EFFECT OF LARGE CONTROLLING SHAREHOLDER ON INFORMATION ASYMMETRY AND STOCK LIQUIDITY: EVIDENCE FROM THAI LISTED COMPANIES

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An Independent Study
Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science (Finance)

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By

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Effect of Large Controlling Shareholder on Information Asymmetry and Stock Liquidity: Evidence from Thai Listed Companies

ABSTRACT

This paper examines the effect of ultimate controlling shareholder on bid-ask spread of stock of non-financial Thai listed companies. Consistent with free-float hypothesis and asymmetric information hypothesis, the overall result shows a statistically significant positive effect of the ultimate controlling shareholder on the bid-ask spread, particularly, the presence of a family or individual controlled (due to asymmetric information costs and the potential of private benefits generating by ultimate shareholder). Moreover, the paper further examines the effect of pyramidal and cross-shareholding structure on bid-ask size. The study evident that ultimately controlled firms that have such structures have higher bid-ask size than ultimately controlled firms with simple structure.

I. Introduction

It is documented by Claessens et al. (2000), La Porta et al. (1998), and Wiwattanakantang (2000), that corporate ownership of Thai listed firms are largely concentrated and controlled by families. However, Attig et al. (2002) argue that the presence of large shareholders (especially a family or individual) in corporation increases the bid-ask spread. This conveys the first question of this study whether bid-ask spread of listed companies in Thailand which are largely concentrated and controlled by families have wider bid-ask spread.

La Porta et al. (1997, 1998a) address the relationship between protection of minority shareholders and corporate ownership pattern. In the countries with good protection, ownership structure of firms is less concentrated. On the other hand, in countries with poor shareholder protection, especially in developing economies, ownership structure is heavily concentrated. The main reason behind this evidence is because of large shareholders afraid of being expropriated by other groups of shareholder if they reduce their level of voting rights. Hence, they maintain their power by holding a large block of corporate shares. Yet, Shleifer and Vishny (1997) explain the negative effect of large shareholder ownership. When large shareholder owns a large block of shares of the company and takes nearly full control of management, he might use his control to generate private benefits.

Generally, to enhance private benefits, large shareholder would use dual-class shares, pyramid structures and cross-holdings among firms to make his voting rights substantially exceed formal cash-flow right. In doing so, Attig et al. (2002) document that the mechanisms of enhancing control significantly affect bid-ask spread. In Thailand, Claessens et al. (2000) and Wiwattanakantang (2000) document the evidence of the using of pyramidal and cross-holding ownership structure by large controlling shareholders in Thai publicly firms. This circumstance brings the second interesting question to this study, whether bid-ask spreads are affected by such mechanisms.

The next section of the paper describes the related literatures that study about costs and benefits of large controlling shareholders, the effects of large controlling shareholders to

firm's bid-ask spread. Section 3 provides sources of data and definition of variables. The picture of latest corporate ownership structure of Thai listed firms and hypotheses of the study are presented in section 4. Section 5 shows the results and the conclusion is presented in the last section.

II. Literatures review

2.1 Costs and benefits of controlling shareholder

Several studies about the relationship between corporate performance and controlling shareholder or studies about the relationship between firm's value and controlling shareholder conclude that information asymmetry is an essential element to the explanation of costs and benefits of large shareholder in a corporation.

In modern organizations where owners of capital are dispersed and controlling managers have substantial controls (Berle and Means, 1932), asymmetric information might arise and could create principle-agent problem. In this circumstance, controlling managers might pursue their own interests rather than maximize shareholders' value.

Jensen and Meckling (1976) suggest that the presence of large block holder would solve this problem and increase valuation of firm in the same time. This is because of the more shares held by large shareholders, the better monitoring of an efficiency of the use of corporate resources by controlling managers. Hence, it increases firm's value.

However, Shleifer and Vishny (1997), La Porta et al. (1998, 1999 and 2000) and Bebchuck and Roe (1999) document that when large shareholders take control of management by holding a large portion of shares, he can exploit minority shareholders as well.

2.2 Large controlling shareholders and stock liquidity of a firm

According to Ginglinger and Hamon (2007), there are two main explanations that can be employed to explain the relationship between ultimate controlling shareholder and liquidity of stock, free-float or trading hypothesis and adverse selection hypothesis. Free-float

hypothesis states that the presence of large shareholders in firms causes small amount of shares left for trading activity (big amount are hold by large shareholders), hence, low trading volume and low liquidity consequently.

Explaining the relationship between stock liquidity and information asymmetry by using adverse selection hypothesis is as follow. Many literatures are documented that when large shareholder holds a large portion of company shares, it could lead to a poor information disclosure (particularly in the case that large shareholders whose control rights exceed their cash-flow rights) and a discrepancy in the corporate information known between large and minority shareholders (especially those information that relate to corporate value). To compensate the cost of informed trading by large shareholders, investors or dealers or market makers may quote lower stock price (lower bid price). This widens bid-ask spread and implies low liquidity.

Recent literatures employ bid-ask spread as a proxy to measure stock liquidity and many theoretical literatures state that bid-ask spread is composed of three cost components which are order processing costs, inventory holding costs and asymmetric information (adverse selection) costs.

Refer to Bollen, Smith and Whaley (2002) order processing costs are direct costs that associate with service providing by market makers, for example, floor space rental, computer costs, informational service costs, labor cost and opportunity costs of time of dealers or market makers. In short run, order processing costs are largely fixed, its contribution to spread therefore should reduce when trading volume are higher. However, in reality, market makers provide liquidity service more than one security. Hence, these costs can be amortized over trading volume across securities. And in highly competitive market, spread should equal to expected marginal cost of liquidity supply, in this case order-processing costs is constant and might be irrelevant to bid-ask spread.

Inventory holding costs are costs that incur when market maker provide liquidity by carry positions, short and/or long. Because market makers or dealers often carry inventory in order to provide liquidity service, hence they bear risk of security price movement and for

that reason size of spread must compensate the risk (Bollen, Smith and Whaley, 2002). Therefore, the higher the risk, the wider bid-ask spread. Another factor that should include to inventory holding costs analysis is transaction rate and Demsetz (1968) uses trade frequency and the number of shareholders as proxies to determine the relationship between transaction rate and bid-ask spread. He states that with lower waiting cost to execute orders then the higher transaction rate, the lower bid-ask spread.

Asymmetric information (adverse selection) costs occur when informed individuals (who know insider information) join trading activities. This risk will be paid by wider bid-ask spread by dealers and market makers. As a result, the higher asymmetric information level, the higher bid-ask spread. There are several measure that have been employed as proxies, for example, number of securities that market makers have responsible to provide liquidity, turnover ratio (trading volume divided by market capitalization), level of ownership concentration, market value of outstanding shares, volume trading and assets size.

III. Source of data and definition of variables

Ownership data were collected from various sources, mainly from strategic shareholders report that listed companies must summit to the exchange annually.

The report supplies shareholding data of every shareholder with number of shares held and percentage of shares held to total paid-up capital of common stock. In this report, company's shareholders are grouped in four main categories which are strategic shareholder group, stocks held by corporate itself (treasury stock), non-strategic shareholders group and group of shareholders who own shares less than one board lot (100 shares). Moreover, shareholding data in the strategic shareholder group are further classified into four groups which are, first, shares held by directors, management and all connected and related persons of directors and management (connected and related persons who have different family name are also identified to this group), second, shareholders who hold more than 5% (include all connected and related person) of paid-up capital of total common stock, third, shares held by

government, government agencies and state-owned enterprises and, fourth, group of shareholders who are prohibited to sell shares in specific time period (called “silent-period”).

Great details of ownership data provided in strategic shareholders report overcome several limitations of data collection of many prior studies. In the previous studies, the source of ownership data provides the information of shareholders with shareholdings of at least half a percent. This could result in wrong classification of sample. For example, if company A has a shareholder who holds 24% of voting shares and three related persons of the shareholder hold 0.4% equally, the previous studies would classify company A as widely-held corporation even though, in fact, it has an ultimate shareholder.

Also, incorrect closely-held and widely-held classification might arise in family controlled businesses which group of ultimate ownership has different family names. This effects an examination of separation between management and controlling shareholder as well.

To create most accurate database, strategic shareholder report is supplemented by other sources of ownership data such as SETSMART (the web-based application from the Stock Exchange of Thailand that integrate comprehensive sources of Thai listed company data), Form 56-1 and website of company. In the extent that ultimate shareholder of listed company is privately owned firm or in the form of control chain of privately owned firms, ultimate owner of these firms were obtained from Business Online service, a private provider of business information. Finally, daily bid-ask spread of sample group were collected from SETSMART.

Controlling is measured by voting rights and ownership is measured by cash-flow rights. A corporation has an ultimate shareholder if the shareholder owns at least 25% of voting shares directly and indirectly. The idea behinds using 25% of voting shares is supported by Wiwattanakantang (2000). According to Public Limited Company Act B.E. 2535 , a shareholder who holds at least one-forth of the total number of votes has significant power over a corporation in many circumstances, for example, 1) influence on any important corporate resolutions such as director replacement election in the case of a vacancy of

directorship for reason other than expiration of term of office, the sale or transfer of business of the company, in whole or in essential part, to other persons, the purchase or acceptance of transfer of business of other companies or private companies by the company and entering into, amending, or terminating a lease of business of the company in whole or in essential part; entrusting other person with the management of the company; or amalgamating business with other persons with the objective to share profit and loss 2) proceed an examination of the business operation and the financial condition of the company as well as to inspect the conduct of business by the board of directors 3) dissolve the company and 4) request the board of directors to call an extraordinary meeting at any time.

An ultimate shareholder is further classified in to five groups according to La Porta et al., (1998), which are, first, a family or an individual, second, the State, third, a widely-held financial institution such as bank or an insurance company, forth, a widely-held corporation and, fifth, miscellaneous such as a cooperative, a voting trust, or a group with no single controlling investor. Family members, close relatives groups and in-law relatives of the family are assumed to vote collectively. Therefore, they are categorized into the first group, a family or an individual.

An ultimate shareholder of many firms in the sample is a limited company, in some cases this limited company is controlled by multi layer of principal chain. In this study, ultimate shareholders of these firms are continually searched until an ultimate controller of the votes was identified.

Direct ownership means a shareholder holds corporate shares in his name. Indirect ownership is defined as following example (La Porta et al, 1998). A shareholder has x percent indirect control over firm A if: (1) it directly controls firm B which, in turn, directly control x percent of the votes in firm A; or (2) it directly controls firm C which in turn controls firm B (or a sequence of firms leading to firm B each of which has control over the next one, i.e., they form a control chain), which directly controls x percent of the votes in firm A. In indirect ownership case, the principle calculation of shares held by shareholders of section 258 of the Securities and Exchange Act B.E. 2535 was applied to reflect the actual quantity of

votes by the major shareholder. Corporations that have an ultimate owner as foreign firm were left out from the sample group because ultimate shareholder could not be traced.

Sample firms that do not have a shareholder with at least 25% of total votes both directly and indirectly are classified as widely-held firm.

By the section 33 of Public Limited Company Act B.E. 2535, it states that one ordinary share is entitled to one vote. Hence, an examination of private benefits enhancement of large shareholders through the use of dual class shares is not presented in this study. However, pyramidal and cross-holding ownership structure are exist in Thai listed firms (Claessens et al., 1999), which large shareholders employ to make his voting rights exceed formal cash-flow right. And the definitions of such two ownership structures are defined like La Porta et al. (1998).

Firm's ownership structure is a pyramid (at 25% level) if (1) it has an ultimate ownership and (2) there is at least one publicly traded company between firm and the ultimate owner in the chain of 25% voting rights. For example, if a family own 30% of total voting shares in publicly company A, which in turn, it owns 25% of total voting shares in company B, then the family controls company B and ownership structure is a pyramid. However, if the family owns 100% of voting rights of publicly company A, in this case, an ownership structure of company B is not a pyramid but still has the family as ultimate shareholder. An intermediate company must be publicly firm is an important requirement for the pyramidal analysis of Thai listed firms (Wiwattanakantang, 2000). This is because of several intermediate firms along the chain of controlling shareholder in Thailand are usually privately held firm. If this is the case, the separation between voting rights and cash-flow rights is not applicable.

Under the pyramidal shareholding structure, the weakest link between ultimate owner and firm represents level of voting rights. And the product of the two ownership stakes along the chain represents cash-flow rights. From the previous example, voting and cash-flow rights are 25% and 7.50% accordingly.

Company C has a cross shareholding structure in its control chain if company C holds any shares in its corporate controlling shareholder or other companies along the chain of control.

IV. Corporate ownership structure of Thai listed firms

4.1 Widely-held and ultimate shareholder

It is important to understand the pattern of ownership structure of Thai listed companies before going to construct hypotheses of the study. The sample group consists of non-financial listed companies in The Stock Exchange of Thailand (SET) and Market for Alternative Investment (mai) at the end of year 2008. Newly listed companies in the year are excluded from the sample group due to no shareholding data are provided. As a result, total company in the sample group is 431 companies.

The overview of company type by sector is shown in Table 1. From the sample group, there are 94 widely-held companies (22 percent) and 337 companies with ultimate shareholders (78 percent) at 25 percent cut-off level. However, out of 337 companies, there are 58 companies (17%) that have foreign companies as an ultimate shareholder. Due to shareholding data limitation, these companies therefore can not be assigned a type of ultimate ownership.

Table 1: Type of listed companies by sector

Market/Sector	Total	Widely-held corporation	Ultimate shareholder
The Stock Exchange of Thailand			
1. Agribusiness	18	1	17
2. Automotive	20	2	18
3. Commerce	14	2	12
4. Construction Materials	31	4	27
5. Electronic Components	10	1	9
6. Energy & Utilities	23	6	17
7. Fashion	23	3	20
8. Food and Beverage	23	3	20
9. Health Care Services	13	6	7
10. Home & Office Products	11	1	10
11. Industrial Materials & Machinery	23	3	20
12. Info. & Commu. Technology	26	5	21
13. Media & Publishing	26	6	20
14. Mining	2	2	-
15. Packaging	13	3	10
16. Paper & Printing Materials	2	-	2
17. Personal Products & Pharma.	6	-	6
18. Petrochemicals & Chemicals	12	3	9
19. Professional Services	3	1	2
20. Property Development	58	22	36
21. Tourism & Leisure	15	2	13
22. Transportation & Logistics	15	5	10
Market for Alternative Investment mai	44	13	31
Total	431	94	337

Table 2 shows types of ultimate shareholders. A family or an individual shares a largest stake at 90 percent (251 companies) or 58 percent of total sample. The government comes at the second place at 5.7% (16 companies).

Table 2: Ultimate shareholder by type

Type of ultimate shareholder	Total	Proportion (%)
1. A family or an individual	251	90.0
2. State (include State agencies)	16	5.7
3. Widely-held corporation	7	2.5
4. Others	4	1.4
5. Widely-held financial corporation	1	0.4
Total	**279**	**100**

It is documented by Claessens et al. (2000) and Wiwattanakantang (2000) that listed companies in Thai stock market show pyramidal and cross-shareholding ownership structure.

From the sample group, there are 39 and 14 companies that have pyramidal and cross-shareholding structure consequently.

Table 3: Shareholding structure

Type of ultimate shareholder	Total	Proportion (%)
1. Simple	226	81
2. Pyramidal	39	14
3. Cross-shareholding	14	5
Total	**279**	**100**

4.2 Ownership concentration

Ownership concentration is measured by the percentage of shares held by the largest shareholder, three largest shareholders and five largest shareholders. By employing the data from SETSMART, the ownership concentration is summarized in Table 4. In widely-held corporation, the average ownership concentration of largest shareholder is 14.77% and increase to 31.21% and 40.76% in three and five largest shareholders. An interesting point that should be noted is that even in widely-held corporation, the proportion of ownership of large shareholders is still relative high.

In the meantime, ultimately controlled company group show average level of ownership at 31.70% for largest shareholder (twice as much as widely-held corporation) and the average shareholding of three and five largest shareholders are at 52.53% and 61.88%, respectively. Among five types of ultimate shareholder, widely-held financial corporation shows the highest average shareholding ownership at all largest shareholder levels. Although, a family or an individual group presents the lowest average ownership level but the percentage of shares held is sizeable for corporate controlling, especially three and five largest shareholders own more than 50% of outstanding shares.

Table 4: Ownership concentration

Concentration level	Ownership concentration (%)			
	Avg.	Med.	Max.	Min.
1. Largest shareholder				
1.1 Widely-held corporation	14.77	13.45	39.98	3.56
1.2 Ultimate shareholder	31.70	27.79	92.92	7.67
- A family or an individual	*30.21*	*25.98*	*92.92*	*7.67*
- State	*44.17*	*47.56*	*70.00*	*17.00*
- Widely-held corporation	*38.79*	*37.52*	*56.98*	*24.99*
- Others	*52.27*	*47.26*	*84.55*	*30.00*
- Widely-held financial corporation	*74.52*	*74.52*	*74.52*	*74.52*
Total (Largest shareholders)	**27.43**	**23.60**	**92.92**	**3.56**
2. Three largest shareholders				
2.1 Widely-held corporation	31.21	29.35	64.80	10.15
2.2 Ultimate shareholder	52.53	51.35	96.39	19.40
- A family or an individual	*51.26*	*50.31*	*96.39*	*19.40*
- State	*63.28*	*64.40*	*81.34*	*36.71*
- Widely-held corporation	*59.21*	*64.20*	*74.73*	*43.17*
- Others	*68.96*	*72.60*	*87.68*	*42.95*
- Widely-held financial corporation	*88.71*	*88.71*	*88.71*	*88.71*
Total (Three largest shareholders)	**47.16**	**45.64**	**96.39**	**10.15**
3. Five largest shareholders				
3.1 Widely-held corporation	40.76	38.78	81.84	15.33
3.2 Ultimate shareholder	61.88	62.12	96.82	27.05
- A family or an individual	*60.95*	*60.09*	*96.82*	*27.05*
- State	*69.75*	*71.46*	*87.00*	*50.83*
- Widely-held corporation	*65.52*	*70.40*	*78.80*	*47.69*
- Others	*74.05*	*79.63*	*90.16*	*46.77*
- Widely-held financial corporation	*94.11*	*94.11*	*94.11*	*94.11*
Total (Five largest shareholders)	**56.56**	**56.73**	**96.82**	**15.33**

From shareholding data, it can be summarized that ownership concentration of non-financial listed firms, both widely-held and closely-held, in Thai stock market is highly concentrated. And for those firms that have an ultimate shareholder, most of these firms are controlled by a family or an individual.

4.3 Bank equity ownership

Due to the lack of an active bond market, it creates close relationship between commercial banks and non-financial corporations in Thailand, which is one of unique characteristics as an emerging economy (Limpaphayom and Polwitoon, 2004). There are two forms of the relationship, lending and bank equity ownership (bank equity ownership is

defined as a situation that bank holds equity of firms that received loans). In this section, bank equity ownership is an important issue to be detailed.

Many literatures that study about relationship between bank relationship and corporate performance and valuation suggest that information asymmetry and agency costs are major banks' concern when they lend capital. Active monitoring therefore is required and results to bank equity ownership. Diamond (1984) argues that increased bank monitoring from bank equity ownership can alleviate information asymmetry. Limpaphayom and Polwitoon (2004) further give more explanation of the source of this benefit, when banks hold shares of borrowers they obtain great voice in corporate governance. However, it is also documented that when large proportion of shares is held by banks it would yield negative outcome, also known as entrenchment effect.

In Thai stock market, there are 107 listed companies (about 25% of total listed companies) that exhibit bank equity ownership. From this amount, it can be classified to group of financial listed companies (26 companies, 24 percent) and non-financial listed companies (81 companies, 76 percent). Table 5 shows bank ownership in non-financial group. From the table, it shows that bank ownership level in non-financial companies mostly not greater than 10 percent of total shares (73 companies out of 81 companies). Overall picture, average percentage of shares held by banks is 4.84 and median value is 2.42%.

Table 5: Bank ownership in non-financial listed companies

Ownership level	Total	Bank ownership (%)			
		Avg.	Med.	Max.	Min.
Bank ownership < 5%	60	2.07	1.85	4.99	0.53
5.00% ≤ Bank ownership < 10.00%	13	6.90	6.59	5.02	8.98
10.00% ≤ Bank ownership < 15.00%	3	11.87	11.48	11.01	13.11
15.00% ≤ Bank ownership < 20.00%	2	18.55	18.55	17.19	19.90
20.00% ≤ Bank ownership < 25.00%	1	22.76	22.76	22.76	22.76
25.00% ≤ Bank ownership < 30.00%	0	-	-	-	-
30.00% ≤ Bank ownership < 35.00%	0	-	-	-	-
35.00% ≤ Bank ownership < 40.00%	1	37.64	37.64	37.64	37.64
Bank ownership ≥ 40.00%	1	44.53	44.53	44.53	44.53
Total	**81**	**4.84**	**2.42**	**44.53**	**0.53**

According to the evidence of the benefit of bank equity ownership to asymmetric information, it is hypothesized that firms that owned by banks should have lower bid-ask

spread than firms without bank equity ownership. However, another unique setting of Thai firms should be considered too, that is ownership of Thai firms is commonly family controlled and highly concentrated. Gorkittisunthorn, Jumreornvong and Limpaphayom (2006), give details about the moderating effect of insider ownerships on stock liquidity by using free float hypothesis. Since the more shares held by insider ownership the fewer shares left for trading activity (insider ownerships tends to hold shares rather than trade), it therefore leads to low liquidity (higher bid-ask spread). So it can be concluded and hypothesized that insider ownerships moderate the benefit of bank equity ownership on stock liquidity and insider ownerships have negative effect on stock liquidity accordingly.

Table 6: Type of non-financial listed companies those present bank equity ownership*

Type	Total	Bank ownership (%)	
		Avg.	Med.
1. Widely-held corporation	19	6.25	2.42
2. Ultimate shareholder	55	4.40	2.52
- A family or an individual	*44*	*3.69*	*2.37*
- State	*7*	*5.61*	*2.73*
- Widely-held corporation	*2*	*23.30*	*23.30*
- Others	*1*	*0.76*	*0.76*
- Widely-held financial corporation	*1*	*4.40*	*4.40*
Total	**74**	**5.03**	**2.62**

* Exclude 7 companies that have foreign companies as an ultimate shareholder

In Table 6, 55 companies or about 75% of non-financial listed companies (exclude 7 companies that have foreign companies as an ultimate shareholder) that shows bank equity ownership are closely-held companies. An average bank ownership level is not too high, 4.40%, when compare to the overall average value. More interestingly, a family or an individual dominates ultimate shareholder group. It accounts for 80% (44 from 55) of total companies in this group with the average equity held by banks at 3.69%. This number demonstrates the second rank from the bottom and can be explained by Limpaphayom and Polwitoon (2004) that insider ownerships have statistically negative significant to level of bank equity ownership. That implies insider may prevent banks from acquiring stakes in a firm.

4.4 Hypotheses

In the circumstance of stock trading on a stock exchange, bid price refers to the highest price that a buyer is willing to pay for a particular security. The ask price which also known as offer price is the lowest price of a security that a seller is willing to sell. The ask price is always higher than the bid price and difference between ask price and bid price is called the spread or bid-ask spread.

In a limit order market and no market makers like The Stock Exchange of Thailand (SET), the bid-ask spread of the stock is fully determined by the mechanism of supply and demand. This implies that the more buyers (sellers) want to buy (sell) a stock, the more bids (offers). In order for a transaction to be executed, bid and ask price must be the same. This implies frequently traded stock (liquid stock) would have narrow difference in bid price and ask price (low bid-ask spread). On another side, not actively traded stock (illiquid stock) would have wide difference in bid price and ask price (high bid-ask spread). In general, the size of bid-ask spread is a measure of stock liquidity. Liquidity refers to how stock is easily to buy or sell. If investor can buy a stock and sell it immediately at the same price, this stock is perfectly liquid. Instead, if investor can not sell it at all, this stock is perfectly illiquid. In reality, stock liquidity is in between these two extreme cases. Stocks with large trading volume per day, more supply and demand, would have low bid-ask spread (commonly called liquid stocks) and thinly traded stocks (illiquid stocks) would have wider bid-ask spread.

Not actively traded stocks create negative effects to all stock market participants. First, low liquid stocks are frequently traded at discount. Consequently shareholders' wealth and market value of companies are undervalued. Second, it creates high volatile movement in share price. It is because of supply and demand mechanism is not function well. Investors who really want to buy a stock at that time must place bid order at a very high price. On another side, exit mechanism for shareholders is limited. That means it is not easily convert stocks to cash, shareholders who want to sell a stock promptly must place an offer at a very low price. Third, it increases cost of raising capital. In general case, illiquid stocks adversely influence investor's interest in subscribing for new issued shares. For fully subscribed,

companies tend to offer shares at lower price than it should be, therefore it raises the cost of equity financing. Forth, the main earning source of an exchange is trading volume, thus low trading stocks reduce exchanges' revenues and profits. Moreover, illiquid stocks affect exchange's ability to attract new companies for listing on the exchange and attract new investors to the market.

In recent years, there are many literatures that study about the important of stock market liquidity and they posit the determinants of stock liquidity by using bid-ask spread. Bid-ask spread's cost components are order processing cost, inventory holding cost and asymmetric information cost. Since in Thai stock market, there is no trading specialists like market maker so order processing cost and inventory holding cost are not relevant to the analysis of bid-ask spread. Therefore, bid-ask size is entirely determined by information asymmetry.

According to Wiwattanakantang (1999), traditional Thai firms are owned by individuals, partners and families. These groups of people also manage and control company. Funds is mainly capitalized from owners and sometimes supplemented by loan from banks. Moreover, Wiwattanakantang (1999) studies managerial ownership of Thai firms and concludes that insider shareholdings of non-financial listed firms in Thai stock market are relatively high. Study of Claessens et al. (2000), the separation of ownership and control in East Asian corporations, supports Wiwattanakantang's findings. It was stated that, among East Asian corporations in nine countries, listed firms in Thailand and Indonesia are mainly controlled by family. And Thai listed companies also display most ownership concentrated as it was measured by percentage of shares held by the largest shareholder, it is 32.84% on average and followed by Indonesia and Hong Kong at 25.61% and 24.30%.

In last few decades, even Thai capital market showed great development and ownership and capital structure have changed accordingly but ownership concentration is still relatively high and largely owned by family or individual. From the shareholding data of year 2008, there are 251 out of 279 ultimately controlled companies or 90% that owned by individual or family. Using percentage of shares held by the largest shareholder, three largest

shareholders and five largest shareholders as a measure of ownership concentration, the data reveal the level of shareholding at 27.43%, 47.16% and 56.56%. From this fact, it is clearly that ownership structures of Thai companies are family owned and very concentrated.

Recent researches on corporate governance mainly focus on investor protection, especially the issue of expropriation of minority shareholders. From the corporate governance side, expropriation is a focal point when firms are owned, managed and controlled by large shareholders (especially family or individual).

In the modern corporation, professional managers manage and control company. For some reason, conflict of interests between shareholders and managers may arise when professional managers might not act in the best interests of shareholders (Claessens et al., 2000). This creates a principle agent problem between professional manager and shareholders and, as a result, firm's valuation is decreased. Under this situation, Jensen and Meckling (1976) suggest that the presence of large shareholders would restore the firm's value because large shareholders would monitor professional managers carefully and ensure that managers' actions are maximizing shareholders' wealth.

However, the presence of large controlling shareholder gives negative effects to minority shareholders as well. Once controlling shareholder has almost control over the firm, the expropriation might happen. Expropriation is happen when one uses controlling power to generate private benefits by using others' resources. Claessens et al., (1999) document the evidence of minority shareholders expropriation in firms in East Asian countries. They interpret a discount in firm valuation as expropriation of minority shareholders by controlling shareholders. Expropriation actions might come in forms of transfer pricing, asset stripping and investor dilution (La Porta et al., 2000).

Jensen and Meckling (1976) explain that expropriation is related to the agency problem. Comparing with dispersed shareholding companies, firms that have controlling shareholders would show another picture of agency problem. In dispersed shareholding companies, it is a conflict between professional managers and shareholder (principle- agent problem). But a firm with large controlling shareholders, agency problem is a conflict

between controlling shareholders (insiders) and minority shareholders (outsiders). Moreover, it was hypothesized the negative relationship between large controlling firm and information disclosure quality. Because of being a large controlling shareholder of a firm yields many private benefits, such as controlling or accessing to corporate policy, it is an incentive for controlling shareholder to delay or not fully disclose corporate information. This action generates adverse selection problem. As mentioned before, asymmetric information is the factor that determines stock liquidity, bid-ask size. This implies the ownership structure has significant effect on liquidity of stock.

The relationship between ownership structure and stock liquidity can be explained by free float or trading hypothesis and adverse selection hypothesis (Ginglinger and Hamon, 2007). Free-float hypothesis posits the positive relationship between stock liquidity and market capitalization. It also states that average transaction costs depend on the amount of shareholder participating in trade. When firm has an ultimate shareholder and ownership of firm is concentrated, commonly it results to fewer trades. Therefore, average transaction cost is higher and stock liquidity is lower. In Thai stock market, free float is defined as the percentage of share that is not held by strategic shareholders. According to The Stock Exchange of Thailand, strategic shareholders refer to shareholders who have controlling power over firms or shareholders who held corporate shares in order to gain rights to participate in firm's management team. Government and State agencies, directors and management (including related parties), shareholders who hold shares equals to or greater than 5% of total paid-up of common shares and shareholders under silent period agreement are categorized into strategic shareholders group. Since non-financial listed companies in Thai capital market are management-ownership firms, therefore, ultimate shareholders are usually strategic shareholders. In general, shares held by strategic shareholders are not actively traded. It is because of strategic shareholders are rather holding their shares for a long period to maintain controlling power than trading. When supply of stocks is limited, investors face difficulty to obtain a stock while shareholders can not sell a share easily. It should result to low trading volume and higher average transaction cost (then low liquidity of stock or

higher bid-ask spread). However, in a case of dispersed ownership firm, percentage of strategic shareholders is low therefore more shares are available and results in actively trading (lower bid-ask size).

Asymmetric information refers to an event that one party in a transaction has superior information than others and it is likely that the one would use this superior position to take advantages from others. In terms of ownership and liquidity relation, large shareholders who hold substantial corporate shares can dictate or access corporate policy and any inside information which minority shareholders can not. In term of controlling power, they may use firm's resources to satisfy their needs such as high compensations from salaries and dividend, luxurious cars, and classy office. Consequently, the presence of controlling shareholders can produce adverse selection and moral hazard problem.

In addition, entrenchment actions of large shareholders can lead to poor information disclosure. Attig et al. (2004) state that with the better position of corporate information known by large shareholders, to generate selfish agendas then ultimate shareholders would minimize the detail of information and delay disclosure to secure his extraction plan. When minority shareholders and investors face insufficient information, it implies greater information asymmetry risk. Hence, bid-ask spread should be wider accordingly to reflect the higher risk.

In an investor side, therefore, under the fact that large controlling shareholders are better informed than minority shareholders, bid-ask size must increase to absorb the cost of information asymmetry. That implies firms with large controlling shareholder should have wider bid-ask spread than others that do not. This implication clearly states the positive relation between concentrated controlled firms and bid-ask spread. Hence, it is hypothesized that firms with ultimately shareholder have higher bid-ask spread than widely-held firm.

Hypothesis 1: Ultimately controlled firms have wider bid-ask spread than widely-held corporation.

As an existence of high concentrated ownership generates the negative effect on firm valuation, large shareholders has a number of ways to facilitate this problem without losing controlling power (voting rights). The examples are dual-class shares, pyramidal ownership structure and cross-shareholding ownership structure and Wiwattanakantang (2000) evidences the pyramidal and cross-shareholding ownership structure of listed companies in Thailand. Since dual-class shares mechanism is prohibited in Thailand therefore such mechanism is not found.

In last few decades, there are many literatures that study the pros and cons of large shareholding ownership in corporation and their ownership organizations. This paper would use such findings to construct the second hypothesis. Starting from the study of La Porta et al. (1999), they track ownership chain of large corporations in 27 wealthy economies to find who is an ultimate shareholder and found two important points. First, apart from well shareholder protection countries, firms are largely closed held and controlled by families or the State. Second, voting rights and cash flow rights of large block holders are not necessary equal and further suggest that ownership and voting rights can be separated in order to benefit large shareholders. The reason behind such an occurrence is the expropriation risk or entrenchment risk. It is documented by Shleifer and Vishny (1997), when large controlling shareholders hold large block of shares and gain almost full control (measured by voting rights) on company, they prefer to generate benefits for their own by using firm's resources rather than maximize all shareholders' wealth, which would result to a reduction in corporate market value. To avoid this negative side, many ownership structures such as pyramid and cross-shareholding are used to reduce proportion of shares held of large shareholders while controlling power remains the same. In East Asian corporations, study of Claessens et al. (1999) concludes that expropriation in Indonesia, Philippines and Thailand are strongest and the expropriation risk is the major principal-agent problem between controlling shareholder and minority shareholders.

As stated, the asymmetric information determines bid-ask size. Therefore, it can be interpreted that others forms of ownership structures beside simple structure should have

higher bid-ask sizes to reflect the principle-agent problem. Since there are pyramidal and cross-shareholding ownership structures in Thailand, the second hypothesis of the study is stated as follow.

Hypothesis 2: Ultimately shareholding firms that have pyramidal structure and cross-shareholding structure have wider bid-ask spread than those that large shareholder employ simple ownership mechanism.

In the analysis, mean value of daily percentage bid-ask spread (BASPREAD) is a proxy to measure stock liquidity. Daily percentage spread (BASP) is measured as follow (according to Attig et al., 2002):

$$BASP = (Ask\ price - Bid\ price)/\ [(Ask\ price + Bid\ price)/2]*100$$

Daily closing bid-ask spread from January 2nd, 2008 to December 30th, 2008 are collected to compute average value of daily percentage bid-ask spread.

To examine the effect of large controlling shareholder and ownership structure on bid-ask size, the following regression equation is used while BASPREAD is a dependent variable.

$$BASPREAD = \alpha + \beta_1\ INSIDER + \beta_2\ SIZE + \beta_3\ PRICE + \beta_4\ TURNOVER + \beta_5\ SET50 + \beta_6\ BANK + \varepsilon_i$$

In this study, Ordinary Least Square (OLS) method is used to explain the relationship between dependent variable (BASPREAD) and independent variables. Insider (INSIDER) is defined as the proportion of shares held by family member, directors and management. According to free float hypothesis, shares in the hands of insiders are long term hold rather than traded. So companies that show high level of insiders should have low liquidity. In the adverse selection hypothesis, high insider ownership would result to adverse selection problem for outsiders (which are investors). Therefore the high insider would accompany

with low liquidity. Consequently, it is expected the positive relationship between insider and bid-ask spread. Size (SIZE) refers to logarithm of market capitalization of firm at the end of year 2008. Because monotonic problem between size and turnover is likely to happen, so it is essentially to control size in the regression (Gorkittisunthorn et al.,2006). Negative relationship between size and bid-ask spread is expected. According to liquidity hypothesis (Gorkittisunthorn et al.,2006), since retail investors are wealth constrained then low share price would attract more retail investors. In emerging market like Thailand, retail investors are the most important part in terms of total trading turnover. Generally, company that has large number of retail investors would have high liquid stock. Hence, if proportion of shares held by retail investors is broadened, the liquidity of stock would increase. So share price (PRICE) is supposed to have positive relationship with bid-ask spread. Share price is defined as the logarithm of price of last trading day of the year 2008 (December 30th, 2008). Trading volume (TURNOVER) is also included as a control variable, defined as total trading volume in the year 2008. Beside the SIZE, dummy variable is used to differentiate top fifty largest listed companies (SET50) in the Exchange from total sample. Dummy variable is equal to 1 when listed company is in the list otherwise it is 0. Many previous literatures state the effect of size on asymmetric information, for example, the smaller firm size get less attention from foreign and institutional investors (which are important players in the emerging market like Thailand) therefore lower trading volume. Another angle is small sized stocks have less media coverage then it is expected that information asymmetry is relatively higher than large sized stocks, hence, higher bid-ask size. Bollen, Smith and Whaley (2002) also assure this finding by explain Harris (1994)'s argument that the larger firm size the more well known to investors, hence lower asymmetric information. Last control variable is bank-ownership (BANK), Limpaphayom and Polwitoon (2004) evident the bank equity ownership in Thai firms, the unique setting. Even though bank equity ownership can reduce asymmetric information and then smaller bid-ask spread but another unique setting of Thai firms must be considered as well, family owned and high concentrated ownership (insider ownership). Hence, it is hypothesized that insider ownerships moderate the benefit of bank equity

ownership on stock liquidity and would creates negative effect rather than positive on stock liquidity.

V. Result

5.1 Descriptive statistic

The previous data demonstrate that ownership structure of non-financial listed companies in The Stock Exchange of Thailand is concentrated and generally they are ownership-management firms. In addition, family or individual indicates the highest proportion of ultimate shareholder types. According to free-float and asymmetric information hypotheses, it should suspected that ultimately controlled firms should have higher bid-ask size than widely-held corporations.

Table 7 shows mean value of daily average bid-ask spread of widely-held firms and ultimately controlled firms, the preceding group further classified into family-controlled firms and non-family-controlled firms for a clear picture of family-controlled effect on liquidity. Mean value of daily average bid-ask spread of existence of family-controlled firms is 4.4392, the highest among widely-held (2.6854) and non-family controlled firms (1.7799). Interestingly, non-family controlled companies show the lowest daily average bid-ask spread mean value. However, before figuring out a reason behind, characteristics of sample firms by group should be reviewed first.

Table 7: Ultimate controlled firm and stock liquidity

Daily average bid-ask spread	Existence of ultimate shareholder		P-value of T-test in differences in:
	Non-existence	Existence	
1. Widely-held firms	2.6854	-	-
2. Family-controlled firms	2.6854	4.4392	0.0002*
3. Non-family controlled firms	2.6854	1.7799	0.1631
- State	*2.6854*	*0.9370*	*0.0324*
- Widely-held corporation	*2.6854*	*1.7965*	*0.4693*
- Others	*2.6854*	*3.9044*	*0.4646*
- Widely-held fin. Corp.	*2.6854*	*6.6502*	*0.2226*
Total	2.6854	4.1704	0.0009*

**P-value of Z-test*

Table 8: Descriptive statistic of control variables

Variable	All		Widely-held		Family controlled		Non-family controlled	
	N = 369		N = 92		N = 249		N = 28	
	Mean	Med.	Mean	Med.	Mean	Med.	Mean	Med.
Insider (%)	60.9%	64.6%	43.2%	43.2%	67.0%	68.6%	64.0%	64.7%
Size (Market capitalization)	6,086	811	2,240	647	2,846	822	47,544	6,732
Price: THB Baht	4.5	1.8	2.7	1.3	4.3	1.9	11.2	3.0
Turnover: Million Shares	1,708	92	3,833	545	998	46	1,047	266
Bank ownership (%)	5.0%	2.6%	6.5%	2.4%	3.6%	2.3%	8.3%	2.7%

Note: 1. Unit of Size: THB million
2. All share prices are adjusted to par THB 1 Baht for price comparison

Family-controlled firms show the highest percentage of share-held by insider, mean value at 67.0% and median value at 68.6%, non-family-controlled firms and widely-held corporations is the second and last position accordingly. Hence, under the free-float and asymmetric information hypothesis, it is not surprise to see family-controlled firms demonstrate the highest daily average bid-ask size in Table 7. In terms of size, non-family-controlled firms present the largest number. PTT, PTTEP, SCC, RATCH and TOP are the main contributors (they account around 81% of total market capitalization in this group). An interesting point is that out of five companies, ultimate shareholder of four companies is State. This group also show the highest mean and median value of price when compare to the rest (in this section, all share prices in the sample are adjusted to par THB 1 Baht for price comparison). Average price of non-family controlled is higher than widely-held companies (family-controlled firms) about four (more than one) times. Generally, retail investors prefer low-price stocks to high-price stocks. That is why widely-held corporations which show the lowest mean and median value of stock price have highest turnover. On the bank ownership side, bank own shares of family-controlled companies around 3.6%, the lowest among all groups. At the same time, bank-ownership level is highest in non-family-controlled firms.

From Table 7 and Table 8, it can be concluded that the presence of concentrated ownership and family-controlled increase the information asymmetry costs and result in higher bid-ask spread.

Table 9 : Ownership structure of ultimate controlled firm and stock liquidity

Daily average bid-ask spread	Ownership structure		P-value of T-test in differences in:
	Simple	Not simple	
1. Pyramid	3.9918	4.9230	0.3159*
2. Cross-shareholding	3.9918	4.9315	0.4789
Total	3.9918	4.9252	0.2513*

*P-value of Z-test

Table 10: Descriptive statistic of control variables of ultimately controlled firm

Variable	Simple		Not simple		Pyramid		Cross-shareholding	
	N = 224		N = 53		N = 39		N = 14	
	Mean	Med.	Mean	Med.	Mean	Med.	Mean	Med.
Insider (%)	66.4%	68.6%	68.3%	68.6%	69.1%	69.8%	66.0%	66.7%
Size (Market capitalization)	5,818	801	13,897	3,684	16,552	1,832	6,498	4,230
Price: THB Baht	10.8	3.1	37.1	9.8	45.2	9.8	14.4	10.8
Turnover: Million shares	816	85	1,791	12	2,357	12	216	8
Bank ownership (%)	0.9%	0.0%	1.0%	0.0%	0.8%	0.0%	1.8%	0.0%

Note: 1. Unit of Size: THB million
2. All share prices are adjusted to par THB 1 Baht for price comparison

Table 9 shows the daily average bid-ask spread of simple ownership structure group and not-simple ownership structure group. The daily bid-ask spread of non-simple ownership group is 4.9252 which are higher than simple structure group (3.9918) but it is not statistically significant at 95% confidence interval (P-value of Z-test is 0.2513). On the descriptive statistic data which shown in Table 10 indicates level of insider, size, price and bank ownership of not-simple ownership structure group are all higher than simple group. It should be noted that even though size of not-simple ownership structure group is considerable larger than simple group but it would not spread out the positive effect of insider and price on bid-ask size.

5.2 Regression analysis

In the study, proportion of share-held by insiders, firm's market capitalization, stock price and level of bank-ownership are considered as a significant determinants of stock liquidity (measured by bid-ask size). In Table 11, regression results of the effects of ownership on the bid-ask spread is documented. Panel A exhibits regression results of all sample companies. Regression results of widely-held firms, family controlled firms and non-family-controlled-firms are presented in Panel B, Panel C and Panel D accordingly. SIZE (market capitalization) and PRICE (except only widely-held group) are statistically significant for all model specifications, this implies market capitalization is the key determinant of bid-ask spread of non-financial listed companies in Thai stock market. It shows negative and statistically significant to bid-ask spread. This implies the larger the market capitalization, the more liquid of stock. Whereas stock price is positive and statistically significant to stock liquidity, therefore higher price is associated with higher bid-ask spread (lower liquidity). These findings are consistent with the theoretical predictions of Harris (1994), Gorkittisunthorn et al. (2006) and Bollen, Smith and Whaley (2002).

In a big picture, from Panel A, regression result indicates the positive and statistically significant of insider on bid-ask spread. This supports free-float and asymmetric information hypothesis as mentioned in the previous section. The lower the shares available for trading (less supply) will result in lower turnover and higher bid-ask size. In another angle, the higher proportion of shares held by insiders would result in higher risk of information asymmetry and therefore higher bid-ask size.

Bank-ownership is an interesting point that should be considered. From Panel A, the results show that Bank-ownership is statistically significant with stock liquidity but in positive relation. It can be interpreted that bank-ownership does not reduce asymmetric information and agency costs problem. This might because of banks might hold a relatively small proportion of firm's shares so it can not efficiently spread the costs of problem over their investment (from Table 5, the median value of bank-equity ownership in non-financial listed companies in The Stock Exchange of Thailand is 2.42%). Moreover, the bank-

ownership might reduce the supply of stocks therefore less trading volume and increases bid-ask spread.

The effect of ultimate shareholder structure, specifically the separation between control rights and ownership rights, on stock liquidity is also examined. The ratio of ownership rights over control right of largest ultimate shareholder is used as a proxy. If ultimate shareholder employ a long chain of intermediates companies to control firm, the ratio would be low (Claessens et al., 2002). And such an event, it is documented that firms value destruction and worsening effects on information asymmetry could arise. A negative relationship is reported between the ratio and bid-ask spread. Therefore, the higher separation between control and ownership which created from controlling mechanisms (pyramidal and cross-shareholding ownership in particular), the wider bid-ask spread (lower liquidity).

For a robustness check, the deviation between ultimate control (UCON) and ultimate ownership (UOWN) and the dummy variable of separation between control and ownership are proxy. Dummy variable is equal to 1 when ultimate control is higher than ultimate ownership otherwise it is 0. The estimated coefficients of these variables, shows that deviation between ultimate ownership and ultimate control are positively and significantly affects the bid-ask spread, hence reduce stock liquidity. That implies the more deviation then the more asymmetric information and result to higher bid-ask spread.

Panel C and Panel D show the regression results of family-controlled companies and non-family-controlled companies. In family-controlled, bank-equity ownership shows positive and statistically significant on bid-ask spread. As mention before, it could be interpreted that in family-controlled firms, bank equity ownership could not reduce the positive effect of family controlling on bid-ask spread. It might because of proportion of share-held by bank is not high enough to counteract drawbacks of family controlling power (2.37% in median value, the lowest proportion of share-held by bank relatively to others type of firms). Moreover, the proportion of shares held by banks would worsen the stock liquidity (fewer shares left for trading). The relationship between separation between ownership and control and bid-ask spread is significant. In Panel D, INSIDER exhibits insignificant

relationship on bid-ask spread. It is 62% of total companies in this group (non-family-controlled) are controlled by State and in Table 12, it shows that State-controlled does not have significant effect on the bid-ask size. This is the reason behind the insignificant effect of INSIDER on stock liquidity. Moreover, about 61% of total companies in this group have simple ownership structure. On the separation of control and ownership side, therefore the separation between ultimate control and ultimate ownership for non-family-controlled firms does not affect bid-ask spread as reported. Hence it can infer that significant relationship between the separation and bid-ask spread of whole sample is driven by family-controlled firms.

The effect of type of ultimate shareholders on stock liquidity is presented in Table 12. Dummy variables are used to distinguish the presence of ultimate owner (UOWN), family-controlled firms (FAMC) and State-controlled firms (GOVC). Dummy variable is equal to 1 if firm has an ultimate owner or categorized into family-controlled or State-controlled firms, otherwise is equal to 0. The result show that the presence of ultimate shareholder and family controlled is statistically and positively effects bid-ask size of company's stock. However, State-controlled is insignificant to bid-ask spread. This consistent with the prior evidences, firms that controlled by States does not show value destruction. Moreover, in emerging stock market like Thailand, State-controlled stocks are in the focus of institutional investors and are most popular to retail investors. Therefore, even ultimate shareholder exists but it does not result to higher bid-ask spread.

Next, the effect means of enhancing control employed by ultimate shareholder to stock liquidity is investigated. Dummy variable is used to distinguish types of control. Dummy variable is equal to 1 if firm are controlled through pyramidal structure or cross-shareholding structure, otherwise is equal to 0. The regression result shows that enhancing control via pyramidal structure and cross-shareholding structure is statically affect bid-ask spread.

Overall, the results show a significant effect of the ultimate ownership structure on the bid-ask spread, particularly, the presence of a family increases the bid-ask spread (due to

asymmetric information costs and the potential of private benefits generating by ultimate shareholder). And enhancing control through pyramidal and cross-shareholding structure by controlling shareholder has a positive effect on the bid-ask spread as well.

VI. Conclusion

The paper studies about the effect of ultimate controlling shareholder on liquidity of stock of non-financial Thai listed companies by employing free-float or trading hypothesis and asymmetric information hypothesis (according to Ginglinger and Hamon, 2007). Free-float hypothesis posits the positive relationship between stock liquidity and market capitalization. It also states that average transaction costs depend on the amount of shareholder participating in trade. When firm has an ultimate shareholder and ownership of firm is concentrated, commonly it results to fewer trades. Therefore, average transaction cost is higher and stock liquidity is lower. For the second hypothesis, the presence of large controlling shareholder can create an entrenchment effect, a situation that ultimate shareholder uses controlling power to generate private benefits by using corporate resources. By doing so, it can lead to poor information disclosure as Attig et al. (2004) state, with the better position of corporate information known by ultimate controlling shareholders, to generate selfish agendas then ultimate shareholder would minimize the detail of information and delay disclosure to secure an extraction plan. When minority shareholders and investors face insufficient information, it creates information asymmetry problem.

From the previous studies and ownership data of the year 2008, it shows that corporate ownership structure of Thai listed companies are family or individual controlled, concentrated and generally management-ownership. So it is an interesting point to see whether liquidity of stock of non-financial Thai listed firms is affected by such ownership pattern.

In recent years, many literatures employ bid-ask spread as a proxy to measure stock liquidity and it also states that bid-ask spread is composed of three cost components which are order processing costs, inventory holding costs and asymmetric information costs. Unlike the

others Exchange, Thai capital market has no trading specialist like market maker. So order processing cost and inventory holding cost are not relate to bid-ask spread. It is just only asymmetric information cost that entirely determine bid-ask size of stock of non-financial Thai listed companies (the higher asymmetric information cost, the higher bid-ask spread).

In the study, it is hypothesized that ultimately controlled firms should have larger bid-ask spread than those that do not have ultimate shareholder (widely-held corporation). And from the descriptive statistic and regression result, it proves that ultimately controlled firms (specifically family-controlled firms) have wider bid-ask spread. This shows an existence of asymmetric information in family or individual controlled corporations.

There is an interesting point that should be noted. From the analysis, firm that has State or widely-held corporation as ultimate shareholder (non-family controlled firms) do not have wider bid-ask spread than widely-held firms. It is because of these companies are big capitalization company so they are in the focus of institutional investors and are most popular to retail investors. Moreover, such companies generally have excellent corporate governance. Therefore, even ultimate shareholder exists but it does not result to higher bid-ask spread.

In addition, the study examines an effect of the separation between control rights and ownership rights on bid-ask size in ultimately controlling firms. There is an existence that high concentrated ownership generates the negative effect on firm valuation, so large controlling shareholder has a number of ways to facilitate this problem without losing controlling power (voting rights). Generally they would use dual-class shares, pyramid structures and cross-holdings. However, in Thailand, using of dual-class shares is prohibited by law and Claessens et al. (2000) and Wiwattanakantang (2000) document the evidence of the using of pyramidal and cross-holding ownership structure by large controlling shareholders in Thai publicly firms. By employing such ownership structures, it creates a difference between control rights and ownership rights (also called the separation between control rights and ownership rights) and Attig et al. (2002) document that such mechanisms are significantly affect bid-ask spread.

The second hypothesis of the study is ultimately shareholding firms that have pyramidal structure and cross-shareholding structure have wider bid-ask spread than those that large shareholder employ simple ownership mechanism. This study shows that ultimately controlled firms that have such shareholder structures have higher bid-ask size than simple-structure companies and the higher the separation (higher asymmetric information) is accompanied with higher bid-ask spread.

From the paper, three important issues should be addressed. First, in Thai Exchange, market capitalization is the key determinant that determines stock liquidity (the higher market capitalization, the higher liquidity). In order to increase market liquidity, the regulators (The Stock Exchange of Thailand and Securities and Exchange Commission) should accommodate listed companies in all aspects to boost market capitalization. The second issue, since pyramidal and cross-shareholding ownership structure creates separation between control rights and cash-flow rights it is also evidenced that the more separation would result to higher bid-ask size, hence, pyramidal structure and cross-shareholding should not be implemented or prohibited. Last issue is about corporate governance. Good information disclosure and internal control are required for ultimately controlled companies to reduce entrenchment effect and asymmetric information cost.

Table 11: Regression analysis of the effect of ultimate ownership structure on stock liquidity

Model	Intercept	INSIDER	Log(SIZE)	Log(PRICE)	TURNOVER	Dummy SET50	BANK	Dummy BANK	NET DEBT TO ASSET	Dummy NET DEBT TO ASSET	UCON - UOWN	Dummy UCON > UOWN	UOWS over UCON	N	Adj-R^2
Panel A: Whole samples															
(1)	11.5041 (0.0000)	5.496419 (0.0000)	-1.868793 (0.0000)	1.320899 (0.0000)	0.000141 (0.0000)									369	0.4013
(2)	12.93598 (0.0000)	6.084280 (0.0000)	-2.161535 (0.0000)	1.306735 (0.0000)	0.000149 (0.0000)	2.502971 (0.0026)								369	0.4145
(3)	12.87512 (0.0000)	6.048437 (0.0000)	-2.157314 (0.0000)	1.313296 (0.0000)	0.000150 (0.0000)	2.434246 (0.0035)	5.184778 (0.2747)							369	0.4148
(4)	13.11714 (0.0000)	6.059375 (0.0000)	-2.217870 (0.0000)	1.336260 (0.0000)	0.000151 (0.0000)	2.489661 (0.0026)		0.961228 (0.0421)						369	0.4196
(5)	12.93008 (0.0000)	6.085221 (0.0000)	-2.161877 (0.0000)	1.307797 (0.0000)	0.000149 (0.0000)	2.501198 (0.0027)			0.025506 (0.9783)					369	0.4128
(6)	13.76865 (0.0000)	5.998107 (0.0000)	-2.130571 (0.0000)	1.263514 (0.0000)	0.000147 (0.0000)	2.553295 (0.0021)				-1.028928 (0.1298)				369	0.4166
(7)	13.63590 (0.0000)	5.642878 (0.0000)	-2.272408 (0.0000)	1.289922 (0.0000)	0.000140 (0.0000)	2.588325 (0.0016)		0.971360 (0.0385)			7.371605 (0.0101)			369	0.4285
(8)	13.55647 (0.0000)	5.706652 (0.0000)	-2.264266 (0.0000)	1.267221 (0.0000)	0.000143 (0.0000)	2.562619 (0.0018)		0.940687 (0.0452)				1.368341 (0.0136)		369	0.4277
(9)	16.09423 (0.0000)	5.808457 (0.0000)	-2.264496 (0.0000)	1.292833 (0.0000)	0.000142 (0.0000)	2.617587 (0.0016)		0.959336 (0.0418)					-2.578070 (0.0563)	369	0.4238
Panel B: Widely-held firms															
(1)	8.593342 (0.0001)	3.270328 (0.0650)	-1.187796 (0.0001)	0.506335 (0.0551)	0.000068 (0.0828)									92	0.1705
(2)	9.153724 (0.0001)	3.737851 (0.0425)	-1.311162 (0.0001)	0.458165 (0.0876)	0.000069 (0.0798)	1.817396 (0.3332)								92	0.1699
(3)	9.091308 (0.0001)	3.660482 (0.0501	-1.299361 (0.0002)	0.455192 (0.0915)	0.000069 (0.0812)	1.696715 (0.3784)	2.027536 (0.7545)							92	0.1612
(4)	9.426097 (0.0001)	3.407388 (0.0713)	-1.349266 (0.0001)	0.461649 (0.0859)	0.000071 (0.0731)	1.472462 (0.4453)		0.694673 (0.4257)						92	0.1665
(5)	9.029201 (0.0001)	3.696048 (0.0463)	-1.314378 (0.0001)	0.477306 (0.0818)	0.000069 (0.0797)	1.708013 (0.3707)			0.634957 (0.6992)					92	0.1617
(6)	10.75734 (0.0000)	4.158129 (0.0215)	-1.003531 (0.0042)	0.258115 (0.3439)	0.000058 (0.1306)	1.616479 (0.3769)				-3.825918 (0.0185)				92	0.2136

Table 11: Regression analysis of the effect of ultimate ownership structure on stock liquidity (con't)

Model	Intercept	INSIDER	Log(SIZE)	Log(PRICE)	TURNOVER	Dummy SET50	BANK	Dummy BANK	NET DEBT TO ASSET	Dummy NET DEBT TO ASSET	UCON - UOWN	Dummy UCON > UOWN	UOWS over UCON	N	Adj-R^2
Panel C: Family-controlled firms															
(1)	11.29807 (0.0000)	8.604167 (0.0000)	-2.192367 (0.0000)	1.535500 (0.0000)	0.000173 (0.0027)									249	0.4534
(2)	12.21190 (0.0000)	9.951842 (0.0000)	-2.497983 (0.0000)	1.548305 (0.0000)	0.000184 (0.0013)	3.220777 (0.0038)								249	0.4720
(3)	11.76389 (0.0000)	10.22750 (0.0000)	-2.488592 (0.0000)	1.563933 (0.0000)	0.000184 (0.0011)	3.249038 (0.0031)	28.44409 (0.0133)							249	0.4725
(4)	12.02365 (0.0000)	10.42790 (0.0000)	-2.566259 (0.0000)	1.601852 (0.0000)	0.000175 (0.0020)	3.368232 (0.0023)		1.496240 (0.0194)						249	0.4710
(5)	12.22171 (0.0000)	9.946001 (0.0000)	-2.497744 (0.0000)	1.547214 (0.0000)	0.000184 (0.0013)	3.221354 (0.0038)			-0.023851 (0.9840)					249	0.4589
(6)	12.95211 (0.0000)	9.802922 (0.0000)	-2.487812 (0.0000)	1.513165 (0.0000)	0.000183 (0.0013)	3.285169 (0.0032)				-0.742471 (0.3509)				249	0.4609
(7)	12.42766 (0.0000)	10.14302 (0.0000)	-2.614033 (0.0000)	1.535970 (0.0000)	0.000151 (0.0080)	3.716275 (0.0008)		1.467379 (0.0209)			7.331689 (0.0312)			249	0.4790
(8)	12.29070 (0.0000)	10.31010 (0.0000)	-2.604375 (0.0000)	1.506687 (0.0000)	0.000160 (0.0047)	3.565705 (0.0012)		1.422696 (0.0255)				1.276029 (0.0535)		249	0.4770
(9)	14.79832 (0.0000)	10.35031 (0.0000)	-2.608598 (0.0000)	1.540223 (0.0000)	0.000155 (0.0074)	3.669312 (0.0011)		1.483663 (0.0200)					-2.502716 (0.1225)	249	0.4741
Panel D: Non-family-controlled firms															
(1)	4.627131 (0.0811)	4.644296 (0.0608)	-0.939633 (0.0003)	0.974705 (0.0006)	0.000361 (0.0789)									28	0.5161
(2)	3.416170 (0.2193)	4.217067 (0.0875)	-0.711655 (0.0223)	0.981497 (0.0005)	0.000377 (0.0657)	-1.225820 (0.2377)								28	0.5259
(3)	3.383189 (0.2103)	3.686234 (0.1255)	-0.697032 (0.0215)	1.054000 (0.0002)	0.000380 (0.0572)	-1.398064 (0.1704)	4.979710 (0.1336)							28	0.5549
(4)	3.395195 (0.2036)	4.561113 (0.0573)	-0.816674 (0.0090)	1.093085 (0.0002)	0.000402 (0.0432)	-1.048681 (0.2932)		0.964732 (0.0987)						28	0.5651
(5)	3.352516 (0.2355)	4.645019 (0.0776)	-0.807268 (0.0257)	1.073377 (0.0014)	0.000387 (0.0647)	-1.086432 (0.3138)			1.279753 (0.5645)					28	0.5113
(6)	3.346189 (0.2470)	4.150204 (0.1065)	-0.724764 (0.0298)	0.979768 (0.0007)	0.000374 (0.0756)	-1.196668 (0.2693)				0.230474 (0.8914)				28	0.5038
(7)	3.645348 (0.1763)	4.220620 (0.0806)	-0.829465 (0.0085)	1.053808 (0.0003)	0.000326 (0.1233)	-1.083790 (0.2788)		1.085562 (0.0721)			3.333949 (0.3316)			28	0.5649
(8)	3.806101 (0.1620)	4.154923 (0.0865)	-0.848983 (0.0076)	1.056151 (0.0003)	0.000335 (0.1080)	-0.960751 (0.3371)		1.039072 (0.0801)				0.608171 (0.3315)		28	0.5649
(9)	4.528628 (0.1580)	4.484752 (0.0652)	-0.827033 (0.0094)	1.065768 (0.0003)	0.000355 (0.0938)	-1.027895 (0.3093)		1.009771 (0.0913)					-1.055324 (0.4957)	28	0.5541

Table 12: Regression analysis of the effect of type of ultimate shareholders on stock liquidity												
Model	Intercept	INSIDER	Log(SIZE)	Log(PRICE)	TURNOVER	Dummy SET50	Dummy BANK	Dummy for UOWN	Dummy for FAMC	Dummy for GOVC	N	Adj-R^2
(1)	13.11714 (0.0000)	6.059375 (0.0000)	-2.217870 (0.0000)	1.336260 (0.0000)	0.000151 (0.0000)	2.489661 (0.0026)	0.961228 0.0421)				369	0.4196
(2)	15.76847 (0.0000)		-2.216272 (0.0000)	1.451151 (0.0000)	0.000137 (0.0001)	1.664508 (0.0460)	0.976004 (0.0444)	1.308780 (0.0037)			369	0.3882
(3)	15.74302 (0.0000)		-2.179977 (0.0000)	1.463518 (0.0000)	0.000132 (0.0001)	1.893556 (0.0239)	1.037516 (0.0332)		1.061456 (0.0103)		369	0.3851
(4)	16.78731 (0.0000)		-2.234291 (0.0000)	1.517438 (0.0000)	0.000126 (0.0003)	1.565153 (0.0719)	0.963137 (0.0501)			0.859102 (0.4114)	369	0.3749

Table 13: Regression analysis of the enhancing control means on stock liquidity											
Model	Intercept	INSIDER	Log(SIZE)	Log(PRICE)	TURNOVER	Dummy SET50	Dummy BANK	Dummy for PYRYMID	Dummy for CROSSHLD	N	Adj-R^2
(1)	13.31239 (0.0000)	5.821788 (0.0000)	-2.231727 (0.0000)	1.302748 (0.0000)	0.000145 (0.0000)	2.477951 (0.0027)	0.980503 (0.0380)	0.893474 (0.1490)		369	0.4213
(2)	16.73116 (0.0000)		-2.231639 (0.0000)	1.451978 (0.0000)	0.000116 (0.0008)	1.769124 (0.0349)	1.015765 (0.0376)	1.344914 (0.0340)		369	0.3815
(3)	13.40334 (0.0000)	6.000292 (0.0000)	-2.263562 (0.0000)	1.320050 (0.0000)	0.000153 (0.0000)	2.634583 (0.0014)	0.894180 (0.0578)		2.130243 (0.0279)	369	0.4257
(4)	16.91168 (0.0000)		-2.258715 (0.0000)	1.493888 (0.0000)	0.000127 (0.0002)	1.903560 (0.0237)	0.917195 (0.0605)		2.251909 (0.0249)	369	0.3824

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