership on corporate disclosure quality is stronger for firms with high deviation of cash flow rights and control rights.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Chu and Song (2011) Large shareholders, capital structure and diversification of Malaysian public listed manufacturing firms.	185 firms in the manufacturing sector in Bursa Malaysia which have their segmental reporting in the KLSE on disc during 1994-2000.	Regression	Large shareholder 1. Large shareholder and director ownership 2. Director ownership 3. Diversification (+/-) 4. Debt to equity 5. DED (excess leverage above each industrial leverage median	The difference in Tobin's Q value	At the lower level of diversification, increased diversification is found to improve the firm's value. As the number of diversifications increased, it induces a negative relation on the differences in Tobin's Q value. The interaction terms for diversification. and excessive leverage enhance the firms' performance.
Mosavi, Honarbakhsh, and Ghaedi (2013) Ownership structure and dividend policy: Evidence from the Tehran stock market	35 firms from Chemical and Medical firms listed on the Tehran Stock Exchange Regression (TSE), annual report from 2002-2008.	Regression	Ownership structure variables 1. Concentrate ownership (+) 2. Institutional ownership (+)	Dividend per share	Dividend payout is positively associated with concentrated ownership and institutional ownership.

Table 2.1 Previous researches on ownership structure and controlling shareholders (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Craninckx and Huyghebaert (2015) Large shareholders and value creation through corporate acquisitions in Europe: The identity of the controlling shareholder matters.	342 intra-European takeovers of listed target firms announced during the year 1997 and 2007.	Multivariate ordinary least squares regressions	FAM block	M&A gains	Family-controlled acquiring firms deals with substantially larger value creation, particularly in Continental Europe.
Manzaneque, Merino, and Priego (2016) The role of institutional shareholders as owners and directors and the financial distress likelihood.	70 non-financial Spanish listed firms for a continuous period from 2007 to 2012.	Logistic regression analysis.	Ownership structure and ownership director	Financial distress	Directors appointed by pressure-resistant institutional shareholders have a negative effect on business failure.
Kang, Anderson, Eom, and Kang (2017) Controlling shareholders' value, long-run firm value, and short-term performance.	Korean family controlled business group, 10 years of data, consisting of 426 group-year and 11,420 firm-year.	regression	Controlling shareholder' value	Performance (Tobin's Q)	Affiliating with non-family CEO, higher controlling shareholders' value has a relationship with high Tobin's Q.

2.6 Earnings Quality

Earnings quality means earnings from normal operation can change to cash sufficient to replacement of depreciable assets, and these earnings are derived from regular income. Earnings quality should be close to the cash flow from operation which shows that earnings arise from actual operation, and it is considered the earnings quality. Earnings quality is derived from the relationship between earnings from the accruals and cash flow as the element of earnings, and earnings are composed of high cash flow and low accruals element. Due to prior research on earnings quality, it has been popular, and there are scholars and researchers who have studied about earnings quality as discussed in the following. Vafeas (2000) investigated whether there is a difference in informativeness of earnings arising from the board and board size. Due to the results in terms of the earnings of the firms with a small board of at least five members, market participants recognize that there are more earnings informativeness. Dechow and Dichev (2002) studied the quality of accruals and earnings and suggested a new measure in perspective of the quality of working capital accruals and earnings. They discussed that the quality of accruals and earnings make the error of estimation in accrual decreased. Besides, they also have an empirical measure of earnings quality from the residual from the regression of the firm which caused from changes in working capital in the past, current, and future operating cash flow. In addition, they also found that there is a strong positive correlation between accrual quality and earnings persistence.

Francis, LaFond, Olsson, and Schipper (2005) investigated whether the investors price accrual quality, and their proxy for the information risk was associated with earnings. By measuring accrual quality as the standard deviation of residuals from regressions which related current accruals to cash flows, the results revealed that poorer earnings quality is associated with larger costs of debt and equity. Moreover, they also distinguished the difference between accruals quality which were driven by economic fundamentals and management choices. Abdelghany (2005) conducted an empirical study measuring the quality of earnings by using the sample of 90 firms listed in the New York Stock Exchange (NYSE). The analysis was to reach a general assessment of the quality of earnings if there is a complete consistency among the three approaches.

Three approaches consist of the variability of earnings, earnings surprise, and ratio of cash from operation to income. The results showed that different approaches of measuring the quality of earnings lead to different assessment, and one company could not be indicated as having low or high quality of earnings based on the result of one approach only. Jiang, Lee, and Anandarajan (2008) studied the relationship between earnings quality and corporate governance measured by using corporate governance scores. The results of the study showed evidence that the firm with the higher level of corporate governance will have the lower level of the absolute discretionary accruals and higher earnings quality. Gul, Fung, and Jaggi (2009) investigated whether the industry specialization of auditors affect the relationship between earnings quality and auditor tenure. According to the study, they found that the relationship between the lower the quality of earnings and shorter auditor tenure is weaker for the companies audited by industry specialists. Kohlbeck and Warfield (2010) investigated whether the U.S. accounting standard affects accounting quality attributes. Besides, they also analyzed the impact of earnings management, which is indicator of the accounting quality. The results showed that earnings management indicators reduces after the new standard is implemented throughout this period. Ye, Zhang, and Rezaee (2010) investigated whether the gender diversity of the top executives has an effect on earnings quality measured by using the large sample of the study from the listed companies in China. The results showed that the proxies of earnings quality including the absolute magnitude of discretionary accruals, the association between earnings and stock returns, the accuracy of forecasting future cash flows in current earnings, and earnings persistence did not have any significant relationship for the companies with female and male top executives.

Dechow, Ge, and Schrand (2010) discussed the causes of difference in measurement of earnings quality determinants and consequence of earnings quality. Various measures of earnings quality determinants included accruals, smoothness, loss avoidance, timeliness, investor responsiveness, persistence, and external indicators such as restatements and the Securities and Exchange Commission (SEC) enforcement releases. They provided suggestions that earnings quality is based on the context of the decision and also pointed out that the earnings quality is a function of the fundamental

performance of the companies. Chaney, Faccio, and Parsley (2011) studied the evidence about the accounting information quality in politically connected firms. Due to the evidence, it was found that politically connected firms significantly have worse quality of earnings than non-connected firms. Yaghoobnezhad, Nikoomaram, and Salteh (2012) examined the relationship between corporate governance and earnings quality dimensions (earnings persistence, accrual quality, and earnings predictability) of the companies listed on the Tehran Stock Exchange. The results revealed that companies which have a good performance in the past has high earnings quality, regardless of the level of corporate governance of the companies if it is strong or weak. They also found that after controlling the strength of the corporate governance, the companies have higher earnings quality. Houqe, van Zijl, Dunstan, and Karim (2012) studied the impact of mandatory IFRS adoption and the protection of investors on earnings quality in 46 countries around the world. The results showed that earnings quality increases for mandatory IFRS adoption in countries where investor protection regime with strong protection. That showed the accounting practice are influenced by country-level macro setting. Parte-Esteban and Ferrer García (2014) surveyed the impact of the firms' characteristics on the quality of earnings using the sample of hotel firms in Spain during 2000 - 2001 and using multidimensional measures of earnings quality including earnings smoothing, predictability, variability, and persistence. According to the results, they found that ownership structure, audit function, location, and internationalization are related to earnings quality in hotel firms. In addition, Lennox, Wu, and Zhang (2016) studied the effect of audit adjustment on earnings quality based on evidence from China. The result showed that audit adjustment causes earnings to be more persistence and become smooth, and it suggested that audit adjustment results in high accrual quality and a negative effect on signed accruals. Furthermore, Dauth, Pronobis, and Schmid (2017) examined the link between internationalization of top management and accounting quality. The results indicated that the high level of accounting quality is associated with the internationalization of the CFO, implying that top management internationalization mitigates the level of managerial discretion.

2.7 Controlling Shareholders and Earnings Quality

Regarding recent researches, there are many scholars who had studied about ownership structure and controlling shareholders since the shareholders are such important part in business operation, especially controlling shareholders holding sufficient shares will be entitled to participate in overseeing the management of the manager. In addition, controlling shareholders may affect the earnings quality due to controlling shareholders act to control the manager's performance, and they may intervene the manager's operation. Controlling shareholders play a role as a corporate mechanism in the relationship between the manager and shareholders. The presence of controlling shareholders can influence earnings quality. They can pursue a private benefit of control from other investors or minority shareholders which is called the entrenchment effect. Therefore, it is important to observe the effect of controlling shareholders on earnings quality in two directions where the first hand is based on alignment effect and the other hand is entrenchment effect as shown in table 2.2.

Table 2.2 Previous researches on controlling shareholders and earnings quality

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Jung and Kwon (2002) Ownership structure and earnings informativeness: Evidence from Korea.	2,820 firm-year observations of firm listed on the Korea Stock Exchange (KSE) during 1993-1998.	Regression	Ownership structure 1. Owner-largest shareholder 2. Institutional holding 3. Large blockholder	Earnings informativeness	There is a positive relationship between earnings informativeness and the owner-largest shareholder.
Francis et al. (2005) The market pricing of accruals quality.	91,280 firm-year observation over 1970-2001 with Compustat database.	Regression	Earnings quality Modified DD model. Measuring accrual quality as the standard deviation of residuals from regressions which related current accruals to cash flows	Cost of capital	Poorer accrual quality is associated with larger costs of debt and equity than firms with good accrual quality and innate accruals quality is larger.
Velury and Jenkins (2006) Institutional ownership and the quality of earnings	4,238 firm-year observations of all firms listed on Compact Disclosure, Compustat and CRSP database for the period 1992-1999.	Regression	Institutional ownership 1. Institutional ownership (+) 2. Ownership concentration (-)	Earnings quality	There is a positive association between institutional ownership and earnings quality, and there is a negative association between concentrated ownership and earnings quality.
Wang (2006b) Founding family ownership and earning quality.	4,195 firm-year observations from Lexis-Nexis. The data were from Standard & Poor's 500 companies, all data were from Compustat.	Regression	1. Founding family 2. Percentage of founding 3. CEO is founder. 4. CEO is the descendant. 5. CEO is hired from outside.	Earnings quality 1. Absolute value of abnormal accrual 2. Earnings informativeness. 3. Persistence of transitory loss component in earnings	Founding family ownership is associated with lower abnormal accrual, greater earnings informativeness, and less persistence.

Table 2.2 Previous researches on controlling shareholders and earnings quality (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Han (2006) Ownership structure and characteristics of earnings.	All firms-year observation available in Compustat database for the period 1997 to 2001, data from Compact Disclosure database.	OLS regression	Ownership structure 1. Institutional ownership (-) 2. Managerial ownership (+)	1. Absolute value of discretionary accruals 2. The standard deviation of residuals from the Dechow-Dichev model 3. Earnings smoothing 4. Persistence of return on asset.	Managerial ownership is positively associated with the absolute value of discretionary accrual, the standard deviation of residual and earnings smoothing, and negative with persistence. Institutional ownership is negatively associated with the absolute value of discretionary accrual and standard deviation of residual.
Katz (2009) Earnings quality and ownership structure: The role of private equity sponsors.	147 private firms with public debt, annual report form COMPUSTAT, CRSP, and Thomson Financials Venture Xpert.	Regression	Ownership structure 1. Private equity sponsorship (PE-backed firms) 2. Non-PE-backed	Earnings quality	Private–backed firms have a higher earnings quality than non- Private-backed firms.
Thai and Kiatniyom (2009) Accounting conservatism and controlling shareholders characteristics: Empirical evidence from Thailand.	1,733 firm-year observations, annual report, Datastream, Thompson Financial, during 2000 to 2006.	Regression	- Founding family firms (+) - Family firms (+)	Accounting conservatism	Founding family firms and family firms are positively associated with accounting conservatism.

Table 2.2 Previous researches on controlling shareholders and earnings quality (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Kiatapiwat (2010a) Controlling shareholders, audit committee effectiveness and earnings quality: The case of Thailand	883 non-financial public firms listed on the Stock Exchange of Thailand, and data were from SETSMART, Datastream, Thompson financial Worldscope database, during 2005-2007	OLS regression	1. Family controlling shareholders (+/-) 2. Widely held corporation or financial institutions 3. Government controlling shareholders (+/-) 4. Foreign controlling shareholders 5. Voting right between 25% - 50% 6. Voting right between 50% - 75% 7. Voting right at least 75%	Earnings quality	Firms with controlling shareholder, on average, are associated with both lower and higher earnings quality than firms with no controlling shareholders. Family and government controlled firms and firms with controlling shareholder have voting right below 75% are associated with both lower and higher earnings quality.
Boubaker and Sami (2011) Multiple large shareholders and earnings informativeness.	402 French publicly traded firms, and data were from the Worldscope, Datastream, annual report, during 2003-2007.	OLS regression	Multiple large shareholders 1. Ultimate cash flow right at the 10 percent (+) 2. Exceed control (-) 3. Multiple large share dummy 4. Vote21	Earnings informativeness	Earnings informativeness is significantly positively related to the ultimate cash rights and significantly negatively related to exceed control.
Cullinan, Wang, Wang, and Zhang (2012) Ownership structure and accounting conservatism in China.	Non-financial firms 3,646 firm-year in the Shenzhen Stock, and data were form CSMAR, during 2007-2009.	Regression	1 Ownership concentration 2. Percentage of largest (-) 3. Ownership constraints. 4. Percentage of second largest	Accounting conservatism	Conservatism is negatively associated with the percentage of share held by ownership percentage exceed 30%.

Table 2.2 Previous researches on controlling shareholders and earnings quality (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Jei-Fang and Shing-Jen (2013) Controlling shareholders and earnings informativeness: Evidence from Taiwan.	640 publicly listed Taiwan corporations. The data were from Taiwan Economic Journal (TEJ) database, during 2000-2009.	Regression	Controlling shareholders 1. The ratio of board 2. Pyramid 3. Cross-holding	Earnings informativeness	The ratio is significantly negatively associated with earnings informativeness. Pyramid and cross-holding are positively associated with earnings informativeness.
Liu, Saidi, and Bazaz (2014) Institutional incentives and earnings quality: The influence of government ownership in China.	8,255 firm-year observations, and data were from CCER database, China Stock Market, the Accounting Research database.	Regression	Government ownership 1. State-owned firms 2. Non-state-owned firms	Earnings quality	State-owned firms have higher discretionary current accruals than non-state-owned firms. It indicated that state-owned firms have lower earnings quality than non-state-owned firms.
Sousa and Galdi (2016) The relationship between equity ownership concentration and earnings quality evidence from Brazil.	Listed companies on the São Paulo Stock Exchange, period from1999 to 2014, and data were from the Economatica database.	Regression	Index of concentration	Earnings persistence and asymmetric timeliness	Accounting conservatism grows as the ownership becomes more concentrated, persistence of profit and hence it become less persistent.
Bao and Lewellyn (2017) Ownership structure and earnings management in emerging market: An institutionalized agency perspective.	1200 firms in 24 emerging market, listed by International Monetary Foundation (IMF) in 2012.	Regression	Percentage of largest shareholders	Discretionary earnings management	Controlling ownership is positively related to earnings management.

2.8 Information Asymmetry

Information asymmetry is evidence that market participants including large shareholders have an information advantage over the market participants that revealed through trading behavior, and the firms' information asymmetry is conditional on the types of controlling shareholder presented in the firm. In recent studies, there are many researchers who were interested in studying on information asymmetry. For example, Glosten and Milgrom (1985) tested the properties of bid and ask prices by having the specialist face with different informed traders. The existence of traders who have superior information leads to positive bid-ask spread. The increase in the quality their information and rise of insider activity lead to lager bid-ask spreads. Kim and Verrecchia (1994) studied market liquidity and volume around earnings announcements by verifying financial disclosure and information asymmetry. The results showed that there may be more information asymmetry in the announcement period than the non-announcement. The bid-ask spread increase represents more information asymmetry. The results of previous researches related to information asymmetry are different in each context as shown in the details in table 2.3.

Table 2.3 Previous researches on information asymmetry

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Gul and Qiu (2002) Corporate governance and information asymmetry in emerging financial market.	3,425 observations from 22 emerging financial market during year 1994-1996. The data were from International Federation of Stock Exchange and Worldbank.	Regression	Legal protection 1. Financial development (-) 2. Law/corporate governance 2.1 Common law 2.2 Civil law (+)	Information asymmetry	Firms in countries with strong legal protection/law enforcement and good corporate governance are associated with lower information asymmetry. Firms in countries with more developed market are also associated with lower information asymmetry.
Sunder (2003) Impact of disclosure regulation on information asymmetry case of Regulation Fair Disclosure**.**	70 firms with open call and 100 firms that restricted access, during March 1999-July 2001, database complied by CCBN Inc, IBES, Trade and quoted database, Lexis-Nexis and CSRP database.	Regression	Disclosure regulation 1. Open firms 2. Restricted firms	Information asymmetry	Restricted firms faced higher information asymmetry compare to open firms in pre-Reg. FD period.
Brown, Hillegeist, and Lo (2004) Conference calls and information asymmetry	5,754 firms consist of 34,035 firm-quarter. The data from NYSE, AMEX, NASDAQ, Trades and Quotes (TAQ) database, CRSP during year1999 to 2001.	Regression	Conference call Number of conference call held during the prior quarter (-)	Information asymmetry by measuring the level of information asymmetry	Information asymmetry is negatively associated with conference call activity.

Table 2.3 Previous researches on information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Deshmukh (2005) The effect of asymmetric information on dividend policy.	446 observations consisted of manufacturing firms that trade on NYSE or the AMEX over the period 1988-1992.	Tobit regression	Level of asymmetric information - Logarithm of the number of analysts (LOGANAL) following the firms (-)	Conventional dividend yield	Dividend is inversely related to the level of asymmetric information.
Cheng, Courtenay, and Krishnamurti (2006) The impact of increased of voluntary disclosure on market information asymmetry, informed and uniformed trading.	104 firms listed on the Stock Exchange of Singapore (SGX) at the end of year 2000, annual report and COMPUSTAT.	3LS regression	Level of voluntary disclosure 1. Self-constructed index (-) 2. Adjusted disclosure index (-)	Information asymmetry 1. relative bid-ask spreads. 2. share turnover 3.share price volatility adjusted disclosure index	There is a negative relationship between voluntary disclosure and bid-ask spread, price volatility and trading volume.
Petersen and Plenborg (2006) Voluntary disclosure and information asymmetry in Denmark.	36 firms listed on Copenhagen Stock Exchange during 1997-2000, and data were from annual report.	Regression	Level of voluntary disclosure - Disclosure score	1. Average bid-ask spread. 2. Average daily share turnover	Voluntary disclosure is negatively associated with average bid-ask spread, turnover.
Brown and Hillegeist (2007) How disclosure quality affects the level of information asymmetry.	2,204 firms-year observations were based on firms evaluated by the AIMR between 1986-1996. The data were from ISSM, COMPUSTAT, CRSP and IBES.	Probit regression	Disclosure quality Use analyst's evaluation of firms' disclosure activities	Proxies for information asymmetry. 1. The probability of inform trade (PIN)	There is a negative relationship between disclosure quality and information asymmetry. Information asymmetry is negatively associated with the quarter of annual report.

Table 2.3 Previous researches on information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Zhou (2007) Auditing standard increased accounting disclosure and information asymmetry: Evidence from an emerging market.	271 firms representing 85,474 weekly observations, the sample was from the Shanghai Stock Exchange or the ShenZhen Stock Exchange at the beginning of 1995-2001, annual report.	2LSL regression	Adoption of new auditing standard - Pre-adoption period (-) - Post-adoption period (-)	Information asymmetry -the relative spread	The firms in the sample experienced significant reductions in their bid-ask spread subsequent to the adoption of the auditing standard.
Van Buskirk (2012) Disclosure frequency and information asymmetry.	386 firms in the U.S. retail sector in the Compustat annual file. The data were from TAQ Consolidated Quoted database, I/B/E/S, and CRSP, during year1993-2000.	Regression	Announcement of earnings 1. Quarterly 2. Semi-annual 3. Annual	Proxies of information asymmetry 1. Analyst dispersion 2. Exceed spread	Frequency is positively and significantly associated with average relative spread but negatively associated with average quoted depth.
Gajewski and Quéré (2013) A comparison of the Effect of Earnings Disclosure on Information asymmetry: Evidence from the France and the U.S.	435 quarterly earnings, 127 annual earnings of U.S and 116 semi-annual earnings, 181 annual earnings, data from Thomson Analytics, IBES, BDM and TAQ, 1999 to 2001.	Regression	Announcement of earnings 1. Quarterly 2. Semi-annual 3. Annual	Proxies of information asymmetry 1. Analyst dispersion 2. Exceed spread	In the U.S., asymmetric information exists prior to interim earnings announcement but is quickly resolved. In France, spread is wider for semi-annual announcement.

Table 2.3 Previous researches on information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Alves, Canadas, and Rodrigues (2015) Voluntary disclosure, information asymmetry, and perception of governance quality.	The samples consisted of 140 listed firms from the Iberian Peninsula and Portugal 38 firms. The data were from Thomson Datastream database in 2007.	Structural equation model	Voluntary disclosure, ownership concentration	Bid-ask spread	High level of disclosure is lower of bid-ask spread. Firms with high ownership concentration increase bid- ask spread and less trade.
Fosu, Danso, Ahmad, and Coffie (2016) Information asymmetry, leverage, and firm value.	The sample of 1,446 UK firms during the period 1995-2013.	Regression	Dispersion analyst forecast	Firm value	Information asymmetry has a negative effect on the firm's value, and the effect decreases with the firm's leverage.

2.9 Controlling Shareholders and Information Asymmetry

Controlling shareholders play the important role and participate in the monitoring of the manager which may have to be diverted to resource regardless of the minority shareholders. They can also access the firm's information more than the minority shareholders causing inequality information between controlling shareholders and minority shareholders, especially in developing countries. Therefore, many researchers are interested in studying the role of controlling shareholders on information asymmetry. In the past, the results the studies on controlling shareholders and information asymmetry were shown in the following table.

Table 2.4 Previous researches related to controlling shareholders and information asymmetry

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Heflin and Shaw (2000) Blockholder ownership and market liquidity.	260 firms trading on the New York Stock Exchange and American Stock Exchange during 1988-1989, data from CIC of the Financial Analysts Federation and ISSM database.	Regression	Blockholder 1. Non-manager block % 2. Manager block % 3. Non-block manager%	Market liquidity 1. Relative spread 2. Effective spread 3. LSB adverse selection spread 4. HS adverse selection spread 5. Depth	Firms with grater blockholder ownership, manager or external entities, have greater larger quoted spread, effective spread, adverse selection spread component, and smaller quoted depth.
Jennings, Schnatterly, and Seguin (2002) Institutional ownership, information, and liquidity	47,419 quarterly observations from the first quarter of 1983 and the third quarter of 1991 for Nasdaq-listed firms, and the data were from Spectrum, ISSM, TORQ, CRSP, TAQ, and NMS.	Regression	1. Percent held by institutional (-) 2. Commercial bank 3. Insurance companies 4. Independent advisors 5. Other	Relative spread	The proportion of share held by institutional is significantly related and negative to relative spread.
Attig, Gadhoum, and Lang (2003c) Bid-ask spread, asymmetric information, and ultimate ownership.	1,167 Canadian traded corporations for the period 1994-1996. The data were from Stock Guide, TSE-Western and DataStream.	OLS regression	Ultimate owners that control at least 10 or 20 percent of voting right 1. A family or an individual (+) 2. The government 3. A widely-held financial institution	The bid-ask spread	Presence of the family increases the bid-ask spread.

Table 2.4 Previous researches related to controlling shareholders and information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Gorkittisunthorn, Jumreornvong, and Limpaphayom (2006) Insider ownership, bid-ask spread, and stock spilt: Evidence form the Stock Exchange of Thailand.	The sample consisted of 104 stock splits listed on either the Stock Exchange of Thailand or Market for Alternative Investments, during year 2000-2004, and the data were obtained from Analyst, SETSMART, and Bloomberg.	Regression	Insider ownership	The percentage change in the average of the percentage spread from the pre-split to post-split.	The results showed a statistically negative significant relationship between insider ownership and the change in the percentage bid-ask spread.
Kanagaretnam, Lobo, and Whalen (2007) Does good corporate governance reduce information asymmetry around quarterly earnings announcement?	345 firms, 2536 firm-day observations of firms listed on NYSE or the AMES, not in the utility or finance service. The data were obtained from the Investor Responsibility Research Center, in 2000.	OLS regression and 2LS regression	Corporate governance 1. Board independence (-) 2. Board structured (+) 3. Board activity (-/+) 4. Directors' and officers' percentage holding (-/+)	Information asymmetry 1. Change in bid-ask spreads (-) 2. Change in depth (+)	Changes in bid-ask spreads are significantly negatively related to board independence, board activity, the percentage holdings of directors, and officers. Changes in depth are significantly positively related to board structure, board activity, and directors' and officers' percentage holding.

Table 2.4 Previous researches related to controlling shareholders and information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Boonprasert (2009) Effect of large controlling shareholder on information asymmetry and stock liquidity: Evidence from Thai listed companies.	431 non-financial listed companies in the Stock Exchange of Thailand, data from annual report, SETSMART, Business online service, in 2008.	OLS regression	Controlling shareholders 1. Family controlled firms (+) 2. Government controlled 3. Non-controlling shareholder 4. Pyramid (+) 5. Cross-holding (+) 6. Simple	Information asymmetry	Family controlled firms, pyramid structure, and cross-holding structure are statically and positively associated with bid-ask size.
Jiang, Habib, and Hu (2011) Ownership concentration, voluntary disclosure and information asymmetry in New Zealand.	103 companies listed on the NZSX and NZAX Markets over the period 2001-2005.	OLS regression	The Herfindahl index, proxy for ownership concentration.	Proxy of information asymmetry - Bid-ask spread	In general ownership concentration is significantly positively associated with bid-ask spreads.
Ginglinger and Hamon (2012) Ownership, control, and market liquidity.	1,550 firm-year observations of all French listed firms, used the Euronext intraday database from July 1998 to July 2003.	OLS regression	1. Ownership 1.1 Family controlled firms (+/-) 1.2 Non-family controlled firms (+) 1.3 Widely-held firms 2. Ultimate ownership 2.1 Main shareholder (+/-) 2.2 Second shareholder (+/-) 2.3 Discrepancy cash flow/ control rights for the main shareholder (+/-) 3. Governance dummies 3.1 Double voting rights (-/+) 3.2 Pyramid (-/+)	Market liquidity 1. Relative effective spread 2. Log (number of transactions) 3. Log (relative turnover) 4. Log (depth)	Firm with a large insider blockholder has significant lower liquidity, and pyramid structure impairs market liquidity. Double voting rights share lead to increase liquidity.

Table 2.4 Previous researches related to controlling shareholders and information asymmetry (Cont.)

Researchers and Research Title	Data	Statistics	Independent Variables and Sign	Dependent Variables	Results
Trainor (2013) Large shareholders and firms' information asymmetry.	3,263 firm-year observations of non-financial firm covered by RiskMetrics (IRRC) from 1998 to 2000 and from 2006 to 2008 in NYSE, AMEX, and NASDAQ.	Regression	1. Percentage of large aggressive shareholder (+) 2. Aggressive large shareholder (+) 3. Moderate large shareholder (-)	Information asymmetry - SPREAD is the average daily bid-ask spread.	Aggressive large shareholders are positively associated with firms' bid-ask spread. Moderate large shareholders are negatively associated with firms' bid-ask spread.
Azandaryani, Javid, and Soleimani (2014) The study of relationship between information asymmetry and concentration of ownership with profit management in the Tehran Stock Exchange.	119 companies listed on the Tehran Stock Exchange during 2007-2012.	Regression	Concentrate of ownership - The level of ownership concentration (+)	Information asymmetry - The level of information asymmetry	There is a positive and significant relationship between ownership concentration and information asymmetry.

2.10 Information Asymmetry and Earnings Quality

A fundamental role of accounting information is to serve a basis for capital allocation. Important attribute of accounting information quality is the extent to which earnings map into cash flow, which is affected by business model and operating environment and by discretionary report from manager. A poor map of accruals reduces the content of report earnings and leads to lower earnings quality. If the ability of investors differs from process earnings, then poor earnings quality causes differentially informed investor, which then exacerbates the information asymmetry in the financial market. Prior research which studied about information asymmetry and earnings quality is such as Richardson (2000) who investigated the relationship between information asymmetry and earnings management. The results showed a significant positive relationship between information asymmetry and earnings management and suggested that when information asymmetry is high, stakeholders do not have sufficient resource and not access relevant information to monitor manager' behavior which may cause the practice of earnings management. Consistent with Wittenberg-Moerman (2008), they investigated the role of information asymmetry and the quality of the financial report from the secondary loan market. The results indicated that conservatism reporting reduces information asymmetry, and timely loss recognition also reduces bid-ask spread. According to Bhattacharya, Ecker, Olsson, and Schipper (2012) investigated direct and indirect effect between earnings quality and cost of equity and the mediating effect of information asymmetry using large sample of Value Line firms from 1993 to 2005. They found statistically evidence both direct effect from earnings quality to cost of capital and indirect effect mediated by information asymmetry. Furthermore, corresponding to Bhattacharya, Desai, and Venkataraman (2013a), the study was conducted to investigate the association between earnings quality and information asymmetry from trading cost, using samples of NYSE and NASDAQ firms from 1998-2007. They found poor earnings quality is significant associated with higher information asymmetry and suggested that poor earnings quality pronounces an impact on firms operating in poor information asymmetry such as small firms and those with low institutional ownership and low analyst as shown in the following.

Table 2.5 A summary of proxies of controlling shareholders used in prior studies

Proxies of Controlling Shareholders	Prior Studies
1. Family or individual	Wiwattanakantang (2001), Wiwattanakantang (1999), La Porta et al. (1999), Thomsen and Pedersen (2000), Arosa et al. (2010), Boonprasert (2009), Ginglinger and Hamon (2012), Thai and Kiatniyom (2009), Kiatapiwat (2010a), Wang (2006b). Wang (2006a), Lang (2003a), Jiang et al. (2011), Xu, Wang, and Anandarajan (2012), Maury and Pajuste (2005)
2. Government agency or state	Wiwattanakantang (2001), La Porta et al. (1999), Wiwattanakantang (1999), Thomsen and Pedersen (2000), Wei and Varela (2003), Liu and Sun (2010), Boonprasert (2009), Kiatapiwat (2010a), Liu et al. (2014), Attig et al. (2003a), Xu et al. (2012), Maury and Pajuste (2005)
3. Foreign institutional or individual	Wiwattanakantang (2001), Wiwattanakantang (1999), Kiatapiwat (2010a), Xu et al. (2012), Attig et al. (2003a), Xu et al. (2012), Firth, Fung, and Rui (2007)
4. Institutional ownership	Thomsen and Pedersen (2000), Kane and Velury (2004), Mitra et al. (2007), Cornett et al. (2007), Mosavi et al. (2013), Velury and Jenkins (2006), Han (2006), Jung and Kwon (2002)), Jennings et al. (2002), Moradi and Nezami (2011)
5. Managerial ownership	Warfield, Wild, and Wild (1995), Morck et al. (1988), Niehaus (1989), Lemmon and Lins (2003), Chu and Song (2011), Jei-Fang and Shing-Jen (2013), Han (2006), Gorkittisunthorn et al. (2006), Heflin and Shaw (2000), Jiang et al. (2011), Mitra et al. (2007)
6. Concentration ownership	Niehaus (1989), Thomsen and Pedersen (2000), Maury and Pajuste (2005), Cullinan et al. (2012), Mosavi et al. (2013), Boubaker and Sami (2011), Velury and Jenkins (2006), Jung and Kwon (2002), Azandaryani et al. (2014), Moradi and Nezami (2011), Park (1997)

Table 2.5 A summary of proxies of controlling shareholders used in prior studies (Cont.)

Proxies of Controlling Shareholder	Prior Studies
7. Bank ownership	Thomsen and Pedersen (2000), Kiatapiwat (2010a), Attig et al. (2003a)
8. Corporate ownership	Thomsen and Pedersen (2000), Kiatapiwat (2010a), Attig et al. (2003a)
9. Deviation of cash flow rights from control rights	Liu and Sun (2010)
10. Ultimate cash flow rights minus ultimate voting rights	Attig et al. (2008)
11.Corporation	Maury and Pajuste (2005)
12. Financial institution	Maury and Pajuste (2005)
13. Pyramid structure	Boonprasert (2009), Ginglinger and Hamon (2012), Jei-Fang and Shing-Jen (2013)
14. Cross-holding structure	Jei-Fang and Shing-Jen (2013), Boonprasert (2009)
15. Simple structure	Boonprasert (2009)
16. More than one controlling shareholder	Wiwattanakantang (2001), Wiwattanakantang (1999)
17. Level of voting rights	Wiwattanakantang (2001), Kiatapiwat (2010a)
18. Collective-owned firm	Xu et al. (2012)
19. Society-organization-owned firm	Xu et al. (2012)
20. Employee-owned firm	Xu et al. (2012)
21. Cash flow rights leverage	Lemmon and Lins (2003)
22. Non-family controlled firms	Ginglinger and Hamon (2012)
23. Widely-held firms	Ginglinger and Hamon (2012)
24. Non-controlling shareholder	Boonprasert (2009)
25. Aggressive monitor	Trainor (2011), Trainor (2013)
26. Moderate monitor	Trainor (2011), Trainor (2013)
27. A group more than one controlling shareholders	Wiwattanakantang (2001), Boubaker and Sami (2011)

Table 2.6 A summary of proxies of information asymmetry used in prior studies

Proxies of Information Asymmetry	Prior Studies
1. Bid-ask Spread	Gajewski and Quéré (2013), Van Buskirk (2012), Zhou (2007), Kanagaretnam et al. (2007), Petersen and Plenborg (2006), Cheng et al. (2006), Lombardi Yohn (1998), Sunder (2003), Azandaryani et al. (2014), Trainor (2013), Jiang et al. (2011), Gorkittisunthorn et al. (2006), Attig et al. (2003a), Jennings et al. (2002), Heflin and Shaw (2000), Ginglinger and Hamon (2012), Boonprasert (2009), Wittenberg-Moerman (2008), Trainor (2011)
2. Bid-ask depth	Sunder (2003), Kanagaretnam et al. (2007), Van Buskirk (2012), Gajewski and Quéré (2013), Heflin and Shaw (2000), Ginglinger and Hamon (2012)
3. Analyst dispersion	Gajewski and Quéré (2013), Valipor, Rostami, and Salehi (2009), (Deshmukh (2005), Li and Zhao (2008)
4. Probability of informed trade (PIN) EKO model	Brown et al. (2004), Brown and Hillegeist (2007)
5. Share turnover	Petersen and Plenborg (2006), Cheng et al. (2006), Ginglinger and Hamon (2012)
6. Percentage of effective spread	Bhattacharya, Desai, and Venkataraman (2013b), Bhattacharya et al. (2012)
7. Percentage price impact of trades	Bhattacharya et al. (2013b), Bhattacharya et al. (2012)
8. Log (number of transaction)	Ginglinger and Hamon (2012)
9. Log (relative turnover)	Ginglinger and Hamon (2012)
10. Log (depth)	Ginglinger and Hamon (2012)
11. Predict return deviation to real return	Okpara (2010)
12. Dividend prediction mistake	Valipor et al. (2009)
13. Analyst earnings forecast errors	Li and Zhao (2008)
14. Logarithm of the number of analyst following the firms	Deshmukh (2005)
15. Relative bid-ask spread	Cheng et al. (2006), Petersen and Plenborg (2006), Chung, Fung, and Hung (2012)
16. Share price volatility	Cheng et al. (2006)
17. Average daily share turnover	Petersen and Plenborg (2006)
18. Average relative spread	Van Buskirk (2012)
19. Average quoted depth	Van Buskirk (2012)
20. Excess spread	Gajewski and Quéré (2013)
21. Public information precision	Trainor (2011)

Table 2.7 A summary of proxies of earnings quality used in prior studies

Proxies of Earnings Quality	Prior Studies
1. Absolute value of discretionary accrual from Jones model	Ye et al. (2010), Jiang et al. (2008), Kiatapiwat (2010a), Moradi and Nezami (2011)
2. Absolute value of discretionary accrual from Modified Jones model	Kiatapiwat (2010a), Velury and Jenkins (2006), Firth et al. (2007), Katz (2009), Han (2006), Velury and Jenkins (2006), Bhattacharya et al. (2012)
3. Standard deviation of residual from Dichow-Dichev model	Dechow and Dichev (2002), Kiatapiwat (2010a), Han (2006), Kiatapiwat (2010a), Yaghoobnezhad et al. (2012), Bhattacharya et al. (2012)
4. Standard deviation of residual from Francis model	Francis et al. (2005), Bhattacharya et al. (2013b)
5. Absolute value of discretionary accrual form Kothari (2005)	Jiang et al. (2008), Ye et al. (2010),
6. Absolute value of discretionary accrual from Ball and Shivakumar (2006)	Gul et al. (2009), Wang (2006a), Xu et al. (2012)
7. Discretionary accruals measure based on the method used in Ashbaugh et.al. (2003)	Chaney et al. (2011)
8. Discretionary accrual based on DeFond and Park model	Houqe et al. (2012)
9. Absolute value of discretionary accrual from Jones model implemented by Tucker and Zarowin (2206)	Trainor (2011)
10. Absolute value of residual modified by McNicol (2002)	Trainor (2011)
11. Earnings persistence	Yaghoobnezhad et al. (2012), Ye et al. (2010), Parte-Esteban and Ferrer García (2014), Velury and Jenkins (2006), Moradi and Nezami (2011)
12. Earnings predictability	Yaghoobnezhad et al. (2012), Parte-Esteban and Ferrer García (2014), Velury and Jenkins (2006), Kohlbeck and Warfield (2010), Ye et al. (2010)
13. Earnings smoothing	Kohlbeck and Warfield (2010), Parte-Esteban and Ferrer García (2014), Liu et al. (2014), Han (2006)
14. Variability of earnings	Parte-Esteban and Ferrer García (2014), Xu et al. (2012)
15. Correlation between accruals and cash flows	Kohlbeck and Warfield (2010), Xu et al. (2012)
16. Variability of earnings over cash flow	Xu et al. (2012)

Table 2.7 A summary of proxies of earnings quality used in prior studies (Cont.)

Proxies of Earnings Quality	Prior Studies
17. Operating cash ratio to operating earnings	Moradi and Nezami (2011)
18. Persistent growth rate of earnings	Moradi and Nezami (2011)
19. Gross earnings ratio	Moradi and Nezami (2011)
20. Receivable accounts quality	Moradi and Nezami (2011)
21. Adjusted R^2 values from FLOS	Bhattacharya et al. (2013b)
22. Timely loss recognition	Wittenberg-Moerman (2008), Katz (2009), Liu et al. (2014), Kiatapiwat (2010a), Cullinan et al. (2012), Thai and Kiatniyom (2009)
23. Return-earnings relation	Warfield et al. (1995), Firth et al. (2007), Jei-Fang and Shing-Jen (2013), Wang (2006a), Jung and Kwon (2002), Boubaker and Sami (2011), Vafeas (2000), Ye et al. (2010), Velury and Jenkins (2006)
24. Abnormal accounting accrual design by Healy (1985) DeAngelo Z1986,1988) Liberty and Zimmerman.	Warfield et al. (1995)
25. Persistence of return on asset	Han (2006)
26. Persistence of transitory loss component in earnings	Wang (2006a)
27. The cash flow-earnings relationship	Velury and Jenkins (2006), Kohlbeck and Warfield (2010)
28. The earnings response coefficient (ERC)	Velury and Jenkins (2006)
29. Value relevance	X. Liu et al. (2014)
30. Timely loss recognition	X. Liu et al. (2014)
31. Operating cash index	Abdelghany (2005), Moradi and Nezami (2011)

Table 2.8 A summary of signs of controlling shareholders used in prior studies with earnings quality

Controlling Shareholders	Positive Relation with Earnings Quality	Negative Relation with Earnings Quality
1. Controlling shareholders	Warfield et al. (1995), Jung and Kwon (2002), Wang (2006a), Velury and Jenkins (2006), Firth et al. (2007), Thai and Kiatniyom (2009), Katz (2009), Kiatapiwat (2010a), Boubaker and Sami (2011), Moradi and Nezami (2011), Xu et al. (2012)	Warfield et al. (1995), Han (2006), Velury and Jenkins (2006), Kiatapiwat (2010a), Boubaker and Sami (2011), Cullinan et al. (2012), Jei-Fang and Shing-Jen (2013)
2. Family or individual	Wang (2006a), Thai and Kiatniyom (2009), Kiatapiwat (2010a),	Kiatapiwat (2010a), Xu et al. (2012)
3. Government agency	Xu et al. (2012)	
4. Foreign institutional or individual	Firth et al. (2007), Xu et al. (2012)	
5. Institutional investor	Velury and Jenkins (2006), Moradi and Nezami (2011),	Han (2006)
6. More than one controlling shareholder	Boubaker and Sami (2011),	

Table 2.9 A summary of signs of controlling shareholders used in prior studies with information asymmetry

Controlling Shareholders	Positive Relation with Information Asymmetry	Negative Relation with Information Asymmetry
1. Controlling shareholders	Heflin and Shaw (2000), Attig et al. (2003b), Boonprasert (2009), Jiang et al. (2011), Trainor (2011), Ginglinger and Hamon (2012), Trainor (2013), Azandaryani et al. (2014)	Heflin and Shaw (2000), Jennings et al. (2002), Attig et al. (2003b), Gorkittisunthorn et al. (2006), Jiang et al. (2011), Ginglinger and Hamon (2012)
2. Family or individual	Attig et al. (2003b), Boonprasert (2009), Ginglinger and Hamon (2012)	Gorkittisunthorn et al. (2006)
3. Government agency	Boonprasert (2009)	Attig et al. (2003b)
4. Institutional investor		Jennings et al. (2002), Attig et al. (2003b), Jiang et al. (2011)

Table 2.10 A summary of signs of information symmetry used in prior studies with earnings quality

	Positive Relation with Information Asymmetry	**Negative Relation with Information Asymmetry**
Information asymmetry		Wittenberg-Moerman (2008), Bhattacharya et al. (2012), Bhattacharya et al. (2013a)

Table 2.11 Predicted sign of variables

Independent Variable	Dependent Variable	
	Information Asymmetry	Earnings Quality
1. Controlling shareholders	+	+
2. Information asymmetry		-

CHAPTER 3
RESEARCH METHODOLOGY

This chapter discussed the research methodology used to test the hypotheses including the conceptual framework, research design, data collection, tools and processes. It further described the measurement of proxies controlling shareholders, information asymmetry, and earnings quality and definition of variables. In this study, the controlling shareholders and information asymmetry are the independent variables whereas the earnings quality is the dependent variable. This study examined the relationships among controlling shareholders, information asymmetry, and earnings quality.

3.1 Conceptual Framework

The conceptual framework used in this study was shown in figure 3.1 below.

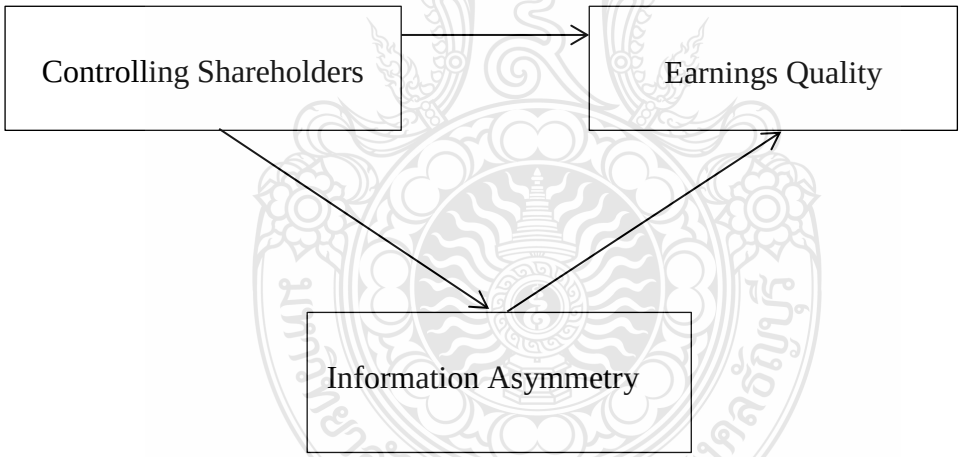

Figure 3.1 Conceptual Model

From the conceptual framework in figure 3.1, a control variable of the study was firm size for earnings quality since firm size is associated with earnings quality as shown in the literature review in the previous chapter. Nonetheless, the model without firm size was presented in this study. For the model with firm size as a control variable, it was represented in Appendix.

The definitions of the variables in the model were as follows:

3.1.1 Controlling shareholder is defined based on voting rights as a shareholder who owns 25% or more of the firm's share (La Porta et al., 1999; Wiwattanakantang, 2001). The 25% was employed as a cutoff level following the definition of controlling shareholder from the Stock Exchange of Thailand. This level of voting right should be sufficient to allow a controlling shareholder to effectively control the firm. The controlling shareholders may be corporate, foreign, government agency, more than one group, individual, or family.

3.1.2 Information asymmetry is the condition that different information among market participants causes inequality of information between the controlling shareholders and minority shareholders. Information asymmetry is related to the idea that one party has better information than the other one, especially information about value relevant enterprise. In response, the spread between the bid and ask price are widen, thereby lowering liquidity. Therefore, information symmetry was measured by bid-ask spread. Bid-ask spread is the average annual bid-ask spread measured by (Ask price – Bid price)/ ((Ask price + Bid price)/2) *100.

3.1.3 Earnings quality means earnings from normal operation can change to cash sufficient to replacement of depreciable assets, and these earnings are derived from regular income. Earnings quality should be close to the cash flow from operation which shows that earnings arise from actual operation and is considered the earnings quality. Earnings quality is derived from the relationship between earnings from the accruals and cash flow as the element of earnings, and earnings are composed of high cash flow and low accruals element. This study measured earnings quality by using discretionary accruals, and the high level of discretionary accruals indicated that low earnings quality. Another measure of earnings quality was operating cash index.

3.1.4 Discretionary accruals are accrual items which are not caused by normal operation of the firm and have no relationship with the operation cash flow, which cannot be explained by the cash flow in the past, present, and future, and they are calculated as the difference between the total accruals and normal accruals. Discretionary accurals are used to measure earnings quality based on the concept that the earnings quality is derived from the relationship earnings, accuals, and cash flow

which is the component of earnings. Earings which are composed of high discretionary accruals are low earnings quality. On the other hand, earnings which are composed of low discretionary accruals are high earnings quality. Accruals are reflected as cash earnings and would have a negative relationship with earnings quality (Schipper & Vincent, 2003).

3.1.5 Operating cash index is a measure of earnings quality by comparing the cash flow from operation to net income. This index indicated that if companies could generate cash flow equaling to net income, it showed the earnings due to the actual operation and is considered the earnings quality. This index represents the earnings quality. If the index was closed to or equal to 1, it showed that earnings quality remained good. On the other hand, if cash flow from operation have been negative for several years while net income is positive or higher than cash flow from operation, the earnings are considered to be poor.

The study was conducted using cross-sectional data to examine the relationship between controlling shareholder and information asymmetry on quality of earnings. Independent variables include controlling shareholder and information asymmetry which the controlling shareholder measure by the percentage of shares held in the firm**.** Another independent variable is information asymmetry as measured by the bid-ask spread, computed from the different between annual ask price and bid price of shares traded divided by average of ask and bid price. The dependent variable in this study is earnings quality measure by discretionary accrual from Modified-Jones (1991) model and Francis model because the model widely used in prior study. The controls variables use in this study are derived from a review of literature from prior study, as shown in the table below.

Table 3.1 A summary of signs of control variables of information asymmetry used in prior studies

Variables	Positive with Information Asymmetry	Negative with Information Asymmetry
1. Firm size	Gorkittisunthorn et al. (2006), Trainor (2011), Van Buskirk (2012)	Heflin and Shaw (2000), Attig et al. (2003a), Gorkittisunthorn et al. (2006), Jiang et al. (2011), Ginglinger and Hamon (2012), Trainor (2013), Azandaryani et al. (2014), Van Buskirk (2012), Zhou (2007), Brown and Hillegeist (2007), Kanagaretnam et al. (2007), Petersen and Plenborg (2006), Cheng et al. (2006), Brown et al. (2004)
2. Return volatility (standard deviation of daily return)	Heflin and Shaw (2000), Jennings et al. (2002), Attig et al. (2003a), Ginglinger and Hamon (2012), Jennings et al. (2002), Van Buskirk (2012), Zhou (2007)	Van Buskirk (2012), Kanagaretnam et al. (2007)
3. Growth		Trainor (2011)
4. The ratio of book value to market value		Trainor (2011)
5. Share (stock) price	Heflin and Shaw (2000), Van Buskirk (2012)	Jennings et al. (2002), Attig et al. (2003a), Van Buskirk (2012), Kanagaretnam et al. (2007)
6.Trading size (volume)	Kanagaretnam et al. (2007)	Heflin and Shaw (2000)
7. Share turnover	Van Buskirk (2012), Boonprasert (2009)	Heflin and Shaw (2000), Van Buskirk (2012), Gorkittisunthorn et al. (2006)
8. Lagged quarterly volume		Jennings et al. (2002)
9. Number of market makers at the beginning of quarter		Jennings et al. (2002)
10. Natural log of return volatility	Trainor (2013)	
11. Trading frequency		Attig et al. (2003a)
12. Logarithm of price	Boonprasert (2009)	Gorkittisunthorn et al. (2006), H. Jiang et al. (2011)
13. Absolute abnormal trading volume		H. Jiang et al. (2011)
14. Leverage	Azandaryani et al. (2014)	Trainor (2011), Brown and Hillegeist (2007)
15. Loss		Trainor (2011)
16. Cash flow from operation scaled by total assets	Trainor (2011)	
17. Litigation		Trainor (2011)
18. Natural log of mean daily share traded	Trainor (2013)	
19. Beta	Plenborg (2006)	Azandaryani et al. (2014)
20. Logarithm of debt sum		Azandaryani et al. (2014)
21. The ratio of market value to book value of equity		Azandaryani et al. (2014)

Table 3.1 A summary of signs of control variables of information asymmetry used in prior studies (Cont.)

Variables	Positive with Information Asymmetry	Negative with Information Asymmetry
22. Natural log of analyst following	Van Buskirk (2012)	Van Buskirk (2012)
23. Number of analyst		Brown and Hillegeist (2007), Brown et al. (2004)
24. Dispersion (standard deviation of analyst forecast earnings per share)		Brown and Hillegeist (2007)
25. Earnings volatility		Brown and Hillegeist (2007)
26. Book value of equity scaled by total liability	Plenborg (2006)	
27. Degree of consensus among analysts	Brown et al. (2004)	

Table 3.2 A summary of signs of control variables of earnings quality used in prior studies

Variables	Positive with Earnings Quality	Negative with Earnings Quality
1. Firm size	Ferdinand A. Gul et al. (2009), Houqe et al. (2012), Parte-Esteban and Ferrer García (2014), Warfield et al. (1995), Han (2006), Firth et al. (2007), Katz (2009)	Jiang et al. (2008), Wang (2006b), Han (2006), Thai and Kiatniyom (2009), Kiatapiwat (2010a), Jei-Fang and Shing-Jen (2013)
2. Market to book value of equity	Jiang et al. (2008), Chaney et al. (2011), Warfield et al. (1995), Han (2006), Thai and Kiatniyom (2009), Kiatapiwat (2010a)	Han (2006), Cullinan et al. (2012)
3. Leverage	Jiang et al. (2008), Parte-Esteban and Ferrer García (2014), Firth et al. (2007), Jei-Fang and Shing-Jen (2013)	Houqe et al. (2012), Chaney et al. (2011), Warfield et al. (1995), Wang (2006b), Han (2006), Velury and Jenkins (2006), Thai and Kiatniyom (2009), Kiatapiwat (2010a), Boubaker and Sami (2011), Cullinan et al. (2012)
4. Volatility of operating cash flow	Jiang et al. (2008)	
5. Sale growth	Gul et al. (2009), Houqe et al. (2012), Wang (2006b), Han (2006), Katz (2009), Kiatapiwat (2010a)	
6. Cash flow form operation divided by total assets		Gul et al. (2009), Jiang et al. (2008), Houqe et al. (2012), Firth et al. (2007)
7. Lag loss	Houqe et al. (2012)	

Table 3.2 A summary of signs of control variables of earnings quality used in prior studies (Cont.)

Variables	Positive with Earnings Quality	Negative with Earnings Quality
8. Standard deviation of sale growth	Chaney et al. (2011)	
9. Loss	Wang (2006b), Firth et al. (2007), Katz (2009)	Parte-Esteban and Ferrer García (2014), Velury and Jenkins (2006), Jei-Fang and Shing-Jen (2013)
10. Sale volatility		Parte-Esteban and Ferrer García (2014)
11. Standard deviation of cash flow scaled by total asset (cash flow volatility)		Parte-Esteban and Ferrer García (2014)
12. Risk	Han (2006), Firth et al. (2007)	Warfield et al. (1995)
13. Standard deviation of earnings		Warfield et al. (1995)
14. ROA	Wang (2006b), Firth et al. (2007)	Katz (2009), Kiatapiwat (2010a)
15. Firm age		Wang (2006b), Kiatapiwat (2010a)
16. Percent change in total asset from prior year	Velury and Jenkins (2006)	
17. Ratio of market value to the book value of assets	Firth et al. (2007), Jei-Fang and Shing-Jen (2013)	Jei-Fang and Shing-Jen (2013)
18. Book value of equity divided by total assets	Katz (2009)	
19. Profitability	Katz (2009)	
20. Quick ratio	Katz (2009)	
21. Cash and short-term investment divided by total asset	Katz (2009)	
22. Cash flow from operation	Kiatapiwat (2010a)	
23. Return volatility	Kiatapiwat (2010a)	
24. Market to book value of equity divided by total asset	Boubaker and Sami (2011)	

3.2 Measurement of Controlling Shareholders

Controlling shareholder is defined based on voting rights as a shareholder who owns 25% or more of the firm's share (La Porta et al., 1999; Wiwattanakantang, 2001). The 25% was employed as a cutoff level following the definition of controlling shareholder from the Stock Exchange of Thailand. This level of voting right should be sufficient to allow a controlling shareholder to effectively control the firm. The controlling shareholders may be corporate, foreign, government agency, more than one group, individual, or family. The controlling shareholderings are as follows:

Controlling shareholdings = *f* (Proxies of controlling shareholders)

Controlling shareholdings = Percentage of shareholding for 25% or more

3.3 Measurement of Information Asymmetry and Model

The measurement of information asymmetry was the bid-ask spread which was used in the extant literature including Glosten and Milgrom (1985), Richardson (2000), Trainor (2013), Gajewski and Quéré (2013), Van Buskirk (2012), Zhou (2007), Kanagaretnam et al. (2007), Petersen and Plenborg (2006), Cheng et al. (2006), Lombardi Yohn (1998), Sunder (2003), Azandaryani et al. (2014), Trainor (2013), Jiang et al. (2011), Gorkittisunthorn et al. (2006), Attig et al. (2003a), Jennings et al. (2002), Heflin and Shaw (2000), Ginglinger and Hamon (2012), Boonprasert (2009), Wittenberg-Moerman (2008), and Trainor (2011). Information asymmetry was calculated from bid-ask spread, which is the annual bid-ask spread which is a percentage of the average bid-ask price over the fiscal year. The model used in the hypotheses testing H_1 was as follows.

$$IA_{i,t} = \beta_O + \beta_1 CS_{i,t} + \varepsilon_{i,t}$$

The variables above were defined as follows:

IA means bid-ask spread is the average bid-ask spread measured by (Ask price – Bid price)/((Ask price + Bid price)/2) *100; where

CS means the percentage of share held by controlling shareholders; and ε is an error term.

3.4 Measurement of Earnings Quality and Model

This study measured discretionary accrual based on the Modified-Jones (1991) model modified by Dechow, Sloan, and Sweeney (1995) using the discretionary accrual as a measure of earnings quality. The calculation procedure was shown below.

Step 1: Total accruals were calculated by equation 1 as follows:

$$TA_{it} = NI_{it} - CFO_{it} \quad (1)$$

Where:

TA_{it} = Firm i's total accruals in year t;

NI_{it} = Firm i's net income in year t; and

CFO_{it} = Firm i's cash flow from operation in year t taken from the statement cash flow.

Step 2: The coefficient in equation 2 was calculated using the TA_{it} form equation 1.

$$\frac{TAit}{Ai,t-1} = \alpha_{1t}\frac{1}{Ai,t-1} + \alpha_{2t}\frac{\Delta REVit - \Delta ARit}{Ai,t-1} + \alpha_{3t\ t}\frac{PPEit}{Ai,t-1} + error_{it} \quad (2)$$

Where:

α_{1t} = Firm i's constant in year t;

α_{2t}, α_{3t} = Firm i's coefficient estimate in year t;

$A_{i,t-1}$ = Firm i's total asset in year t;

$\Delta REV_{i,t}$ = Firm i's change in revenue between year t-1 and year t; and

$PPE_{i,t}$ = Firm i's gross value of property, plant, and equipment in year t.

Step 3: The coefficient in equation 2 was used to calculate nondiscretionary accrual according by using equation 3 below:

$$NDA_{it} = \alpha_{1t}\frac{1}{Ai,t-1} + \alpha_{2t}\frac{\Delta REVit - \Delta ARit}{Ai,t-1} + \alpha_{3t}\frac{PPEit}{Ai,t-1} \quad (3)$$

Where:

NDA_{it} = Firm i's nondiscretionary accrual from in year t.

Step 4: The discretionary accrual was calculated in equation 4 using the TA_{it} from equation 1 and NDA_{it} from equation 3 as shown in the equation below.

$$DA_{it} = \frac{TA_{it}}{A_{it}} - NDA_{it} \quad (4)$$

Where:

DA_{it} = Firm i's discretionary in year t.

Another accrual-based measurement of earnings quality was based on Francis et al. (2005), and the model was shown as follows:

$$\frac{TCA_{i.t}}{AA_{i,t}} = \emptyset_{0,i} + \emptyset_{1,i}\frac{CFO_{i,t-1}}{AA_{i.t}} + \emptyset_{2,i}\frac{CFO_{i,t}}{AA_{i.t}} + \emptyset_{3,i}\frac{CFO_{i,t+1}}{AA_{i.t}} + \emptyset_{4,i}\frac{\Delta REV_{i,t}}{AA_{i,t}} + \emptyset_{5,i}\frac{PPE_{i.t}}{AA_{i,t}} + e_t$$

Where:

$TCA_{i,t}$ = Firm's i total current accruals in year t, which is calculated from

$TCA_{i,t}$ = $\Delta CA_{i,t} - \Delta CL_{jit} - \Delta Cash_{i,t} + \Delta STDEBT_{i,t}$;

$AA_{i,t}$ = Firm's i average total assets in year t;

$CFO_{i,t}$ = Firm's i total cash flow from operation in year t, taken from the statement of cash flows.

$NI_{i,t}$ = Firm's i net income in year t;

$TA_{i,t}$ = Firm's i total accrual in year t, which is calculated from below:

$TA_{i,t}$ = $\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STDEBT_{i,t} - DEPN_{i,t}$

$\Delta CA_{i,t}$ = Firm's i change in current assets between year t-1 and year t;

$\Delta CL_{i,t}$ = Firm's i change in current liabilities between year t-1 and year t;

$\Delta Cash_{i,t}$ = Firm's i change in cash between year t-1 and year t;

$\Delta STDEBT_{i,t}$ = Firm's i change in debt in current liability between year t-1 and year t;

$DEPN_{i,t}$ = Firm's i depreciation and amortization expense in year t;

$\Delta REV_{i,t}$ = Firm's i change in revenues between year t-1 and year t; and

$PPE_{i,t}$ = Firm's i gross value of PPE in year t.

The absolute value of the error derived from the model above was discretionary accruals.

Another measure of earnings quality was operating cash index, and this proxy was employed by following the work of Abdelghany (2005) and Moradi and Nezami (2011). The calculation was as follows:

$$\text{Operating cash index} = \frac{\text{Cash flow from operation}_{i,t}}{\text{Net income}_{i,t}}$$

This index represented the earnings quality, and the analysis was that if the index was close to or equal to 1, it showed that earnings quality remained good. On the other hand, if cash flow from operation was negative for several years while net income was positive or higher from cash flow from operation, the earnings were considered to be poor.

The model to test the effect of controlling shareholders and information asymmetry on earnings quality was shown as follows:

$$DAMJ_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \varepsilon_{i,t}$$

$$DAFC_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \varepsilon_{i,t}$$

$$OCI_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \varepsilon_{i,t}$$

$$IA_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \varepsilon_{i,t}$$

$$DAMJ_{i,t} = \beta_0 + \beta_1 IA_{i,t} + \varepsilon_{i,t}$$

$$DAFC_{i,t} = \beta_0 + \beta_1 IA_{i,t} + \varepsilon_{i,t}$$

$$OCI_{i,t} = \beta_0 + \beta_1 IA_{i,t} + \varepsilon_{i,t}$$

$$DAMJ_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \beta_2 IA_{i,t} + \varepsilon_{i,t}$$

$$DAFC_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \beta_2 IA_{i,t} + \varepsilon_{i,t}$$

$$OCI_{i,t} = \beta_0 + \beta_1 CS_{i,t} + \beta_2 IA_{i,t} + \varepsilon_{i,t}$$

The definitions of the variables were discussed below:

CS = Controlling shareholders computed from percentage of share held by controlling shareholders;

IA = Information asymmetry measured by bid-ask spread;

DAMJ = Earnings quality measured by discretionary accruals from modified Jones model;

DAMJ = Earnings quality measured by discretionary accruals from Francis model; and

OIC = Operating cash index.

3.5 Data Processing

The samples in this study were listed companies from all industries on the Stock Exchange of Thailand during 2012 - 2014, excluding the delisting companies, companies under rehabilitation, financial service industries, property funds, companies with incomplete information, newly listed companies, and companies which did not have controlling shareholder in all three years. Besides, the samples used in this study were companies which have shareholders who held 25% of the shares or above.

The data used in this study were secondary data. The information of shareholdings were collected from the annual reports which were collected by the

Securities and Exchange Commission, Thailand, and supplement of ownership data were from SETSMART which were collected by the Securities and Exchange Commission, Thailand. In addition, ultimate shareholder data were collected from SETSMART, Business Online service, and books that contain related information including sources of reliable information. Due to bid-ask spread data, they were also collected from SETSMART. Finally, the data used in the model collected for testing the hypotheses were collected from the annual reports and supplement from SETSMART. The researcher had a sample selection of the study based on the qualifying criteria above which were in details as follows:

Table 3.3 Number of samples and observations used in this study

Industry Group	**2012**	**2013**	**2014**	**Total**
Agro and food industry	27	27	27	
Consumer products	20	20	20	
Industrial	51	51	5	
Property and construction	44	44	44	
Resources	19	19	19	
Service	53	53	53	
Technology	28	28	28	
Total firm-year observations	242	242	242	726

3.6 Data Analysis

In this study, the researcher collected quantitative data in order to investigate the effect of controlling shareholder and information asymmetry on earnings quality. The researcher further used statistical methods corresponding to such study by using statistical analysis of the two features including the descriptive statistics and inferential statistics.

3.6.1 Descriptive Statistics

Descriptive statistics used to describe the characteristics of the basic features and data distribution consisted of mean, standard deviation, median, minimum, and

maximum of the variables used in this study which included controlling shareholder, information asymmetry, and earning quality.

3.6.2 Structural Equation Modeling (SEM)

Structural equation model is a statistical analysis technique used to determine the relation cause and effect as well as to analyze exogenous variable and endogenous variable. This study used structural equation modeling (SEM) based on the conceptual framework with empirical data by using path analysis and analysis of structural equation modeling (SEM) in order to test the effect of controlling shareholders on earnings quality. Then, the effect of controlling shareholders on information asymmetry was analyzed, and the subsequent analysis was to test the effect of information asymmetry on earnings quality Finally, the effect of controlling shareholder on earnings quality trough information asymmetry was investigated. The data were analyzed by using standardized statistical method.

The indices were used to check the consistency of the model with empirical data which were shown in the following section.

1) Chi-square used to indicate that the model is consistent with empirical data must have *p*-value > 0.05.

2) The value of Chi-square/Degree of freedom should be less than 2.00.

3) The value of Root Mean Square Residual (RMR) should be less than 0.05.

4) The value of Comparative Fit Index (CFI) should be up to 9.00 and close to 1.00.

5) The value of Good if Fit Index (GFI) should be up to 9.00 and close to 1.00.

6) The value of Adjusted Goodness of Fit Index (AGFI) should be up to 9.00 and close to 1.00.

7) The value of Normed Fit Index (NFI) should be up to 9.00 and close to 1.00.

8) The value of Root Mean Square Error of Approximation (RMSEA) should be less than 0.05.

9) The value of Hoelter's Critical Number (CN) should be greater than 200 indicating that the sample size was large enough for analysis.

CHAPTER 4
RESEARCH RESULTS

This chapter presented the research results consisting of two sections. The first section provided the descriptive statistics of the variables used in the study including controlling shareholders, information asymmetry, and earnings quality. The second section discussed the empirical results of hypotheses testing by using structural equation modeling. Finally, the summary of all hypotheses testing was also provided.

4.1 Descriptive Information on Controlling Shareholders

The samples of the study were the listed companies from all industries on the Stock Exchange of Thailand during 2012-2014, with shareholding of 25% or more, excluding the delisting companies, companies under rehabilitation, financial service industries, property funds, companies with incomplete information, newly listed companies, and companies which did not have controlling shareholder in all three years. Therefore, the final sample were 242 listed companies. The number of samples for each industry was shown in the following table.

Table 4.1 The samples for each industry

Industry	**Number of Companies**	**Controlling Shareholders**	**Percent of Companies with CS**	**Average Percentage of Shareholding**		
				2012	**2013**	**2014**
Agro and food industry	50	27	54	48.92	48.59	48.59
Consumer	41	20	48.78	52.35	50.72	51.45
Industrial	87	51	58.62	53.95	54.38	54.34
Property and construction	157	44	28.03	47.72	47.20	47.20
Resources	46	19	41.3	50.88	49.72	48.46
Service	104	53	50.96	51.60	51.94	52.13
Technology	40	28	70	49.96	47.32	46.54
Total	525	242	46.28	50.77	50.77	49.82

Table 4.1 presented information on controlling shareholders which showed that companies from the industrial industry were accounted for 58.62 percent which was the highest percentage compared to all industries, followed by the agro and food industry and the service industry, which were accounted for 54 and 50.96 percent, respectively. The industry which had the lowest percentage of shareholding was the resources industry, which was accounted for 41.30 percent. The average percentage of shareholding during 2012-2014 were 50.77, 50.77, and 49.82, respectively. It could be seen that the percentage of controlling shareholders in each industry was close. Therefore, this study was not conducted separately in each industry.

4.2 Descriptive Statistics of Variables

The data were collected from the annual reports which were collected by the Securities and Exchange Commission, Thailand, and supplement of ownership data were from SETSMART which were collected by the Securities and Exchange Commission, Thailand. There were three types of variables used in this study consisting of independent variables, mediating variable, and dependent variables. The data were analyzed by using the descriptive statistics which included mean, median, and standard deviation of the variables used in this study. The data were further examined whether distribution was normal or not. Also, if there were abnormal or extreme values, the data were then adjusted. The results showed that the data did not have normal distribution due to the nature of data collected from secondary data. The results were shown in table 4.2 as follows.

Table 4.2 Descriptive statistics of variable (726 data)

Variable	Mean	Std. Deviation	Maximum	Minimum	Skewness	Kurtosis
CS	50.53	15.54	95.76	25.14	0.354	-0.611
BASPREAD	1.90	2.83	21.92	0.27	4.059	19.09
ABSDAMJ	0.148	0.13	1.36	0.01	3.94	29.23
ABSDAFC	0.27	2.13	32.00	0.01	13.97	204.00
OCINDEX	2.86	24.04	307.58	-84.14	10.04	120.37

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Bid-ask spread is the average bid-ask spread measured by (Ask price – Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ is Absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.

This study reduced the different data by taking a log value using the log 10 conversion with the bid-ask spread (BASPREAD), discretionary accruals from modified Jones model (ABSDAMJ), and discretionary accruals from Francis model (ABSDAFC). The extreme values of operating cash index (OCINDEX) were cut out to solve the problem of highly different values. Thus, the new variables of this study included log bid-ask spread (lgBASPREAD), log discretionary accruals from modified Jones model (lgABSDAMJ), log discretionary accruals from Francis model (lgABSDAFC), and operating cash index (OCINDEX) with normal or nearly normal distribution. The descriptive statistics of new variables were shown in table 4.3.

Table 4.3 Descriptive statistics of variable after using the log 10 conversion (726 data)

Variable	Mean	Std. Deviation	Maximum	Minimum	Skewness	Kurtosis
CS	50.45	15.61	95.76	25.14	0.36	-0.61
lgBASPREAD	0.08	0.35	1.34	-0.57	1.30	1.65
lgABSDAMJ	-0.95	0.33	0.13	-0.199	-0.21	0.22
lgABSDAFC	-1.06	0.37	1.51	-2.06	1.87	11.88
OCINDEX	1.20	5.08	31.53	-39.19	-0.27	25.40

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.

Table 4.3 showed descriptive statistics of the variables which were adjusted with normal distribution, and these were basic statistics and the data were described by types of variables used in this study.

1. Controlling shareholders (CS): The mean value of 50.45 percent with the minimum value of 25.14 percent, the maximum value of 95.76 percent, the standard deviation value of 15.61, the skewness value of 0.367, and the kurtosis value of -0.617.

2. Log bid-ask spread (lgBASREAD): The mean value of 0.08 with the minimum value of -0.57, the maximum value of 1.34, the standard deviation value of 0.35, the skewness value of 1.30, and the kurtosis value of 1.65.

3. Log absolute discretionary accruals from modified Jones model (lgABDAMJ): The mean value of -0.95 with the minimum value of -1.99, the maximum value of 0.13, the standard deviation value of 0.33, the skewness value of -0.21, and the kurtosis value of 0.22.

4. Log absolute discretionary accruals from Francis model (lgABDAFC): The mean value of -1.06 with the minimum value of -2.06, the maximum value of 1.51, the standard deviation value of 0.37, the skewness value of 1.87, and the kurtosis value of 11.88.

5. Operating cash index (OCINDEX): The mean value of 1.20 with the minimum value of -39.19, the maximum value of 31.53, the standard deviation value of 5.08, the skewness value of -0.27, and the kurtosis value of 25.40.

To analyze the variables used in this study to determine the lowest and the highest statistic values among the mean value, the results showed that the lgBASPREAD variable had the lowest mean value of -1.06, and the CS variable had the highest mean value of 50.45. Regarding the standard deviation values, the lgABDAMJ had the lowest standard deviation value of 0.33 while the CS variable had the highest standard deviation value of 15.61. Due to the maximum values, the lgABDAMJ had the lowest maximum value of 0.13, and the CS had the highest maximum value of 95.76. Among the minimum values, the OCINDEX had the lowest maximum value of -39.19 whereas the CS had the highest minimum value of 25.14. As for the skewness values, the OCINDEX had the lowest values of -0.27, and the lgABSDAFC had the highest skewness values of 1.87. Finally, due to the kurtosis values, the CS had the lowest kurtosis value of -0.61 while the OCINDEX had the highest kurtosis value of 25.40.

4.3 Structural Equation Modeling Analysis

4.3.1 Normal Distribution Testing

According to table 4.3, the descriptive statistics showed the characteristics of the data derived from actual source. The researcher adjusted data by taking log values and checking whether the data had the normal distribution or not. This was determined by the skewness and kurtosis value, which were both positive and negative direction (Tabachnick, Fidell, & Osterlind, 2013). The data were normal distribution when skewness value is between -3 and +3, and the acceptable kurtosis value should be between -10 and +10 (Kline, 2015). For kurtosis value, Decarlo (1997) stated that the data which have normal distribution should have kurtosis value around -3 to +3. From this study, each variable had a skewness value from 0.27 to 1.87 and kurtosis value from -0.61 to 25.40, it could be concluded that the data used in this study had normal distribution according to the criteria mentioned.

4.3.2 Multicollinearity Test

In structural equation modeling, the independent variables must be independent. (Hair, Black, Babin, & Anderson, 2010). The problem of multicollinearity occurs when the independent variables are highly correlated to each other (Hair et al., 2010; Pallant, 2010; Tabachnick and Fidell, 2013).

Table 4.4 Correlation matrix of controlling shareholders and information asymmetry on earnings quality

	CS	**BASPREAD**	**ABSDAMJ**	**ABSDAFC**	**OCINDEX**
CS	1.00				
BASPREAD	0.176*	1.00			
ABSDAMJ	0.089	0.290*	1.00		
ABSDAFC	0.056	0.040	0.353*	1.00	
OCINDEX	0.117	-0.066	-0.055	-0.083	1.00

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.
Note: * Correlation is significant at the significance level of 0.05.

Table 4.3 showed the correlation coefficients indicating the size and direction of the relationship between each pair of variables. Regarding the size of the correlation coefficient, Devore and Peck (1993) observed that if the correlation values are less than -0.80 or greater than 0.80, the two variables are highly correlated. If the correlation values are between -0.50 to -0.80 or 0.50 to 0.80, the two variables are moderately. If the correlation values are between -0.50 to 0.50, the two variables are less correlated. The result of the correlation coefficient analysis in this study showed that the correlation coefficient was 0.176 indicating that the independent variable was less correlated. The relationships among variables were explained as follows.

1. Controlling shareholders (CS): The CS variable had the relationship in the same direction with the log bid-ask spread (lgBASPREAD) variable with the correlation

value of 0.176*, meaning that the increase in CS was associated with the increase in lgBASPREAD, or the decrease in CS was associated with the decrease in lgBASPREAD. Therefore, the relationship between CS and lgBASPREAD was low but statistically significant at a significance level of 0.05.

2. Controlling shareholders (CS): The CS variable had the relationship in the same direction with the log discretionary accruals from modified Jones model (lgABSDAMJ) variable with the correlation value of 0.089, meaning that the increase in CS was associated with the increase in lgABSDAMJ, or the decrease in CS was associated with the decrease in lgABSDAMJ. Therefore, the relationship between CS and lgABSDAMJ was low and statistically insignificant.

3. Controlling shareholders (CS): The CS variable had the relationship in the same direction with the log discretionary accruals from Francis model (lgABSDAFC) variable with the correlation value of 0.056, meaning that the increase in CS was associated with the increase in lgABSDAFC, or the decrease in CS was associated with the decrease in lgABSDAFC. Therefore, the relationship between CS and lgABSDAFC was low and statistically insignificant.

4. Controlling shareholders (CS): The CS variable had the relationship in the same direction with the operating cash index (OCINDEX) variable with the correlation value of 0.117, meaning that the increase in CS was associated with the increase in OCINDEX, or the decrease in CS was associated with the decrease in OCINDEX. Therefore, the relationship between CS and OCINDEX was low and statistically insignificant.

5. Log bid-ask spread (lgBASPREAD): The lgBASPREAD variable had the relationship in the same direction with the log discretionary accruals from modified Jones model (lgABSDAMJ) variable with the correlation value of 0.290*, meaning that the increase in lgBASPREAD was associated with the increase in lgABSDAMJ, or the decrease in lgBASPREAD was associated with the decrease in lgABSDAMJ. Therefore, the relationship between lgBASPREAD and lgABSDAMJ was low, but statistically significant at a significance level of 0.05.

6. Log bid-ask spread (lgBASPREAD): The lgBASPREAD variable had the relationship in the same direction with the log discretionary accruals from Francis

model (lgABSDAFC) variable with the correlation value of 0.040, meaning that the increase in lgBASPREAD was associated with the increase in lgABSDAFC, or the decrease in lgBASPREAD was associated with the decrease in lgABSDAFC. Therefore, the relationship between lgBASPREAD and lgABSDAFC was low and statistically insignificant.

7. Log bid-ask spread (lgBASPREAD): The lgBASPREAD variable had the relationship in the opposite direction with the operating cash index (OCINDEX) variable with the correlation value of -0.066, meaning that the increase in lgBASPREAD was associated with the decrease in OCINDEX, or the decrease in lgBASPREAD was associated with the increase in OCINDEX. Therefore, the relationship between lgBASPREAD and OCINDEX was low and statistically insignificant.

Due to the results of the correlation matrix analysis of variables, it could be concluded that variables used in this study had low relationship with and were independent from each other. Therefore, the inferential analysis could be used as the following analysis.

4.4 Structural Equation Modeling Analysis of a Proposal Model

The data were analyzed by using the structural equation modeling (SEM) technique. The structural equation modeling is a casual analysis of the influence of independent variables on dependent variables from empirical data. The method based on regression analysis could explain the size and direction of each path in the model. By using SEM, the data are analyzed and verified the harmony or consistency of the empirical data whether they are consistent or not.

The content of this part was to analyze the overall relationship by using the structural equation modeling analysis to test the hypotheses and the relationships among the variables in this study. The structural equation modeling analysis consisted of two exogenous variables and three endogenous variables which analyzed to investigate the influence of the variables. The structural model was shown in figure 4.1.

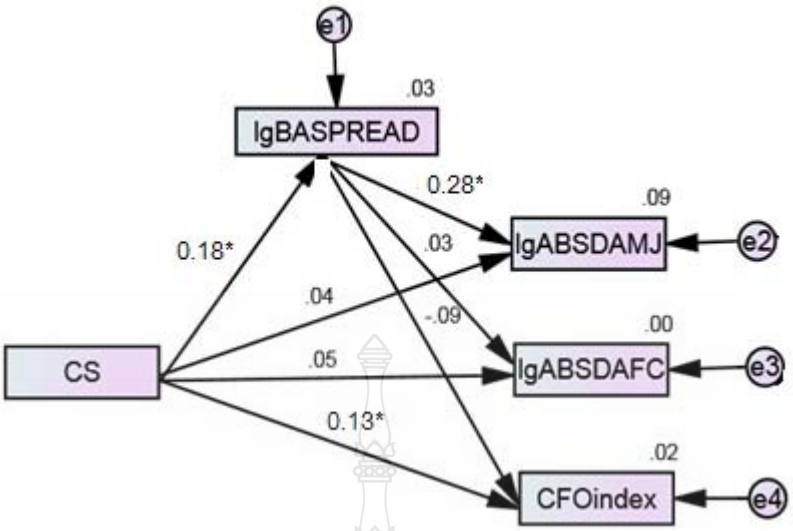

Figure 4.1 The Structural Model for Hypotheses Testing before Modification Indices

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.
* Significant at the significance level of 0.05.

Table 4.5 Measuring model fit of structural model

Model Fit Criteria	Value	Acceptable Level Value
Chi-Square	34.619	-
Degree of freedom	3	-
CMIN/df	11.540	< 3
p-value	0.000	$p > 0.05$
GFI	0.948	< 0.08
AGFI	0.741	> 0.09
NFI	0.505	> 0.09
CFI	0.472	> 0.09
RMSEA	0.209	> 0.09

Considering table 4.5, the results of the model fit testing were as follows: Chi-Square = 34.619, Degree of freedom = 3, CMIN/df = 11.540, *p*-value = 0.000, GFI = 0.948, AGFI = 0.741, NFI = 0.505, CFI = 0.472, and RMSEA = 0.209. The values showed that the model was not consistent with empirical data. Thus, the researcher adjusted the model based on the modification indices by adding covariance between residual errors e2 and e3. The model after modification indices was depicted in figure 4.2.

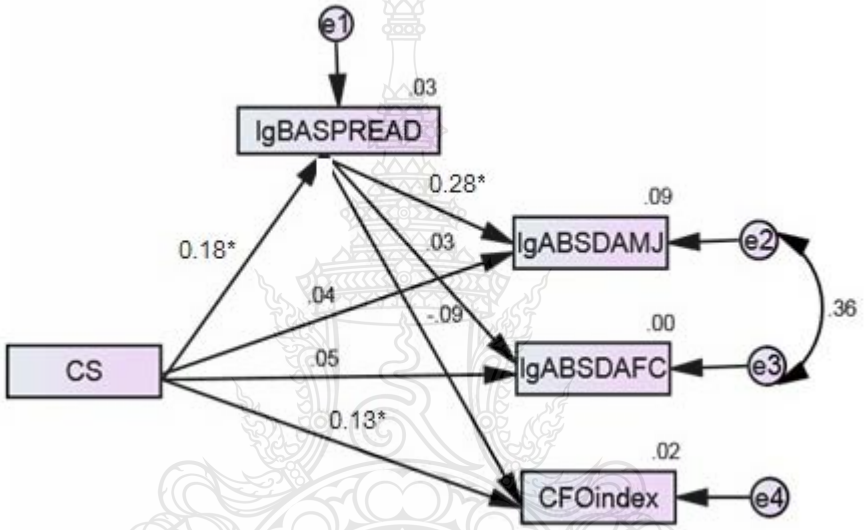

Figure 4.2 The Structural Model for Hypotheses Testing after Modification Indices

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.

* Significant at the significance level of 0.05.

After conducting the modification indices of the model, the results of model fit were as follows: Chi-Square = 1.896, Degree of freedom = 4, *p*-value = 0.000, GFI = 0.997, AGFI = 0.977, NFI = 0.973, CFI = 1.000, and RMSEA = 0.000 as shown in table 4.6. Therefore, the results showed that the models were combined with empirical data.

Table 4.6 Measuring model fit of structural model after modification indices

Model Fit Criteria	Value	Acceptable Level Value
Chi-Square	1.896	-
Degree of freedom	2	-
CMIN/df	0.948	< 3
p-value	0.387	$p > 0.05$
GFI	0.997	< 0.08
AGFI	0.977	> 0.09
NFI	0.973	> 0.09
CFI	1.000	> 0.09
RMSEA	0.000	> 0.09

4.5 Hypotheses Testing

After the model was evaluated, the results were used in the hypotheses testing. All of the results were used to examine the effects of controlling shareholders and information asymmetry on earnings quality of the listed companies on the Stock Exchange of Thailand during 2012-2014. There were four hypotheses which were tested consisting of 1) Controlling shareholders have a negative effect on earnings quality, 2) Controlling shareholders have a positive effect on information asymmetry, 3) Information asymmetry has a negative effect on earnings quality, and 4) Controlling shareholders have a negative effect on earnings quality through information asymmetry. The controlling shareholders were exogenous variables while information asymmetry was the mediating variable, and earnings quality was the endogenous variable. The results of the unstandardized estimates, standardized estimates, critical ratios, and *p*-value of parameter estimates of the variables were shown in table 4.7 below.

Table 4.7 Regression results

Path		Predicted	STD	USTD	S.E.	C.R.	*P*	Results
Dependent	**Independent**	**Sign**	**Estimate**	**Estimate**				
ABSDAMJ	CS	-	0.040	0.001	0.001	0.632	0.528	Not supported
ABSDAFC	CS	-	0.051	0.001	0.002	0.781	0.435	Not supported
OCINDEX	CS	+	0.133	0.043	0.021	2.050	0.040*	Supported
BASPREAD	CS	+	0.176	0.004	0.001	2.768	0.006*	Supported
ABSDAMJ	BASPREAD	+	0.283	0.272	0.060	4.519	0.000*	Supported
ABSDAFC	BASPREAD	+	0.031	0.033	0.069	0.469	0.639	Not supported
OCINDEX	BASPREAD	-	-0.089	-1.292	0.935	-1.382	0.167	Not supported

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income.

* Significant at the significance level of 0.05.

Due to table 4.7 which tested the research model after the model was consistent with the empirical data, the results were as follows. The controlling shareholders had a positive effect on earnings quality, which were measured by operating cash index, with a regression weight value of 0.133 and a critical value of 2.050 (p-value < 0.05).

The controlling shareholders had a positive effect on information asymmetry with the regression weight of 0.176 and critical value of 2.768 (p-value < 0.05). The information asymmetry had a positive effect on earnings quality, measured by discretionary accruals from modified Jones model, with a regression weight of 0.28 and critical value of 4.519 (p-value < 0.05).

The total effects, indirect effects, direct effects of controlling shareholders and information asymmetry on earnings quality were presented in table 4.8.

Table 4.8 Standardized direct, indirect, and total effects of the model

	BASPREAD			ABSDAMJ			ABSDAFC			OCINDEX		
	DE	**IE**	**TE**	**DE**	**IE**	**TE**	**DE**	**IE**	**TE**	**DE**	**IE**	**TE**
CS	0.176*		0.176	0.040	0.05*	0.089	0.051	0.005	0.056	0.133*	-0.016	0.117
ABSDAMJ	0.283*		0.283									
ABSDAFC	0.031		0.031									
OCINDEX	-0.089		-0.089									

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income; DE = Direct effect; IE= Indirect effect; TE = Total effect.
* Significant at the significance level of 0.05.

From table 4.8 above, the results of the model consisted of standardized direct effect, standardized indirect effect, and standardized total effect, and the indirect effect of information asymmetry was tested by using bootstrapping. When considering the influence toward information asymmetry, it was found that information asymmetry received a direct effect from controlling shareholders with the positive effect of 0.176 ($p < 0.05$). According to the effect toward earnings quality measured from discretionary accruals according to modified Jones model, it was found that discretionary accruals received a direct effect from information asymmetry with the positive effect of 0.283 ($p < 0.05$). As for the effect toward earnings quality measured from operating cash index, it was found that operating cash index received a direct effect from controlling shareholders with the positive effect of 0.133 ($p < 0.05$).

This study used bootstrapping technique to generate t-statistic to test the significant indirect effect to measure variables and coefficients and the standard path coefficients. Bootstrapping solution is in general SEM because the issue is related to statistical inference, which harms the strategic role of the method.

Regarding the effect of controlling shareholders on earnings quality through information asymmetry, there were three observation variables. The effect of controlling shareholders on earnings quality through information asymmetry showed a value factor as follows. The controlling shareholders has an indirect effect which was 0.05 where *p*-value was than 0.05. This indicated that the indirect effect of controlling

shareholders on earnings quality through information asymmetry was significant. It could be concluded that information asymmetry was a mediating variable between controlling shareholders and earnings quality.

4.6 Summary of Hypothesis Testing

H1a: Controlling shareholders have a negative effect on discretionary accruals from modified Jones model.

Due to an analysis of the effect of controlling shareholders on discretionary accruals from modified Jones model, the results showed that the regression weight was 0.040, critical ratio was 0.632, and *p*-value was 0.528. Thus, these showed that controlling shareholders did not have a significant effect on discretionary accruals from modified Jones model. Consequently, it could be concluded that H1a was not supported.

H1b: Controlling shareholders have a negative effect on discretionary accruals from Francis model.

According to an analysis of the effect of controlling shareholders on discretionary accrual from Francis model, the results showed that the regression weight was 0.051, critical ratio was 0.781, and *p*-value was 0.435. Thus, the results indicated that controlling shareholders did not have a significant effect on discretionary accruals from Francis model. Consequently, it could be concluded that H1b was not supported.

H1c: Controlling shareholders have a positive effect on operating cash index.

Regarding an analysis of the effect of controlling shareholders on operating cash index, the results showed that the regression weight was 0.133 while critical ratio was 2.050, and *p*-value was 0.040 indicating that controlling shareholders had a significant effect on operating cash index. Thus, it could be concluded that H1c was supported.

H2: Controlling shareholders have a positive effect on information asymmetry.

According to an analysis of the effect of controlling shareholders on information asymmetry, the results showed that the regression weight was 0.176 whereas critical ratio was 2.768, and *p*-value was 0.006. Therefore, these showed that controlling shareholders had a significant effect on information asymmetry. Consequently, it could be concluded that H2 was supported.

H3a: Information asymmetry has a positive effect on discretionary accruals from modified Jones model.

Regarding an analysis of the effect of information asymmetry on discretionary accruals from modified Jones model, the results showed that the regression weight was 0.283, critical ratio was 4.519, and *p*-value was less than 0.05. Thus, the results indicated that information asymmetry had a significant effect on discretionary accrual from modified Jones model. Consequently, it could be concluded that H3a was supported.

H3b: Information asymmetry has a positive effect on discretionary accruals from Francis model.

Due to an analysis of the effect of information asymmetry on discretionary accruals from Francis model, the results showed that the regression weight was 0.031, and critical ratio was 0.469 while *p*-value was 0.639 indicating that information asymmetry did not have a significant effect on discretionary accrual from Francis model. Thus, it could be concluded that H3b was not supported.

H3c: Information asymmetry has a negative effect on operating cash index.

Regarding an analysis of the effect of information asymmetry on operating cash index, the results showed that the regression weight was -0.089, critical ratio was -1.382, and *p*-value was 0.167. The results showed that information asymmetry did not have a significant effect on operating cash index, and it therefore could be concluded that H3a was not supported.

H4a: Controlling shareholders have a positive effect on discretionary accruals from modified Jones model through information asymmetry.

According to analysis of the effect of controlling shareholders on discretionary accruals from modified Jones model through information asymmetry, the results showed that controlling shareholders had a significant positive direct effect on information asymmetry where because the regression weight was 0.176 and *p*-value was less than 0.05. Moreover, information asymmetry also had a significant positive direct effect on discretionary accruals from modified Jones model since the regression weight was 0.283 and *p*-value was less than 0.05. When considering the indirect effect of controlling shareholders on discretionary accrual from modified Jones model through

information asymmetry, there result revealed that there was a significant indirect effect since *p*-value was less than 0.05. Thus, it could be concluded that H4a was supported.

H4b: Controlling shareholders have a positive effect on discretionary accruals from Francis model through information asymmetry.

According to an analysis of the effect of controlling shareholders on discretionary accruals from Francis model through information asymmetry, the results showed that controlling shareholders had a significant positive direct effect on information asymmetry with the regression weight of 0.176 and *p*-value < 0.05. Besides, information asymmetry had an insignificant effect on discretionary accruals from Francis mode as the regression weight was 0.031, and *p*-value was 0.639. When considering the indirect effect of controlling shareholders on discretionary accrual from modified Jones model through information asymmetry, the result showed that the indirect effect was not significant because *p*-value was more than 0.05. Therefore, it could be concluded that H4b was not supported.

H4c: Controlling shareholders have a negative effect on operating cash index through information asymmetry.

Regarding an analysis of the effect of controlling shareholders on operating cash index through information asymmetry, the results showed that controlling shareholders had a significant positive direct effect on information asymmetry the regression weight of 0.176 and *p*-value < 0.05. Furthermore, information asymmetry had an insignificant effect on operating cash index since the regression weight was -0.089 and *p*-value was 0.167. When considering the indirect effect of controlling shareholders on operation cash index through information asymmetry, it was found that the indirect effect was not significant because *p*-value was more than 0.05. Thus, it could be concluded that H4c was not supported.

Table 4.9 Summary of hypotheses testing

Hypotheses	Descriptions	Results
H1a	Controlling shareholders have a negative effect on discretionary accruals from modified Jones model.	Not supported
H1b	Controlling shareholders have a negative effect on discretionary accruals from to Francis model	Not supported
H1c	Controlling shareholders have a positive effect on operating cash index.	Supported
H2	Controlling shareholders have a positive effect on information asymmetry.	Supported
H3a	Information asymmetry has positive effect on discretionary accruals from modified Jones model.	Supported
H3b	Information asymmetry has positive effect on discretionary accruals from Francis model.	Not supported
H3c	Information asymmetry has negative effect on operating cash index.	Not supported
H4a	Controlling shareholders have a positive effect on discretionary accruals from modified Jones model through information asymmetry.	Supported
H4b	Controlling shareholders have a positive effect on discretionary accruals from Francis model through information asymmetry.	Not supported
H4c	Controlling shareholders have a negative effect on operating cash index through information asymmetry.	Not supported

CHAPTER 5
CONCLUSION AND RECOMMENDATION

This chapter presented the results and was divided into four parts. The first part was a summary of methodology and research findings. The second part contained the discussions of research questions. The third part discussed the limitations of the study. The last part provided the implications of practice which presented the research findings and guidelines regarding the effects of ownership structure, board of directors, and organizational performance on the stock turnover through voluntary disclosure as well as suggestions for future research.

This study aimed to investigate the effects of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure. The objectives were 1) to investigate the effects of ownership structure, board of directors, and organizational performance on voluntary disclosure, 2) to investigate the effects of ownership structure and board of directors on organizational performance, 3) to investigate the effect of voluntary disclosure on stock turnover, 4) to investigate the effect of ownership structure on stock turnover, and 5) to investigate the effects of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure.

There were five research questions as follows:

Research question 1: Do ownership structure, board of directors, and organization performance affect voluntary disclosure?

Research question 2: Do ownership structure and board of directors affect the organizational performance?

Research question 3: Does voluntary disclosure affect stock turnover?

Research question 4: Does ownership structure affect stock turnover?

Research question 5: Do ownership structure, board of directors, and organizational performance affect stock turnover through voluntary disclosure?

Ownership structure was composed of independent variables such as ownership concentration, managerial ownership, state ownership, and foreign ownership. Board of directors consisted of independent variables such as executive

board, chairman/CEO duality, and independent of the board. Organizational performance comprised independent variables such as return on equity. Stock turnover was a dependent variable whereas voluntary disclosure was a mediating variable.

There were eight hypotheses conducted for the study as shown in the following.

H1: There is an effect of ownership structure on voluntary disclosure.

H2: There is an effect of board of directors on voluntary disclosure.

H3: There is an effect of organizational performance on voluntary disclosure.

H4: There is an effect of ownership structure on organizational performance.

H5: There is an effect of board of directors on organizational performance.

H6: There is an effect of voluntary disclosure on stock turnover.

H7: There is an effect of ownership structure on stock turnover.

H8: There are the effects of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure.

The study was to investigate the effects of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure of 323 Thai listed companies on the 2014 annual report. The researcher collected the data of voluntary disclosure from the 2014 annual report and analyzed the data with descriptive statistics in order to examine the mean and standard deviation of ownership structure, board of directors, organizational performance, voluntary disclosure, and stock turnover. Correlation coefficient was also used to find the relationships between independent variables, which were shareholder structure, board of directors, organizational performance, level of voluntary disclosure, and stock turnover. Moreover, the data were analyzed by using the structural equation model (SEM) which was used to investigate the predictive relationships by examining the influences of ownership structure, board of directors, organizational performance, voluntary disclosure, and stock turnover. Bootstrap analysis was also applied to find the predictive relationships by studying the influences of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure, which was a mediating variable at a significance level of .05. The research findings were as follows.

The findings revealed that based on 476 registered companies on the SET in 2014, 323 companies were found to have the annual report for this study. The majority of these companies were from the property and construction and services industry which was accounted for 21.67%, followed by industrial industry (17.96%) and agro and food industry (11.46%), respectively. The technology, resources, and consumer products industries were accounted for less than 10%, respectively.

The study on the shareholder structure showed that the average ratio of the five major shareholders (MAINFIVE) was 59.12, and the average ratio of the shareholder by executive (DIRCAP) was 15.20. Moreover, the government held the shares of the company (STATEOWNER) for about 1.48 on average whereas the foreign investors held some shares of the company (FORSTATE) for 7.70 on average. Regarding the study on the board of directors, the average ratio of executive board (BOARDEXE) was 32.15 while the average percentage of board members who are independent by board of directors (IND_DIRECTOR) was 38.53, and the roles classification of chairman and president (CHAI_CEO) was 0.63 on average. As for the study on organizational performance, return on equity (ROE) was 8.08 on average. Due to the study on voluntary disclosure, the results showed that the average ratio of strategic information, non-financial information, and financial information (VOLUNTAR) was 0.37. Finally, the study on stock turnover revealed that the average ratio of the value of shares traded (TURNOVER) was 3.69.

According to these research findings, the index of voluntary disclosure had the reliability measured by Cronbach's alpha coefficient at 0.774. Thus, it was acceptable that the data were reliable. Voluntary disclosure of the registered companies on the SET had the average at 0.37 where the highest was 0.66, and the lowest was 0.11.

5.1 Discussion of the Research Findings

This section provided discussion the research findings in various aspects according to five research questions.

5.1.1 Discussion of Research Question 1

Research question 1: Do ownership structure, board of directors, and organizational performance affect voluntary disclosure of listed companies on the Stock

Exchange of Thailand in 2014? The results of the analysis with inferential statistics based on this research question and the research hypotheses were as follows:

H1a: There is a negative effect of ownership concentration on voluntary disclosure. Thus, the result supported the hypothesis H1a. This was consistent with the researches of Morck, Shleifer, and Vishy (1988), Demsetz (1983), Fama and Jensen (1983), Chau and Gray (2002, pp. 247-65), Chakroun and Matoussi (2012), and Kabir (2014).

H1b: There is a negative effect of managerial ownership on voluntary disclosure. Thus, this result did not support the hypothesis H1b. This was consistent with the researches of Kateb (2012) and Vu (2012).

H1c: There is a negative effect of state ownership on voluntary disclosure. Thus, this result did not support the hypothesis H1c. This was consistent with the research of Alves (2011). Nonetheless, this was inconsistent with the researches of Dhouibi and Mamoghli (2013), Sheu, Liu, and Yang (2008) and Vu (2012).

H1d: There is a positive effect of foreign ownership on voluntary disclosure. Thus, the result supported the hypothesis H1d. This was consistent with the researches of Bradbury (1992), Haniffa and Cooke (2002), Wang, Sewon, and Claiborne (2008), Barako (2007), Chakroun and Matoussi (2012), and El-Gazzar, Fornaro, and Jacob (2006).

H2a: There is a positive effect of executive board on voluntary disclosure. Thus, this result did not support the hypothesis H2a. This was consistent with the researches of Fama and Jensen (1983a, 1983b), Wright (1996), Eng and Mak (2013).

H2b: There is a positive effect of chairman/CEO duality on voluntary disclosure. Thus, this result did not support the hypothesis H2b. This was consistent with the researches of Fama and Jensen (1983a, 1983b), Wright (1996), and Eng and Mak (2013).

H2c: There is a positive effect of independent the board of directors on voluntary disclosure. Thus, this result did not support the hypothesis H2c. This was consistent with the researches of Alves (2011) and Dhouibi and Mamoghli (2013). However, this was in contrast to the research of Ho and Wong (2001).

H3a: There is a positive effect of organizational performance on voluntary disclosure. Thus, the result supported the hypothesis H3a. This was consistent with the researches of Haniffa and Cooke (2002, pp. 317-319), Foster (1986), and Ahmed and Nichools (1994, pp. 62-77). Nevertheless, it was incontrast to the researches of Despina, Anastasios and Antonios (2011), Despina, Anastasios and Antonios (2011), Hossain and Hammami (2009), Oxelheim and Thorsheim (2012), and Prado-Lorenzo, Rodríguez-Domínguez, Gallego-Álvarez, and García-Sánchez (2009).

These results could be summarized in the following ways. Due to the result of the analysis on the effect of ownership structure on voluntary disclosure, ownership concentration can make the policy and control of the organizational performance to meet the needs of the main shareholders as well as to ensure that the management has no monitoring and balance. Companies with high shareholdings will have a low shareholding distribution, leading to less voluntary disclosure. It could be concluded that both internal and managerial ownerships do not have any influence on voluntary disclosure. It also included the appointment of executive board from the management, but it was selected by the major shareholders. Attig et al. (2006) found that ownership had a stronger information asymmetry and worse stock turnover, so it could be said that an increase in information asymmetry results from an increase in ownership concentration. Morck, Shleifer, and Vishy (1988) indicated that if the ratio of internal shareholders or the shareholding of the executives was at the sufficient level, the executives had the authority to vote and exercise the right to maintain self-benefits and wealth. Some decision-makings of the executives might have a negative effect on the external shareholder. Besides, Demsetz (1983) expressed that the high ratio of shareholders was the preventive method for the executives from the dominancy. However, the exceeding ratio of executives might generate the benefits for themselves which might cause the following problems: (1) For moral hazard problem, the external shareholder could not examine the administration of the executive and is unable to ensure whether they work for the highest benefits of shareholders or not; and (2) Regarding disclosure, information asymmetry between the executive and the shareholders might occur.

The study found that foreigners also had a positive effect on voluntary disclosure. It was consistent with the research of Bradbury (1992), which stated that disclosure was necessary because it examined the foreign executive's performance. This was because the foreign shareholders rather encountered the imbalance of information than the local shareholders. Haniffa and Cooke (2002) found that there was the positive relationship between foreign shareholders and the scope of voluntary disclosure. It implied that the company that had the ownership of foreigners had high transparency. Wang, Sewon, and Claiborne (2008) mentioned that the company with the foreign investors had more disclosure which was in line with the research of Barako (2007), Chakroun and Matoussi (2012), and El-Gazzar, Fornaro, and Jacob (2006).

These results could be summarized in the following ways. As a result of the analysis on the effect of board of directors on voluntary disclosure, it showed that the executive board had a negative effect on voluntary disclosure. Ownership concentration can make the policy and control of the organizational performance to meet the needs of major shareholders including blood screening and selection of the board of directors. This resulted in the executive board had a negative relationship with voluntary disclosure. Bhagat and Black (2000) said that the board of directors was not truly independent since it may be related to the management. There is no public disclosure, and it cannot be verified in the research ex. Besides, the independent the board of directors has no relationship with voluntary disclosure because Thailand is a developing country. Therefore, the social pressures and the needs of stakeholders are still weak comparing to developed countries. At the same time, voluntary disclosures are not mandated disclosures, depending on the company itself. However, there are conflicts with prior research such Fama and Jensen (1983a, 1983b). This research was related to good practice of the directors of listed companies (2012) which stated that the board of directors of the listed companies should consist of the adequate numbers of independent and external directors in order to construct the mechanism which balanced the power of the board of directors. This would restrain the superior power of the individual or the group over the decision-making of the board of directors. It allowed all directors to express their thoughts freely.

These results can be summarized as follows. Due to the result of the analysis on the effect of organizational performance on voluntary disclosure, it was consistent with the research of Haniffa and Cooke (2002, pp. 317-319) which stated that in order to construct the confidence in the company's reputation, the company which had high profitability had to be anticipated to have high voluntary disclosure. When the company had good news, it is possible that it would be more disclosure. Moreover, it did support the research of Foster (1986) which found that the profitability was derived from good administration. Therefore, it is the stimulus of the disclosure to be more than the company with lower profitability. It is also possible that a higher disclosure aimed for the benefit of the capital increase. This supported the concept of Ahmed and Nichools (1994, pp. 62-77) who explained that the company with high loans might get audited from financial institute. The possibility of compulsory disclosure asked by the financial institute might be higher than the company with lower loans.

5.1.2 Discussion of Research Question 2

Research question 2: Does ownership structure affect organizational performance of listed companies on the Stock Exchange of Thailand in 2014? The results of the analysis with inferential statistics based on this research question and the research hypotheses were as follows:

H4a: There is a positive effect of ownership concentration on organizational performance. Thus, this result did not support the hypothesis H4a. This was consistent with the research of Ibrahim et al. (2010). However, it was inconsistent with the researches of Azam et al. (2011), Ehikioya (2009), Khan et al. (2011), and Maher and Anderson (1999).

H4b: There is a positive effect of managerial ownership on organizational performance. Thus, this result did not support the hypothesis H4b. This was consistent with the research of Juras and Hinson (2008). It was inconsistent with the researches of Ehikioya (2009) and Sánchez-Ballesta and García-Meca (2007).

H4c: There is a positive effect of state ownership on organizational performance. Thus, this result did not support the hypothesis H4c. This was consistent with the research of Juras and Hinson (2008). Nonetheless, this was inconsistent with the researches of Ehikioya (2009) and Sánchez-Ballesta and García-Meca (2007).

H4d: There is a positive effect of foreign ownership on organizational performance. Thus, this result did not support the hypothesis H4d. This was consistent with the research of Gurbuz (2010).

H5a: There is a positive effect of executive board on organizational performance. Thus, this result did not support the hypothesis H5a. This was consistent with the researches of Yermack (1996), but it was incontrast to the research of Kiel and Nicholson (2003).

H5b: There is a positive effect of chairman/CEO duality on organizational performance. Thus, this result did not support the hypothesis H5b. This was consistent with the researches of Yermack (1996). However, the result was inconsistent with the research of Kiel and Nicholson (2003).

H5c: There is a positive effect of independent the board of directors on organizational performance. Thus, this result did not support the hypothesis H5c. This was consistent with the research of Pham, Suchad, and Zein (2007), but it was inconsistent with this research of Kiel and Nicholson (2003).

According to the results of the analysis on the effect of ownership structure on organizational performance, these results could be summarized in the following ways. Maher and Anderson (1999) stated that direct intervention by shareholders was one of the methods in controlling executive's operation by the organization's target. That concept is to consider that the shareholder, especially the major shareholder who owned large number of shares, had an influence toward the company's operation. It could signal the strictness of the audit on the executive's performance. Leuz, Nanada, and Wysocki (2003) supported that the conflict of the internal and external individual's benefit drove the establishment of profit management. For example, the internal shareholder who had control power over the business or the executive of the business used the power for self-dealing and trusteed the burden on the other interested people. Moreover, they might conduct profit management as the superficial mask of the real performance and the individual's benefit by using many methods, such as the window dressing of the business profit report, the concealment of the business loss report, and so on. In this study, it was found that ownership structure has no relationship with organizational performance, so it can be said that ownership concentration or the main

shareholders who have a role in the governance of the business could include actions which are not consistent with the requirements of the minor shareholders until the value of the company's shareholders may decrease. For instance, the shareholder may be the family who also holds executive position although it could be inadequate. Also, the shareholders may bring the company's assets to a private transaction which causes damage to the company. On the other hand, ownership concentration or the main shareholders that have a role in the regulation of the business was good for business. This is to reduce the issue to push their monitoring of the executive to other shareholders since the main shareholders of these stakeholders could influence the operating results of the company. There are motivations to monitor the manager of the management to create the value for the highest business (Admati et al., 1994). Jensen and Meckling (1976) and Beatty and Zajao (1994) found that when low-level managerial ownership had an impact on the agent issues, they increased. This means executives have a greater incentive to spend more lavishly and in achieving the accomplishment of the decline, including less control. There are advantages and disadvantages of ownership concentration, and ownership concentration and managerial ownership have no relationship with organizational performance.

The company which is foreign ownership will provide benefits in the investment policy of the government. It also has the advantage of learning technologies and new ways for work. However, the shareholders who are not in the country may not be able to monitor the actions of the executive. In addition, most of these companies are managed by professional managers, which have conflict of interest with the organizational performance. Wiwattanakantang (2001) found that it may cause foreign ownership to have a relationship with organizational performance in the opposite direction. However, there are advantages and disadvantages of foreign ownership, so it has no relationship with organizational performance.

Yermack (1996) said that the board which is unable to create a value for better is because when it has a meeting of the board, the decision could not be shared or passed for a resolution quickly. It also causes a problem in pushing the others due to the small number of committees. The board must comment and serve based on their capabilities. On the other hand, the board of directors of the company may mean that the

company has a unique knowledge of several aspects. Srijunpetch (2008) studied the relationship between the board of directors, ownership structure, and economic value added, and the result showed that the proportion of the board of directors did not have a relationship with the executive board.

The proportion of independent the board of directors has no significant relationship with the organizational performance. It can be said that independent board members are those who are not interested in the results of organizational performance, and there is no operational performance. According to the research, Pham, Suchad, and Zein (2007), it was found that the proportion of the independent the board of directors had no relationship with organizational performance. Thus, it could be said that there could be many other factors which may control this.

5.1.3 Discussion of Research Question 3

Research question 3: Does voluntary disclosure affect stock turnover of listed companies on the Stock Exchange of Thailand in 2014? The result of the analysis with inferential statistics based on this research question and the research hypotheses were as follows:

H6a: There is a positive effect of voluntary disclosure on stock turnover. Thus, the result supported the hypothesis H6a. This was consistent with the researches of Ang and Brau (2002), Yosha (1995), and Laidroo (2011).

The result of the analysis on the effect of voluntary disclosure on stock turnover can be summarized in the following. The research which supported this hypothesis was And Brau (2002) who found that the company's transparent disclosure affected the information asymmetry. The higher business transparency could decrease the insecurity of the property. However, the disclosure would provide the disadvantage to the public company as the information must be inevitably publicized due the stock exchange's rules and regulations (Yosha, 1995; Laidroo, 2011). Diamond (1985) found that the disclosure reduces the information asymmetry between executives and traders. This reduces traders' insistence on obtaining personal information, which results in confidence of the operator as well as speculation and better liquidity of the stock (Glosten and Milgrom, 1985). Good corporate governance affects stock liquidity because good governance ensures transparency and financial and operational efficiency.

Beekes and Brown (2006) suggested that the disclosure is positively correlated with corporate governance indicating that corporate governance is to better contribute to sharing more information which helps reduce information asymmetry and improve the liquidity of the securities in the future.

5.1.4 Discussion of Research Question 4

Research question 4: Does ownership structure affect stock turnover of listed companies on the Stock Exchange of Thailand in 2014? The results of the analysis with inferential statistics based on this research question and the research hypotheses were as follows:

H7a: There is a negative effect of ownership concentration on stock turnover. Thus, the result supported the hypothesis H7a. This was consistent with the researches of Alves et al. (2015), Meshki et al. (2014), and Sharif et al. (2015).

H7b: There is a negative effect of managerial ownership on stock turnover. Thus, this result did not support the hypothesis H7b. This was consistent with the research of Zho (2011).

H7c: There is a negative effect of state ownership on stock turnover. Thus, this result did not support the hypothesis H7c. This was inconsistent with the researches of Choi et al. (2010) and Meshki et al. (2014).

H7d: There is a negative effect of foreign ownership on stock turnover. Thus, this result did not support the hypothesis H7d. This was inconsistent with the researches of Choi et al. (2010) and Meshki et al. (2014).

The result of the analysis on the effect of ownership structure on stock turnover can be summarized in the following. Shleifer and Vishny (1997, p. 761) provided a reason that an owner has more information than one point, and a large owner almost has full control of the power over the company and has enough wealth to use the company to create private benefits, which are not available to a small group of shareholders. Such actions create the opportunity for a short period, and trading decisions get better because the necessary information is used in decision making and stocks trading, which thus cause no symmetry of information resulting in market conditions worsened. Prasanna and Menon (2012) found that ownership structure and information asymmetry, weakened market liquidity.

5.1.5 Discussion of Research Question 5

Research question 5: Do ownership structure, board of directors, and organizational performance affect stock turnover through voluntary disclosure of listed companies on the Stock Exchange of Thailand in 2014? The results of the analysis with inferential statistics based on this research question and the research hypotheses were as follows:

H8a: There is a negative effect of ownership concentration on stock turnover through voluntary disclosure. Thus, the result supported the hypothesis H8a. This was consistent with the researches of Attig et al. (2006), Chau and Gray (2002, pp. 247-65), Demsetz (1983), and Fama and Jensen (1983).

H8b: There is a negative effect of managerial ownership on stock turnover through voluntary disclosure. Thus, this result did not support the hypothesis H8b. This was consistent with the researches of Hayes and Lundholm (1996), Verrecchia (1990), and Wagenhofer (1990).

H8c: There is a negative effect of state ownership on stock turnover through voluntary disclosure. Thus, this result did not support the hypothesis H8c. This was consistent with the researches of Bradbury (1992). However, the result was inconsistent with the researches of Sukcharoensin (2012) and Wang, Sewon, and Claiborne (2008).

H8d: There is a positive effect of foreign ownership on stock turnover through voluntary disclosure. Thus, the result supported the hypothesis H8d. This was consistent with the researches of Barako (2007), Coebergn (2011), and Dhouibi and Mamoghli (2013).

H8e: There is a positive effect of executive board on stock turnover through voluntary disclosure. Thus, this result did not support the hypothesis H8e. This was consistent with with the researches of Fama and Jensen (1983a, 1983b), Alves et al. (2015), Levesque et al. (2010), Huang and Stoll (1997), and Bortolotti et al. (2007).

H8f: There is a positive effect of chairman/CEO duality on stock turnover through voluntary disclosure. Thus, this result did not support the hypothesis H8f. This was inconsistent with the researches of Foo and Zain (2007), Huang and Stoll (1997), and Prasanna and Menon (2012).

H8g: There is a positive effect independent the board of directors on stock turnover through voluntary disclosure. Thus, this result did not support the hypothesis H8g. This was inconsistent with the researches of Foo and Zain (2007), Huang and Stoll (1997), and Prasanna and Menon (2012).

H8h: There is a positive effect of organizational performance on stock turnover through voluntary disclosure. Thus, the result supported the hypothesis H8h. This was consistent with the researches of Fama and Jensen (1983a, 1983b), Alves et al. (2015), Levesque et al. (2010), and Laidroo (2011).

According to the result of the analysis of ownership concentration, it showed that ownership concentration had a negative effect on stock turnover ratio through voluntary disclosure, thus the finding supported the hypothesis H8a. The significance level was at 0.05, and it was inconsistent with the researches of Alves et al. (2015) and Morck, Shleifer, and Vishy (1988) who said that when the numbers of internal shareholders or the executive shareholders were high enough, the executives would have voting right and use it to maintain their own interests or wealth. Taking that power to make some decisions by the executive might negatively affect the external shareholder. Moreover, Demsetz (1983) and Fama and Jensen (1983) explained that holding a high proportion of shares was the way which protected the executive from business takeover. Excessive shares held by the holder might give their personal benefit which was the cause of moral hazard problem. It was when the external shareholders could not monitor the executive's works and was not being able to know whether the executives were aiming for the utmost benefits of the shareholders or not. The second problem was information asymmetry which caused the asymmetry of the information between the executives and the shareholders in the disclosure. Chau and Gray (2002, pp. 247-65) mentioned that the company with high level of the concentration of the ownership had lower direct relationship with the voluntary disclosure level. Prasanna and Menon (2012) found that ownership structure and information asymmetry weakened the stock turnover.

This study found that foreign ownership that had a positive effect on stock turnover through voluntary disclosure. Financial liberalization allows foreign markets to be opened to foreign investors with the aim to achieving diversification benefits

(Warther, 1995) and liquidity in the market (Levine, 2001). Foreign investors are satisfied with large companies with low internal ownership and lower information asymmetry (Bushee & Noe, 2000; Ferreira & Matos, 2010). Increased disclosure reduces information asymmetry between buyers and sellers and increases stock turnover (Diamond & Verrachia, 1991, Heflin et al., 2005). It was consistent with the research of Bradbury (1992) who said that the disclosure was very important. It is the performance audit of the executives overseas because they had to encounter the imbalance of the information higher than the local shareholders.

Furthermore, the result of the study revealed that board executive also had a negative effect on stock turnover through voluntary disclosure. The researches which did not support this result of the study. This study was related to good practice of the directors of the listed companies (2012) which stated that the board of directors of the listed companies should consist of the adequate numbers of independent and external directors in order to construct the mechanism which balanced the power of the board of directors. This would restrain the superior power of the individual or the group over the decision-making of the board of directors. It allowed all directors to express their thoughts freely. Levesque et al. (2010) found that external committee reduced information asymmetry while Huang and Stoll (1997) found that companies with more board of directors influence more transparency with better disclosure and greater liquidity. Besides, the research of Bortolotti et al. (2007) revealed that when companies have high liquidity, information asymmetry is reduced due to the implementation of the operation.

This study also found that organizational performance had a positive effect on stock turnover through voluntary disclosure. The research which did support the result of the study was Haniffa and Cooke (2002, pp. 317-319) which stated that in order to construct the confidence in the company's reputation, the company which had high profitability was anticipated to have high voluntary disclosure. When the company had good news, it is possible that it would disclose more. Moreover, it did support the research of Foster (1986) which stated the profitability was derived from good administration. Therefore, it is the stimulus of the disclosure to be more than the company with lower profitability. It is also possible that a higher disclosure aimed for

the benefit of the capital increase. This research was paying attention to the effect of information disclosure of this business in the liquidity of stock exchange market. According to the research done by Amihud and Mendeison (1986), Glosten and Milgrom (1985), and Kyle (1985 as cited in Laidroo, 2011), it was found that information asymmetry is less likely to affect liquidity of stock exchange market. It can be observed by looking at increasing in spread (difference between the bid and the ask price of a security), reducing in stock turnover, and reducing in fluctuation in the rate of return on that security whereby information asymmetry can be reduced as there is more information disclosure (Akelof, 1970; Baiman & Verrecchia, 1986; Diamond & Verrecchia, 1991 as cited in Laidroo, 2011). As a result, increasing information disclosure will have a positive correlation with trading volume and fluctuation in the rate of return on that security.

5.2 Limitation of the Study

There are some limitations of this study. The population was 476 companies listed on the Stock Exchange of Thailand. In the sample selection, the companies must have the annual report in 2014. As a result, only 323 companies which had the annual report were selected for this study.

In addition, according the study of the effect of ownership concentration, the shareholding information was derived from the annual report. Nonetheless, the researcher was unable to know the details of the shareholding information since the annual report only showed the number of shares held by large shareholders, and the shares held by the nominees were not shown.

5.3 Implication for Practice and Future Research

5.3.1 Implication

The results of the study revealed that ownership structure, board of directors, and organizational performance affected stock turnover through voluntary disclosure of listed companies on the Stock Exchange of Thailand in 2014. The four independent variables representing ownership structure consisted of ownership concentration, managerial ownership, state ownership, and foreign ownership while the two

independent variables representing board of directors included executive board, chairman and CEO duality, and independent the board of directors, and the only one independent variable representing organizational performance was return on equity (ROE), with voluntary disclosure as a mediating variable and stock turnover as a dependent variable. These variables had direct and indirect influences on one another. The implications of the study were discussed in the followings:

1. This result of the study showed that the intensity of ownership concentration, foreign ownership, board of directors, and organizational performance had the effect on voluntary disclosure. The executive would decrease the quality of the financial report by lessening the disclosure about the capital and other benefits of the business in order to hide the true financial status of the company from the competitors and suppliers. Thus, the intensity of the ownership was the reason of the complication occurring with the other shareholders. In other words, it gave the negative effect on voluntary disclosure. Therefore, the Securities and Exchange Commission (SEC) should consider the effective corporate governance which would help protect minor shareholders with a better disclosure of the executive's annual report.

2. The governing agency should encourage the investors to be aware of the application of accounting information for investment. The examples are such as the provision of the investment information for the investors to consider from the voluntary disclosure and the investment information for the investors to consider the quality of the profits disclosed in the annual financial report for investment making-decision (Lo, 2008). Furthermore, there should be the quality inspection of the disclosed information whether the content in the disclosure of the annual report should be developed or reviewed or not. This is to ensure that the disclosure is needed and completed.

3. As a result of the above study, it is important to promote the importance of good corporate governance. The companies should take good governance in order to reduce information asymmetry and improve the liquidity of the market. Since better inside corporate governance better leads to better market transparency (Chung et al., 2010; Brockman & Chung, 2003; Bacidore & Sofianos, 2002). Mechanism of corporate governance is the board of directors, effective good corporate governance and has better disclosure that is efficient and disclosures improved due to the board of directors and

disclosed information sharing reduces agency. The high liquidity due to the information asymmetry is reduced due to the implementation of the operations.

4. It was found that voluntary disclosure was beyond the compulsory specifications according to the accounting act. It is the independent choice of the company to disclose the information for the users to use the information to make the right decision. In other words, it is the way to protect the investors. Voluntary disclosure had a positive effect on stock turnover. For the listed companies on the Stock Exchange of Thailand, the foreign investors considered the investment in the business with high return. Therefore, the listed companies on the Stock Exchange of Thailand should consider the importance of the preparation and the quality of the disclosure in the financial report for the utmost benefits of the stakeholders. This study also found the application of the financial report for the analysis in making decision, and the result showed that information must reflect the performance and financial status of the business fairly. It must also reflect the economic benefit over the legal form. The accounting event must be significantly unbiased, vigilant, and complete. Thus, the business' disclosure in the financial report must be quality for the utmost benefits of the investors.

5. The result of the study revealed that the intensity of the ownership had the effect on voluntary disclosure. Freeman (1983) mentioned that the intensity of the ownership affected the individual and the group with interests or might affect the achievement of the organization. It was also the influential representative toward the organization. Shleifer and Vishny (1986) discovered that the intensity of the ownership might construct the effective inspection mechanism. The intensity of the ownership was the stimulus of the major shareholder in undertaking the inspection cost. Jensen (1986) mentioned that the executive major shareholder tended to lower the quality of the financial report. Moreover, for many shareholders according to the representative theory, the conflicts would be turned from the executives and the shareholders into the major and minor shareholders. Good corporate governance characteristics would lessen the conflict between the cause and the representative in the representative theory. It also minimizes the gap in preparing the financial report between the middleman and the representative. It would lead to the investment on decision-making development of the

investors which establish the efficiency in resource allocation, especially the capital market. The development of the capital market also results in the economic growth and the development of social quality. Therefore, the listed companies on the Stock Exchange of Thailand are recommended to abide by good governance principles which would affect voluntary disclosure of the annual report. Besides, the information would reflect the performance and correct company's financial status.

6. The result showed that foreign investors and organizational performance had positive effects on voluntary disclosure, and voluntary disclosure had a positive effect on stock turnover through voluntary disclosure. The findings of this study confirmed that voluntary disclosure supported the signaling theory. The theory was based on the concept of the original voluntary disclosure about the capital market, such as the signaling of the executives with voluntary disclosure for the capital market to know about the expectation on the business's future performance. Therefore, the listed companies on the Stock Exchange of Thailand are suggested to abide by good corporate governance and practices issued by the Stock Exchange of Thailand as it would impact the level of the disclosure of the annual report, develop the quality of the financial report, and, last but not least, create the reliability for the investors. This was consistent with the principle under which the investors or the shareholders were protected. The defined quality of the financial information was related to the protection of the investors.

8. This study found that the board of directors had a negative effect on voluntary disclosure. This is due to the fact that the company has an ownership concentration, which allows the major shareholders to set the policy and control of the organizational performance to meet the needs of the major shareholders, including blood screening of the board of directors. Therefore, in the work of the Securities and Exchange Commission of Thailand, a good corporate governance system is considered establishing to reduce the conflicts of the agency theory and minimize the gap in reporting among the agents. The smallest gap leads to the development of investor decision-making in investment. This includes the development of the capital market or the stock market, which results in economic growth and social quality development. This study recommended that the listed companies on the Stock Exchange of Thailand

should comply with good corporate governance principles and practice guidelines. For example, the useful tools to measure corporate governance of the listed companies in the ASEAN region called “ASEAN Corporate Governance Scorecard,” focusing on 40% of the board’s responsibility, is used in the business to ensure that the company is recognized in the ASEAN region and attract investors from other regions to invest and believe that the company is an asset to invest. This was in line with the principle of protecting investors or shareholders from this principle voluntary disclosure related to the protection of shareholders or investors.\

5.3.2 Future Research

Regarding this study on the effects of ownership structure, board of directors, and organizational performance on stock turnover through voluntary disclosure of listed companies on the Stock Exchange of Thailand, there are recommendations for the future research as shown in the following:

1. The samples of this study were the listed companies on the Stock Exchange of Thailand which might not be generalized to the companies in other countries with the differences in terms of law, institutional factor, the effect on the quality of disclosure, and the different accounting environment, and the samples could not represent other businesses. Therefore, the disclosure in other countries should be considered for the future research.

2. The study explored the relationships among ownership structure, board of directors, organizational performance, voluntary disclosure, and stock turnover. Nevertheless, there are other related variables excluded in this study which might affect the disclosure and the stock turnover. The examples are such as the share ownership distribution of the major shareholders which affected voluntary disclosure as well as the reputation of the business. Future research might concentrate on the relationship between voluntary disclosure and the information made by the analysts.

3. This study was not conducted to investigate the effects of dependent variables and independent variables without mediating variable. Thus, it is impossible to justify if the mediating variable is a full mediator and partial mediator. Consequently, the effects of dependent variables and independent variables without the mediating variable should be tested in the future research in order to compare with the model with

mediating variable as well as to test if the mediating variable is the full mediator or partial mediator.

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APPENDIX

The additional test

The additional test

The researcher add firm size as control variable to investigate the effect of controlling shareholders and information asymmetry on earnings quality when firm size as control variable.

In this part begin with report the descriptive statistics of the variables and investigate the effects of controlling shareholders and information asymmetry on earnings quality. The empirical result was shown in table 1.

Table 1 Descriptive statistics of variables.

Variable	Mean	Std. Deviation	Maximum	Minimum	skewness	kurtosis
CS	50.45	15.61	95.76	25.14	0.36	-0.61
lgBASPREAD	0.08	0.35	1.34	-0.57	1.30	1.65
lgABSDAMJ	-0.95	0.33	0.13	-0.199	-0.21	0.22
lgABSDAFC	-1.06	0.37	1.51	-2.06	1.87	11.88
OCINDEX	1.20	5.08	31.53	-39.19	-0.27	25.40
FSIZE	22.46	1.80	29.04	19.05	0.88	0.67

Note: CS = controlling shareholders is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/ ((Ask price + Bid price)/2) *100); ABSDAMJ = log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income; FSIZE is log value of market value of equity.

Table 1 showed descriptive statistics of the variables which were adjusted with normal distribution, and these were basic statistics and the data were described by types of variables used in this study.

1. Controlling shareholders (CS): The mean value of 50.45 percent with the minimum value of 25.14 percent, the maximum value of 95.76 percent, the standard deviation value of 15.61, the skewness value of 0.367, and the kurtosis value of -0.61.

2. Log bid-ask spread (lgBASREAD): The mean value of 0.08 with the minimum value of -0.57, the maximum value of 1.34, the standard deviation value of 0.35, the skewness value of 1.30, and the kurtosis value of 1.65.

3. Log absolute discretionary accruals from modified Jones model (lgABDAMJ): The mean value of -0.95 with the minimum value of -1.99, the maximum value of 0.13, the standard deviation value of 0.33, the skewness value of -0.21, and the kurtosis value of 0.22.

4. Log absolute discretionary accruals from Francis model (lgABDAFC): The mean value of -1.06 with the minimum value of -2.06, the maximum value of 1.51, the standard deviation value of 0.37, the skewness value of 1.87, and the kurtosis value of 11.88.

5. Operating cash index (OCINDEX): The mean value of 1.20 with the minimum value of -39.19, the maximum value of 31.53, the standard deviation value of 5.08, the skewness value of -0.27, and the kurtosis value of 25.40.

6. Firm size (FSIZE):): The mean value of 22.46 with the minimum value of 19.05, the maximum value of 29.04, the standard deviation value of 1.80, the skewness value of 0.88, and the kurtosis value of 0.67.

Table 2 Correlation Matrix of controlling shareholders and information asymmetry on earnings quality

	CS	**BASPREAD**	**ABSDAMJ**	**ABSDAFC**	**OCINDEX**	**FSIZE**
CS	1.00					
BASPREAD	0.176*	1.00				
ABSDAMJ	0.089	0.290*	1.00			
ABSDAFC	0.056	0.040	0.353*	1.00		
OCINDEX	0.117	-0.066	-0.055	-0.083	1.00	
FSIZE	-0.66	-0.446*	-0.377*	-0.090	0.042	1.00

Note: * Correlation is significant at the 0.05 level

Table 2 showed the correlation coefficients indicating the size and direction of the relationship between each pair of variables. Regarding the size of the correlation coefficient, Devore and Peck (1993) observed that if the correlation values are less than

-0.80 or greater than 0.80, the two variables are highly correlated. If the correlation values are between -0.50 to -0.80 or 0.50 to 0.80, the two variables are moderately. If the correlation values are between -0.50 to 0.50, the two variables are less correlated. The result of the correlation coefficient analysis in this study showed that the correlation coefficient was 0.176 indicating that the independent variable was less correlated.

Due to the results of the correlation matrix analysis of variables, it could be concluded that variables used in this study had low relationship with and were independent from each other.

Structural Equation Modeling Analysis of a Proposal Model

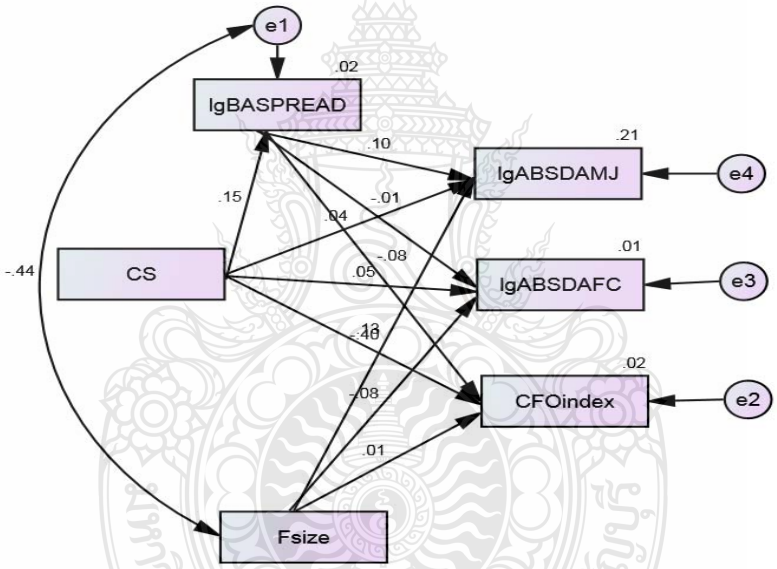

Figure 1 The Structural Model for Hypotheses Testing after Modification Indices

After conducting the modification indices of the model, the results of model fit were as follows: Chi-Square = 35.47, Degree of freedom = 2, *p*-value = 0.387, GFI = 0.955, AGFI = 0.766, NFI = 0.781, CFI = 0.786, and RMSEA = 0.181.Therefore, the results showed that the models were combined with empirical data.

Hypotheses Testing

Table 3 Regression results.

Path		Predicted	STD	USTD	S.E.	C.R.	*P*	Results
Dependent	**Independent**	**Sign**	**Estimate**	**Estimate**				
ABSDAMJ	CS	-	0.045	0.001	0.001	0.774	0.439	Not supported
ABSDAFC	CS	-	0.052	0.001	0.002	0.801	0.423	Not supported
OCINDEX	CS	+	0.132	0.043	0.021	2.050	0.040*	Supported
BASPREAD	CS	+	0.147	0.003	0.001	2.582	0.010*	Supported
ABSDAMJ	BASPREAD	+	0.101	0.098	0.062	1.571	0.116	Not supported
ABSDAFC	BASPREAD	+	-0.006	-0.077	0.077	-0.09	0.928	Not supported
OCINDEX	BASPREAD	-	-0.083	-1.204	1.042	-1.156	0.248	Not supported

Note: CS = Controlling shareholder is the percentage of shareholding in the firm with controlling shareholders; BASRREAD = Log value of bid-ask spread is the average bid-ask spread measured by (Ask price –Bid price)/((Ask price + Bid price)/2) *100); ABSDAMJ = Log value of absolute value of discretionary accruals from modified Jones model used to measure earnings quality; ABSDAMJ = Log value of absolute value discretionary accruals from Francis model used to measure earnings quality; OCINDEX is operating cash index used to measure earnings quality calculated by cash flow from operation divided by net income. FSIZE is Log value of market value of equity.

* Significant at the significance level of 0.05.

Due to table 3 which tested the research model after the model was consistent with the empirical data, the results were as follows. The controlling shareholders had a positive effect on earnings quality, which were measured by operating cash index, with a regression weight value of 0.132 and a critical value of 2.050 (p-value < 0.05). The controlling shareholders had a positive effect on information asymmetry with the regression weight of 0.147 and critical value of 2.582 (p-value < 0.05).

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Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and beliefs, contains on material previously published or written by another person, except where due reference has been made in the text.

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