OWNERSHIP STRUCTURE, GOVERNANCE AND STOCK LIQUIDITY IN VIETNAM

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Keywords and Abbreviations

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- Ho Chi Minh Stock Exchange (HOSE)
- Information Asymmetry
- Institutional Ownership
- Organisation for Economic Co-operation and Development (OECD)
- State Owned Enterprises (SOEs)
- Stock Liquidity
- Vietnam

Abstract

The link between stock liquidity and corporate governance has been the subject of considerable empirical research in recent years. In this thesis, I extend existing inquiries to address three related research questions: i) What is the impact of firms' ownership concentration on stock liquidity?; ii) Does the identity of the top five largest shareholders matter to stock liquidity?; and iii) Does corporate governance play an important role in determining stock liquidity?

The empirical tests of my research are premised on the adverse selection and agency theories. My sample consists of 655 unique firms listed on the two Vietnamese stock exchanges, Ho Chi Minh Stock Exchange and Ha Noi Stock Exchange, from 2007 to 2015. The results provide evidence supporting the agency cost argument which predicts a negative relation between ownership concentration and stock liquidity. While firms whose controlling owners belong to the state or family have lower liquidity, firms with higher institutional ownership have higher liquidity. Contrary to previous studies in developed countries, I do not find evidence showing that corporate governance promotes stock liquidity in the Vietnamese market. In examining the interactions between that the marginal effect of corporate governance (CEO duality, Big 4 auditor, and independent board) on liquidity in the relation with block owners, I reveal that in the environment of highly concentrated ownership, duality impairs stock liquidity, whilst Big 4 auditors enhance

stock liquidity. The interaction tests show no evidence that independent boards affect stock liquidity.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signature: QUT Verified Signature

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Chapter 1

Introduction

1.1 Background

Corporate governance, especially with regard to disclosure, helps reduce information asymmetries between informed and uninformed investors, hence increasing the volume of transactions in the stock market (Diamond & Verrecchia, 1991). Moreover, well-governed firms are thought to be more effective in monitoring managers by mitigating value-destroying actions and in enhancing transparency (Chung et al., 2010). This, in turn reduces the adverse selection problem in capital markets (Milgrom & Glosten, 1985).

The role of corporate governance in enhancing market liquidity has received significant attention in the academic literature. Based on information asymmetry and agency theory, a growing body of literature provides empirical evidence on the positive relation between corporate governance and stock liquidity. Chen et al. (2007), Kanagaretnam et al. (2007), Levesque et al. (2010), Chung et al. (2010), and Aspris and Frino (2014) show firms with more effective corporate governance have more liquid stocks. Arguably, effective governance enhances financial and operational transparencies by deterring managements' ability and incentive to distort information disclosures (Leuz et al., 2003).

The information asymmetry related to ownership concentration and ownership structure is also argued to be related to stock liquidity (Milgrom

& Glosten, 1985) . Insiders with concentrated ownership have informational advantages relative to the typically small and indirect outside owners. Consequently, insiders have incentives to expropriate wealth from outside minority investors by hiding information, creating information asymmetries which leads to a higher bid-ask spread. For example, Heflin and Shaw (2000) find that firms with a higher percentage of block ownership[1] are associated with lower levels of liquidity and depth, implying higher adverse selection costs. Brockman et al. (2009) show a negative association between block ownership and stock liquidity when the latter is measured by trading activity (number of trades and trade size).

Research examining the relations between corporate governance, ownership concentration, and stock liquidity have focused largely on the US context where investors are seemingly well protected by laws and regulations, and where ownership is seemingly widely dispersed. However, it is unclear whether the evidence gathered from US firms can be extrapolated to firms outside the US, particularly to firms in emerging markets like Vietnam. My thesis argues that the extrapolation is not a straight forward one due to the following institutional differences.

First, like most other emerging markets, while the disclosure regulations in Vietnam[2] are similar to those in developed markets, they are rarely enforced (Chan & Hameed, 2006). The lack of transparency is thus a problem in

[1] Following prior literature (Heflin & Shaw, 2000; Brockman et al., 2009), blockholders are defined as shareholders who hold 5% or more of a firm's shares.

[2] There are significant regulations governing corporate reporting and disclosure in all countries around the world. For example, in the US, companies accessing capital markets are required to follow disclosure rules set by the Securities and Exchange Commission (SEC), which is similar to regulations applied in Vietnam and will be discussed in Chapter 2.

Vietnam which, at the time of writing, is ranked by Transparency International at 107 out of 180 countries (https://www.transparency.org/country/VNM). This arguably has important implications for stock liquidity in the country.

Second, a salient feature of corporate ownership structure in Vietnam is the high concentration of ownership by founding families and the state, resulting in a lock on control. By virtue of their holdings of a majority of the voting rights, these controlling shareholders have both the opportunity and incentive to extract private benefits through self-dealing transactions or tunnelling[3] without the threat of removal if they fail to maximise shareholder value (Johnson et al., 2000). Thus, large controlling shareholders may utilise private information for their own private benefit, creating information asymmetries and reducing liquidity (Milgrom & Glosten, 1985).

Third, although there are differences in the "best practice" corporate governance model adopted in Vietnam and in the US, the differences are subtle. The so-called corporate governance model, which is adopted mostly from the Anglo-American market-based model, may have limited application in Vietnam due to institutional differences. For example, the Anglo-American governance model focuses on addressing the principal-agent conflict, i.e., the conflicts of interest between owners and managers (Jensen & Meckling, 1976). This model may have limited application in an emerging market like Vietnam where the principal-principal (PP) agency conflict between the controlling

[3] Tunnelling refers to asset appropriation by large shareholders who legally or illegally transfer assets and profits to themselves (Johnson et al., 2000b). Tunneling not only hurts the interests of small shareholders, but also seriously hinders stock markets' development (see Johnson et al., 2000b; Wurgler, 2000; Bertrand et al., 2002).

(inside) shareholders and minority (outside) shareholders dominates (Dharwadkar et al., 2000). Differences in ownership concentration and structure may impact on the effectiveness of corporate governance in mitigating agency problems and thus liquidity in Vietnam.

1.2 Research Motivations and Questions

Prior to 1986, Vietnam was a centrally planned economy. In that year, the Doi Moi economic reform led to the gradual privatisation of state-owned enterprises (SOEs) with the state maintaining significant ownership and thus strong control of firms. This approach has created a complex system of ownership concentration in Vietnam, comprising a mix of family and state corporate ownership.

To promote trading activities and thus to enhance stock liquidity, the first and largest stock exchange in Vietnam, Ho Chi Minh Stock Exchange (HOSE), was launched in 2000 with only two stocks. The number of stocks increased to 32 by the end of 2005, resulting in a significant increase in the total market capitalisation from VND 1,048 billion (about USD 65.55 million) in 2000, which accounted for 0.24 percent of the country's GDP, to VND 6,337 billion (about USD 393 million) in 2005, which accounted for 1.21 percent of the country's GDP (www.hsx.vn). To assist the privatisation of SOEs, the second stock exchange, Hanoi Stock Exchange (HNX), was established in 2005 for the listing of small and medium-sized companies. By the end of 2007, a total number of 193 firms were listed on both HOSE and HNX, with daily

trading volume at around VND 1,562 billion USD, more than tripled from VND 400 billion (USD 27.5 million) in 2006. The market capitalisation of HOSE alone accounted for 43 percent of Vietnam's GDP in 2007. The year of 2017 witnessed the increase in the number of 731 firms listed on both HOSE and HNX. In 2007, the Vietnam's stock market reached 3.36 quadrillion VND (148.17 billion USD), equivalent to 74.6 percent of the country's GDP.

The integration of Vietnam into the largest commercial organisation, the World Trade Organization (WTO), provides an explanation for the significant rise in the value of Vietnamese stock markets in 2007. Vietnam attracted a huge amount of foreign investment capital, which also boosted trading of domestic investors. Becoming a member of WTO was highly appreciated, as widely publicised in domestic and international newspapers. The International Monetary Fund (IMF) went as far as perceiving Vietnam as "the new miracle Asian" (IMF's annual report, 2006) and Citigroup coined Vietnam as "the new powerhouse of Southeast Asia" (Citigroup, 2006).

Motivated by these noticeable shifts in the stock market and the highly concentrated ownership structure of Vietnamese firms, my first research aim is to examine whether stock liquidity is influenced by ownership structure in Vietnam. I begin with an examination of important aspects of corporate ownership in Vietnam: block ownership, defined as the sum of shareholdings of at least 5 percent in a firm, and the identity of the top five shareholders. For the latter, I focus on the state, institutional, and family owners. The literature is thin on whether and how different types of large owners play a role in determining stock liquidity. Hope and Thomas (2009) argue that the

implementation of corporate disclosure policy is relatively easy in State-Owned Enterprises (SOEs) where the government as the controlling shareholder can directly influence and monitor management actions. This suggests that the presence of government control is associated with a richer information environment. A competing argument is that SOEs are more opaque, providing a setting which allows controlling state owners to pursue objectives that are not profit-maximising but are mostly focused on political gains (Shleifer & Vishny, 1998). Under this view, SOEs are more likely to expropriate minority shareholders by delaying disclosure or hiding important corporate information from outsiders (Fan & Wong, 2002).

There has been considerable regulatory efforts to improve corporate governance quality in Vietnam, as exemplified by the revamp of regulations on corporate governance in 2007. The legislative frameworks for corporate disclosure enacted for the operation of stock market include the *Enterprise Law 2005,* the *Securities Law 2006*, the *Code of Corporate Governance of Listed Companies 2007 (The Code)*, and the *Model Charter 2007*. These laws follow the OECD's best governance principles which focus on the pivotal monitoring role played by the board of directors.

Despite regulatory efforts to create a strong and transparent financial environment, financial reports of listed firms in Vietnam remain poor in the quantity and quality of information disclosure, and exhibit huge discrepancies before and after being audited (Vu, 2012). Corporate governance in Vietnam is thus unlikely to meet the requirements of "good" corporate governance due to a lack of flexibility, accountability, and efficiency

(Minh & Walker, 2006). It is not surprising that Vietnam still lags well behind the world in corporate governance standards, at least according to the Worldwide Governance Indicator (WGI).[4]

My second aim is to investigate whether corporate governance influences stock liquidity in Vietnam. In this regard, I test whether internal corporate governance mechanisms may substitute for poor country-level institutions in mitigating agency problems (Florackis, 2005). The governance mechanisms I examine are board independence, CEO duality, and auditors' reputation.

Giannetti and Simonov (2006) show that in emerging markets, investors are reluctant to hold stocks in poorly-governed firms with the fear of expropriation of private benefits. Instead, investors prefer firms which have an effective corporate governance mechanism. Therefore, where country-level institutions are poorly developed, as in Vietnam, firm-level corporate governance may act as an important substitute in enhancing stock liquidity. However, unlike the Anglo-American system, the *Enterprise Law* in Vietnam does not provide an accurate definition of company directors or managers as it does not distinguish between the terms "director", "manager", and "officer". This may lead to a lack of accountability and responsibility on the part of persons running or managing the firm, compromising investors' protection.

In sum, my thesis aims to address three key research questions. The first question is whether the typically high ownership concentration of Vietnamese firms is related to stock liquidity. Second, I ask whether the identity of the top five largest shareholders matters to stock liquidity in

[4] World Bank, 2015 "WGI captures six key dimensions of governance: Control of Corruption; Government Effectiveness; Political Stability and Absence of Violence/Terrorism; Regulatory Quality; Rule of Law; and Voice and Accountability".

Vietnam. I focus on state, institutional investors, and family in my investigation. My final research question is whether better corporate governance mitigates information asymmetry and agency problems, and thus improves stock liquidity in Vietnam.

1.3 Research Design

My sample consists of all firms listed on the Ho Chi Minh and Ha Noi Stock Exchanges. The sample period spans eight years, from 2007 to 2015. Ownership data are retrieved from the Osiris website. The data are divided into block ownership and different types of block owners, including family, institutional investors (foreign and domestic), and state. Corporate governance data are retrieved from Tai Viet Corporation (Vietstock), which also provides data on liquidity proxies (e.g., the relative number of shares traded during the day; quoted bid and ask prices; daily stock prices; daily trading volume; and number of trading days in a year) and financial variables (e.g., stock price; year-end market capitalisation; tangible assets; cash; debt; book to market; dividends; and return on equity).

I use panel regressions with fixed effects and estimate the model with standard errors clustered at the firm level. Clustering ensures that inferences are based on standard errors which are robust to correlations across residuals within a firm over time and across firms in the same year. Also, following previous research (Aiken et al., 1991; Brambor et al., 2006), the interaction analysis is used to examine if the power of governance measures could reduce the power of concentrated ownership structures. I use plots to indicate how

the marginal effect of corporate governance measures on liquidity varies with different values of ownership concentration. To deal with potential endogeneity bias due to reverse causality, I use a two-stage least squares (2SLS) regression approach with valid instruments.

1.4 Research Findings and Contributions

Prior research, such as Heflin and Shaw (2000) for the US, reports evidence showing that high ownership concentration reduces liquidity. I find the same in Vietnam, with results showing that firms with higher ownership concentration are associated with lower stock liquidity. However, unlike most past studies and in particular Heflin and Shaw (2000) which focus on informational friction effects (adverse selection), I examine in considerable detail the effect of both real frictions (trading hypothesis) and informational frictions (adverse selection).

Further, I find that the identity of the large owners matters to liquidity. While a negative relation between ownership concentration and liquidity holds for state and family owners, it does not hold for foreign and domestic institutional owners. Thus, my results suggest that while state and family ownership impair stock liquidity, perhaps by increasing asymmetric information costs consistent with the adverse selection hypothesis, institutional ownership (foreign and domestic) enhances liquidity by increasing trading activity; the latter is consistent with the prediction of the trading hypothesis. In further tests, I explore the possibility of non-linearity

in the relationship between ownership concentration and liquidity. Contrary to past studies (Agarwal, 2013), I find no such evidences in Vietnam.

Also contrary to expectations, none of the corporate governance mechanisms I examine are significant in explaining stock liquidity in Vietnamese firms. The corporate governance mechanisms in this thesis are CEO duality, independent board, and auditors' reputation. However, the interaction tests show effective corporate governance mechanisms can moderate the negative relation between ownership concentration and liquidity. Consequently, Big 4 auditor provides an effectiveness in moderating the negative relation between ownership concentration and liquidity while CEO duality worsens stock liquidity by strengthening this negative relation. In contrast, the monitoring role of independent boards is muted under the context of highly concentrated ownership structure of Vietnamese.

My research provides the following contributions to the literature. First, it contributes by providing new evidence on how concentrated ownership and corporate governance can impact on stock liquidity in an emerging market like Vietnam. Despite the voluminous research on ownership concentration and stock liquidity, most of which tend to be US-centric,[5] there is only limited research on the same in emerging countries. Compared to most other emerging countries (except China), ownership structure is very different in Vietnam, with high ownership by the state. While the average blockholding is

[5] These studies include Heflin & Shaw (2000); Dennis & Weston, (2001); and Brockman et al. (2009), and are discussed in detailed in the Literature Review of Chapter 3.

12.3 percent in the US (Heflin & Shaw, 2000), it is 45.2 percent in Vietnam. Unlike in US firms where insiders and institutions are common blockholders (Dennis & Weston, 2001), state and family blockholdings have long predominated the Vietnamese corporate sector. Despite these differences, I find that in Vietnam, firms with higher ownership concentration are associated with lower stock liquidity, consistent with previous US studies (Heflin & Shaw, 2000; Dennis & Weston, 2001; Brockman et al., 2009).

Second, this thesis provides an empirical investigation to clarify the role of different ownership structures on liquidity. While large state and family owners reduce liquidity, large institutional owners increase liquidity. These results have implications for policy makers in making policies on privatisation of SOEs and in making relevant policies to attract greater investment from institutional investors who are often associated with greater corporate disclosure (Crane et al., 2016) and thus liquidity.

Finally, my study is the first to explore the interactions by examining further the marginal effect of corporate governance and ownership on stock liquidity on an emerging country with highly concentrated ownership and relatively weak corporate governance mechanism. The findings do support the notion that only corporate governance proxied as Big 4 auditor has a substitute effect on ownership concentration through the mitigation of informational asymmetry and thus contributing to an enhancement of liquidity, CEO duality worsens stock liquidity through the complement effect on ownership concentration. In contrast, independent board does not have

effects on stock liquidity through the interaction with ownership concentration.

1.5 Thesis Layout

My thesis is structured as follows. Chapter 2 sets the background for this study by providing a description of the institutional framework of the Vietnamese stock markets. Chapter 3 reviews the extant literature on stock liquidity, corporate governance, and corporate ownership. Chapter 4 develops the research hypotheses, and Chapter 5 outlines the data and research methods. Chapter 6 discusses the results and Chapter 7 summarises and concludes my thesis.

Chapter 2

Institutional Background

2.1 Introduction

This chapter begins with an overview of Vietnam's capital market in section 2.2. The corporate governance framework and ownership structure of listed Vietnamese firms are discussed in section 2.3 and section 2.4, respectively. Section 2.5 presents a chapter summary.

2.2 Vietnam's Capital Market

As an emerging economy, Vietnam's GDP has increased significantly over the past 25 years with an impressive annual growth figure of 6.7 percent in 2015, almost doubled that of the world's 3.4 percent and tripled that of most advanced economies.[6] The high economic growth is due to Vietnam's strong performance in the ASEAN export market ("Vietnam 2015 outlook", 2015) and high profitability expectations ("The global economy", 2015).

The significant development of Vietnam's economy is due in part to the economic reform known as Doi Moi, which took place in 1986 when Vietnam adopted a market economy. The economic reform resulted in a privatisation program in 1992 to convert SOEs into joint-stock firms by selling shares to

[6] https://data.worldbank.org/country/vietnam

employees and private investors. The privatisation process worked in different stages with different results. The *Pilot Stage (1992-1996)* worked under the promulgation of Decision 202 of the Prime Minister, dated 8-6-1992. With the target of small and medium-sized SOEs (but not strategic enterprises), there were only five SOEs privatised in the transportation, shoes, machine, and food-processing industries. The *Second Phase of Privatisation (1996-1998*), working under the Decree 28/1996/ND-CP dated 7-5-1996, resulted in 25 SOEs being privatised.

The first two slow and inefficient processes of privatisation pushed the government to launch the Decree 44/1998/ND-CP dated 29-6-1998. This Decree is considered the first legal framework on privatisation in Vietnam. It provides a fairly clear and comprehensive framework on guiding the transformation of SOEs into joint-stock companies. As a result, the number of privatised firms increased significantly, with 758 firms privatised in the period 1998-2001. The A*cceleration of the Privatisation Process (2002-2005)* worked under two further Decrees (Decree 64/2002/ND-CP dated 19-6-2002 and Decree 187/2004/ND-CP dated 16-11- 2004), resulting in 3,055 SOEs being privatised by the end of 2005.

Privatisation of SOEs is considered one of the most important policies of economic reform in Vietnam. The government continued to privatise SOEs by promulgating Decree 109/2007/ND-CP dated 26-6-2007 and Decree 59/2011/ND-CP dated 18-7-2011. With this constant effort by the Vietnamese government, an aggregate of 3,875 SOEs were privatised by the end of 2011. A further 13 and 44 SOEs were privatised in 2012 and 2013,

respectively. The privatisation process has contributed significantly to a decrease in the number of SOEs, from over 12,000 enterprises with 100 percent state-owned capital in 1990s to 652 enterprises in 2015.[7]

In an effort to create a new and efficient platform to raise funds and mobilise capital for investment, two stock markets were established by the Vietnamese Government: the Ho Chi Minh City Stock Exchange (HOSE or HSX) and the Hanoi Stock Exchange (HNX). Both exchanges play an increasingly important role in supporting the economy and accelerating economic growth in Vietnam.

The largest stock exchange in Vietnam, HOSE, was launched in 2000 with only two stocks. The first trading session started at 100 points. The number of listed firms increased to 32 by the end of 2005. The total market capitalisation also increased significantly from VND 1,048 billion (about USD 65.55 million) in 2000 to VND 6,337 billion (about USD 393 million) in 2005. This market capitalisation accounted for 0.24 percent of the country's GDP in 2000 and 1.21 percent in 2005.[8] In order to assist the privatisation of SOEs, HNX was established in 2005 for the listing of small and medium-sized companies. At this initial period of establishment, liquidity in both Vietnamese stock markets was relatively poor.

The 2006–2007 period witnessed a rapid increase in the number of listed firms, totaling 193 firms being listed on both HOSE and HNX. Daily

[7]http://vneconomy.vn/thoi-su/so-doanh-nghiep-nha-nuoc-giam-gan-23-sau-5-nam-201610230252115.htm
[8] www.hsx.vn

trading more than tripled from VND 400 billion (USD 27.5 million) in 2006 to VND 1,562 billion (USD 71 million) in 2007. The market capitalisation of HOSE alone accounted for 43 percent of Vietnam GDP in 2007.

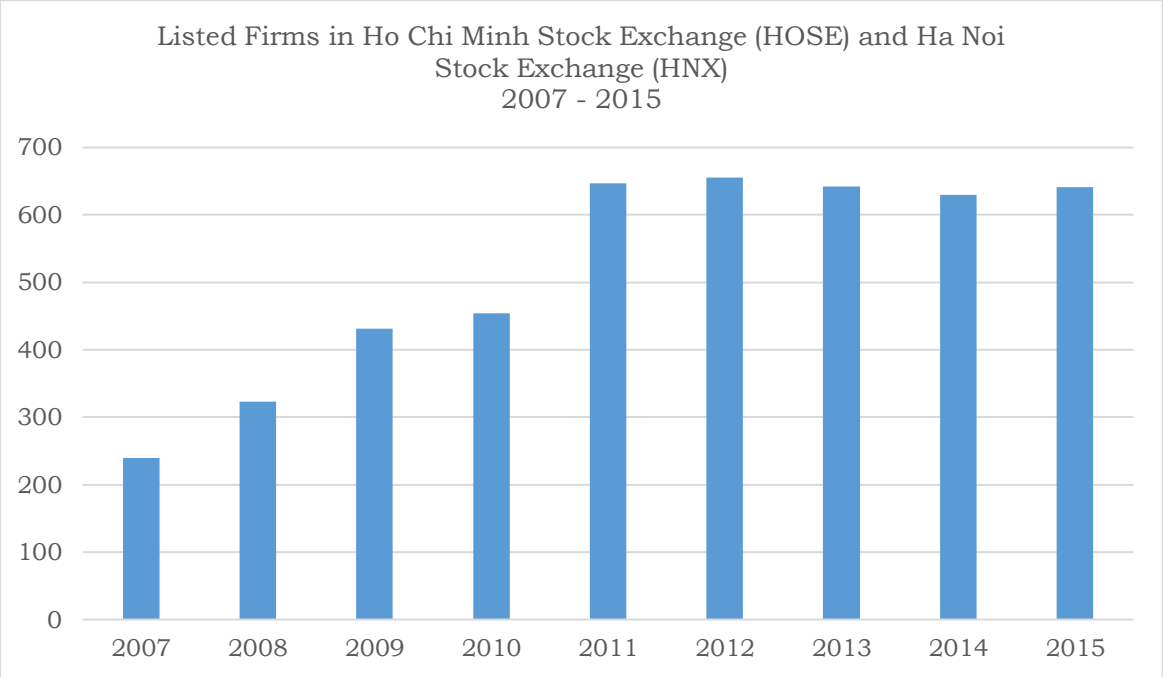
The integration of Vietnam into the largest commercial organisation, the World Trade Organization (WTO), provides an explanation for the significant rise in the value of the Vietnamese stock markets in 2007. Vietnam attracted a huge amount of foreign investment capital, which accordingly boosted trading of domestic investors. Moreover, becoming a member of WTO was highly appreciated, as reflected in domestic and international newspapers. Some perceived Vietnam as "the new miracle Asian" (IMF's annual report, 2006), and "The new powerhouse of Southeast Asia" (Citigroup, 2006).

The Global Financial Crisis (GFC) around 2008 had a significant negative impact on the health of Vietnam's economy, reducing its economic growth to 6.3 percent in 2008 and 5.3 percent in 2009. After a slow recovery in 2010 (6.8 percent growth), the economic growth slowed down again in 2011 (to 5.9 percent) and 2012 (to 5 percent). The GFC also saw the Vietnamese stock market plummeted to its lowest level at 235 points after hitting its highest at 1,171 points in March 2007. The effects from the GFC have led to new governance rules for listed firms towards increased monitoring: an increase in the number of board members; the establishment of a formal risk management committee; a standalone audit committee that reports directly

to the board; and active and constant communications with all levels of management[9].

With support from the government, the Vietnamese stock markets gradually recovered. At the end of 2015, the HOSE had 307 listed stocks with a total market capitalisation of 1.14 quadrillion VND (52 USD billion), which equals 27.3 percent of GDP. HNX had 372 listed stocks with a total market capitalisation of 151 trillion VND (7 USD billion). The total market capitalisation of Vietnam's stock markets reached 36 percent of GDP in 2015 (see Figure 2.1). With an annually compounded growth rate of approximately 5 percent, the Vietnamese stock markets remain one of the fastest growing capital markets around the world.

Figure 2.1: Total number of listed firms on Vietnamese stock markets (2007-2015)



[9] Vietnam Corporate Governance Scorecard, 2012.

2.3 Corporate Governance Framework

Corporate governance relates to the set of rules and policies which are designed to minimise agency problem and hence maximise firm value (Shleifer & Vishny, 1997). Specifically, a good corporate governance should enhance monitoring of the board of directors, and disclosure and transparency in order to achieve the best overall welfare for all stakeholders and to promote economic efficiency.

The rapid development of the Vietnamese stock markets has put great demand on corporate disclosure to support and facilitate the operation of the stock markets. In particular, the Vietnamese government has taken several steps with regard to corporate governance regulation since early 2005. The *Enterprises Law 2005* is the most important corporate legislation which forms the foundation for the Vietnamese corporate governance system. Under the *Enterprises Law 2005*, a company has more power and discretion to decide its internal corporate governance matters through constitutions, such as the rights and obligations of shareholders; management and organisational structure; rules for resolution of internal disputes. *The Code 2007* and *Amendments 2012* provide guidance for enhancing information disclosure by Vietnamese listed firms. *The Code* and *the Amendments* provide the major principles of corporate governance for listed firms in Vietnam, including: (i) internal governance structure; (ii) rights of shareholders; (iii) conflict of interest and related party transactions; and (iv) information disclosure and transparency.

Under *the Code* and *the Amendments*, the internal structure of Vietnamese listed companies includes a General Meeting of Shareholders (GMS), a Board of Management (BOM), a Director or General Director (CEO), and a Control Board (see Figure 2.2).[10] The BOM manages a company and has full authority to make decisions and to exercise the rights and discharge the obligations of the company.[11] The Enterprises Law give the BOM the power to be directly involved in company management, while OECD Principles of Corporate Governance and Laws in Anglo-American jurisdictions articulate the role of the BOM in supervision and guidance of daily management tasks.

The BOM is authorised to make recommendations to listed firms regarding specified matters that are not within the scope of shareholder meetings. In particular, the BOM directs and supervises the CEO and other managers through the daily operations of the company. In this regard, the role of the BOM and that of the CEO are unclear.

Unlike the Anglo-American system, the *Enterprise Law* does not distinguish between the terms "director", "manager" and "officer". In other words, the *Enterprise Law* does not provide for an accurate definition of company directors or managers. This may lead to a lack of accountability and responsibility on the part of persons who run or manage the firm in Vietnam and this can be unhelpful for investor protection.

The CEO and Control Board have the right to attend and discuss, but not to vote, at meetings of the BOM. This gives an opportunity for the Control

[10] A control board can only be established in a listed firm with more than 11 natural shareholders or at least one institutional shareholder holding more than 50 percent of the total shares of the company.
[11] Article 108, the Enterprises Law 2005.

Board to supervise and to monitor the board, and for the CEO to make proposals and obtain opinions of the board on running the company. In contrast, a board member has the right to request the CEO and other managers to supply information and materials associated with the operation of the company.[12]

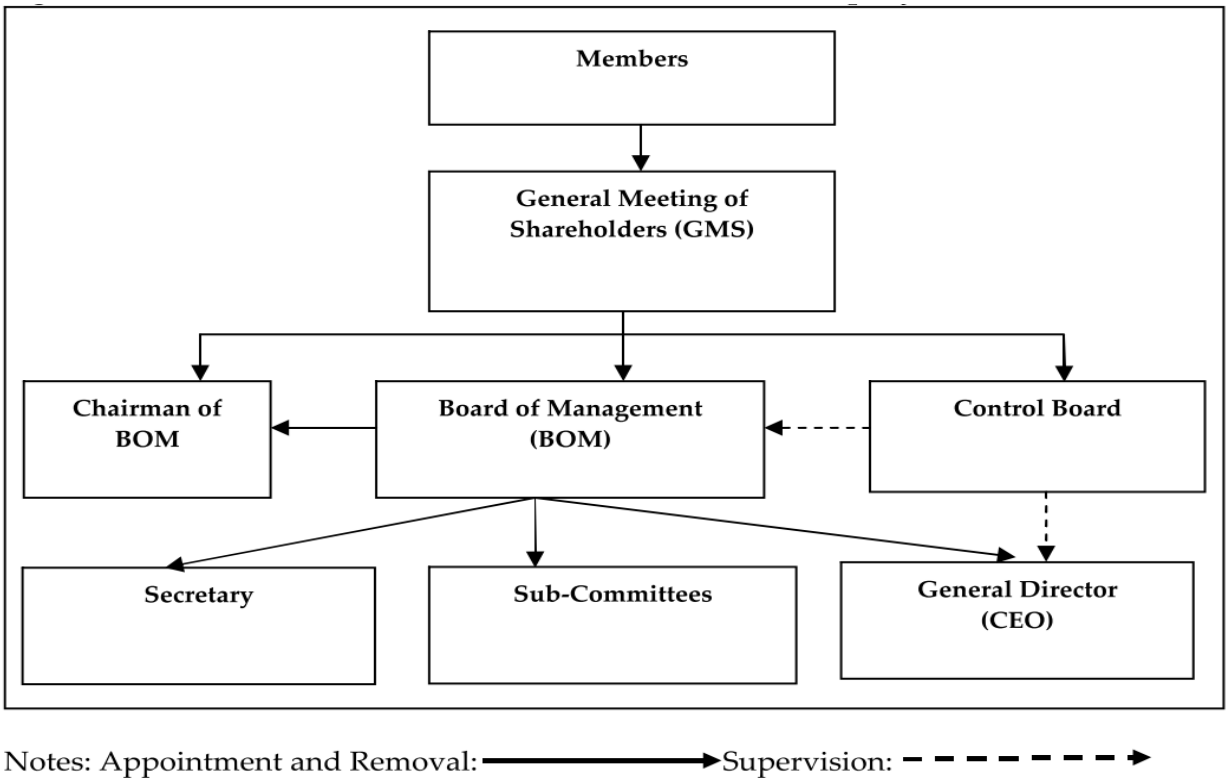
The Control Board is similar to a board of directors in Anglo-American jurisdictions. Therefore, the Control Board of a Vietnamese company is a body chosen by shareholders and distinct from the BOM.[13] The main function of the Control Board is to supervise the BOM and the CEO on managing and running the company.[14] However, the *Enterprise Law* and the *Code* do not give rights for the Control Board to work as a collective corporate body, and do not stipulate how this body implements a decision (Minh & Walker, 2006). Therefore, the role of the Control Board in Vietnamese companies is likely to "just exist on paper" (MPDF, 2004).[15]

Under the OECD principles, the internal governance structures of listed firms should ensure the effective monitoring of management by the board, and the board's accountability to the company and its shareholders. However, the internal governance mechanisms of listed firms under the *Enterprise Law* and the *Code* lack efficiency and accountability (Minh & Walker, 2006). In particular, unlike the US, Germany, and Australia, the internal governance

[12] Ibid, Article 114.1.
[13] Ibid, Article 96.2; Article 121.
[14] Article 123, the Enterprises Law 2005.
[15] The research undertaken by the Mekong Project Development Facility (MPDF) in Hanoi, Vietnam.

structure of Vietnamese listed firm depends on the number of shareholders at the time when the Control Board is set up.

Figure 2.2: The internal governance structure of listed companies in Vietnam



Relating to the rights of shareholders, the *Enterprise Law* enhances investor protection mechanisms and provides the rights for shareholders to attend the General Meeting of Shareholders (GMS) and to vote directly. However, the Enterprises Law limits shareholders to request a GMS due to the higher requirements and limited contexts in which a meeting can be called with evidence needed to be shown. Further, Vietnamese shareholders have no rights to request a court to order a GMS to be organised (Minh & Walker, 2006).

Despite regulatory efforts to create a strong and transparent financial environment, financial reports from listed firms in Vietnam have poor quantity and quality information disclosure and exhibit huge discrepancies before and after being audited (Vu, 2012). In sum, corporate governance in Vietnam is unlikely to meet the requirements of "good" corporate governance due to a lack of flexibility, accountability and efficiency (Minh & Walker, 2006).

Despite the introduction of corporate governance legislation, Vietnam lags well behind the world in corporate governance standards, at least when measured by the Worldwide Governance Indicator (WGI). WGI captures six key dimensions of governance: Control of Corruption; Government Effectiveness; Political Stability and Absence of Violence/Terrorism; Regulatory Quality; Rule of Law; and Voice and Accountability.

Table 2.1 shows the percentile rank of six governance indicators for Vietnam from 2007 to 2015, with zero being the lowest rank. The highest governance score in Vietnam is for *Political Stability*, with a score of 51.95, whilst the lowest score (8.87) is for *Voice and Accountability*. Other indicators move around the 30-50 band suggesting that, like most emerging countries, Vietnam suffers from poor governance especially in the areas of information accountability and transparency. Vietnamese's governance indicators are much lower than those of the U.S indicators in almost areas, which are shown in Table 2.2. In general, all indicators suggest that the development of corporate governance in Vietnam does not match the speed of its capital market development.

Table 2.1: Worldwide governance indicators, Vietnam, 2007-2015

Source: World Bank, 2015

Year	Control of Corruption	Government Effectiveness	Political Stability and Absence of Violence/ Terrorism	Regulatory Qualiy	Rule of Law	Voice and Accountability
2007	30.58	46.60	52.17	30.10	38.28	8.17
2008	28.16	47.09	49.52	30.10	38.46	8.17
2009	34.45	48.33	53.08	28.23	36.97	8.06
2010	31.43	46.41	51.66	28.71	32.70	7.58
2011	32.70	47.39	54.03	30.33	34.74	8.45
2012	36.02	45.97	55.92	27.96	35.21	8.92
2013	38.86	46.45	56.87	28.44	39.91	10.80
2014	40.87	51.44	44.29	30.77	41.83	9.36
2015	41.83	55.29	50.00	35.58	43.75	10.34
Average	34.99	48.33	51.95	30.02	37.98	8.87

Table 2.2: Worldwide governance indicators, United States 2007-2015

Source: World Bank, 2015

Year	Control of Corruption	Government Effectiveness	Political Stability and Absence of Violence/ Terrorism	Regulatory Quality	Rule of Law	Voice and Accountability
2007	90.29	93.20	57.00	91.75	91.87	85.58
2008	91.75	92.23	66.83	93.20	92.31	86.54
2009	86.12	90.43	61.61	89.95	91.94	84.83
2010	85.71	91.39	60.66	91.87	92.89	85.78
2011	85.78	91.00	64.45	91.94	91.08	86.38
2012	89.57	90.52	66.35	87.68	91.55	87.79
2013	12.00	91.00	66.82	86.73	90.61	84.04
2014	89.42	89.90	65.71	88.94	89.90	81.77
2015	89.90	89.90	67.14	85.58	90.38	84.24

Notes: Higher scores measure better corporate governance.

2.4 Ownership Structure of Listed Firms in Vietnam

The privatisation process in 1992 helped change the ownership structure of SOEs by selling a large fraction of their shares to public investors, both local and foreign, with the aim of enhancing firm performance. The privatisation of thousands of small and medium state-owned firms has resulted in an increase in the different types of owners. In particular, the integration of Vietnam into the WTO has brought foreign ownership to Vietnam. Therefore, Vietnamese ownership structure has become much more diversified, comprising of state, family, and institutional owners (domestic and foreign).

Although an increasing number of public companies are owned by non-governmental entities, state ownership still plays an important role in a majority of listed firms on the two stock exchanges, HOSE and HNX. My sample of 655 firms listed on the two Vietnamese stock exchanges from 2007 to 2015 shows that state ownership remains dominant, with around 21.4 percent. The average percentage of family ownership is around 8 percent. Institutional ownership is at 14.8 percent, of which 11.7 percent belongs to domestic institutions.

2.5 Summary

This chapter describes the institutional framework in Vietnam. The privatisation process in 1992 has brought about diversification of ownership, with state block ownership remaining a prevalent feature in Vietnam's

corporate sector. Accordingly, a system of corporate governance was established to provide a more transparent environment for investment. The *Code* of Corporate Governance of Listed Companies is stipulated in the *Enterprise Law 2005*, the *Securities Law 2006*, the *Code 2007* and the *Model Charter 2007*. Still, corporate governance remains poor in Vietnam due to a lack of flexibility, accountability, and efficiency.

Chapter 3

Literature Review

3.1 Introduction

This chapter synthesises the extant literature on stock liquidity. It begins with an examination of two competing theories on the relation between information asymmetry and ownership – trading and adverse selection theories – in Section 3.2. This is followed by Section 3.3, which discusses the empirical research on the relation between ownership concentration and liquidity. Section 3.4 focuses on ownership types and liquidity. Section 3.5 reviews the association between governance and liquidity. A summary of this chapter is provided in Section 3.6.

3.2 Adverse Selection and Trading Hypotheses

The empirical research on the relation between ownership and liquidity is based on either the *adverse selection hypothesis* (e.g. Heflin & Shaw, 2000; Naes, 2004; Attig et al., 2006) or the *trading hypothesis* (e.g. Demsetz, 1968; Comerton-Forde & Rydge, 2006; Ginglinger & Hamon, 2007; Rubin, 2007; Brockman et al., 2009).

According to Milgrom and Glosten (1985), the *adverse selection hypothesis* postulates that a higher bid-ask spread caused by informed traders is associated with lower stock liquidity. Bae et al.,(2002) further argue

that controlling shareholders or blockholders, being informed traders who can assess and trade on private information about firm value, exacerbate information asymmetries and decrease stock market liquidity. The implication of the adverse selection hypothesis is that dealers are not likely to trade with informed insiders. As a result, the adverse selection component of the spread, a wider bid-ask spread and a lower quoted depth, may work as a defence against potential losses as dealers or market markers transfer the cost from the informed to the uninformed traders.

Demsetz (1968) offers the trading or free-float hypothesis. It proposes that blockholders create a shortage of traders in the market which in turn reduces liquidity. The frequency of trading has an impact on transaction costs, defined as the cost of exchanging ownership titles. The change in the costs is counted as transaction activities. Specifically, the greater the frequency of trading, the more real fixed costs will be spread over more trades, resulting in a lower bid-ask spread, thus increasing stock liquidity (Brockman et al., 2009). When a firm's ownership is concentrated, the availability of shares is limited, as there are fewer shareholders who can participate in the trading of the stock. Thus, the frequency of trades is reduced. Moreover, ownership concentration may affect liquidity by restricting the availability of information about the stock. According to Holmstrom and Tirole (1993), concentrated ownership reduces the amount of public information available about the firm. The greater the number of market participants who are not willing to invest in information acquisition in a firm, the fewer the anticipated gains from trade, which are directly related to decreased stock liquidity.

Therefore, a small float hinders the acquisition and production of information due to the higher cost of transactions.

3.3 Ownership Concentration and Liquidity

Empirical studies based on the adverse selection hypothesis to explain the relationship between block ownership and stock liquidity show mixed findings. The study of Heflin and Shaw (2000) uses a sample of 260 firms listed on the New York Stock Exchange from 1988 to 1989 to examine whether the presence of blockholders, who have access to and trade on private information, leads to a higher spread and thus reduced market liquidity. Their measures of liquidity include quoted spreads, effective spreads, and quoted depths, while blockholders include both internal and large external shareholders. They find that the presence of large shareholders results in a greater proportion of informed traders whose trading activities create a greater information asymmetry and ultimately illiquidity. The implication is that when blockholders own superior information about firm value, the benefits from their monitoring may be offset by a decrease in liquidity.

Consistent with the study of Heflin and Shaw (2000) and with the adverse selection hypothesis, Naes (2004) finds that ownership concentration has a negative effect on liquidity, as measured by the spread and the adverse selection component of the spread (proxied by Kyle's lambda). The study uses comprehensive monthly data for a sample of 88 companies during the period 1999-2001 to support the models of Glosten and Harris (1988) (GH-measure)

and George et al. (1991) (the GKN-measure).[16] However, unlike Heflin and Shaw (2000) who use liquidity measures from trading systems with some form of dealer intermediation, Naes (2004) uses transaction data from a pure limit order-driven market. Moreover, Naes (2004) shows that different types of ownership, measured by the sum of the aggregate holdings of the five largest owners and primary insiders, have different impacts on stock liquidity, as measured by a higher spread. However, he finds no evidence of a relation between institutional ownership and liquidity.

A number of studies examine whether the gap between ownership and control has an impact on information asymmetries and thus stock liquidity (Ginglinger & Hamon, 2007; Attig et al., 2006). The idea is that, if controlling rights cannot be limited by cash flow rights, the ultimate owner has an incentive to private benefits by choosing a poor disclosure policy and by trading on his private information. This action increases the bid-ask spread and hence lowers liquidity (Milgrom & Glosten, 1985). Attig et al. (2006) test this view on Canadian firms that are often characterised by a highly concentrated ownership structure and a high divergence of control and ownership, which is linked to pyramids and multiple class shares. Their sample consists of 1,031 firms listed on the Ontario Securities Exchange (OSE). On this stock exchange, investors have ultimate control if they hold at least 10 percent of the firm's shares. To proxy liquidity, the bid-ask spread is

[16] The GH-measure estimates adverse selection cost as a coefficient measuring the impact on intraday price changes from signed order flow with the assumption that the adverse selection component increases with order size, while the GKN-measure uses effective spread to measure adverse selection cost by assuming that the adverse selection component is a constant proportion of the spread.

computed using an intraday date from the first quarter of 1996, stamped at 6 second intervals. Consistently, they find that the divergence between ownership and control has a negative impact on stock liquidity. Specifically, the greater the deviation between ownership and control, the wider the bid-ask spread.

Two primary mechanisms work under the adverse selection and the trading hypotheses to explain the relation between block ownership and stock liquidity: real friction and information friction. The real friction effect is associated with the real costs of the firm's trading activity and therefore is measured by volume, turnover, and number of trades. On the other hand, the information friction effect – measured by spread, depth, adverse selection, and price impact – is subject to superior information possessed by blockholders.

Several studies consider both real friction and information friction effects in their investigation into the relation between blockholding and stock liquidity. In Comerton-Forde and Rydge (2006), for example, information friction is proxied by time-weighted relative bid-ask spread and real friction is proxied by the turnover ratio. They find these measures of liquidity are negatively related to ownership concentration and various shareholder types, including directors, retailers, and institutions. They infer from their findings that a higher ownership concentration creates a greater proportion of informed traders in the market. This then leads to a higher information asymmetry and in turn contributes to illiquidity. In other words, a highly concentrated ownership structure means fewer numbers of shareholders, and

accordingly, lower trading activity and illiquidity. Similar findings are reported by Kothare (1997) and Heflin and Shaw (2000).

Brockman et al. (2009) also test the adverse selection and trading hypotheses. They report a negative relation between blockholding and stock liquidity for a sample of 1,225 listed firms in the US from 1996 to 2001. Their measure of liquidity includes the number of trades, average trade size, quoted and effective spreads, quoted depth, and adverse selection components of the bid-ask spread.[17] Their findings are consistent with those of Heflin and Shaw (2000) in that higher block ownership results in wider spreads, thinner depths, and higher adverse selection costs. However, they show that the association between block ownership and liquidity is due mostly to a lack of trading rather than adverse selection (informed trading). Block ownership does not adversely affect spread, depth, adverse selection components, or price impact after controlling for the reduction in trading activity. The weak relation between blockholding and stock liquidity, measured by informational friction, is due to either the lack of an informational advantage in blockholding or the laws preventing trades on private information.

[17] The adverse selection components of the bid-ask spread are trades out of sequence, trades and quotes before the open or after the close, quotes not originated on the primary exchange, negative trades or quotes or spreads, and quotes with spread greater than $4 or 20 percent of the mid-quote.

3.4 Ownership Types and Liquidity

3.4.1 Institutional Ownership and Stock Liquidity

The argument for the relation between institutional ownership and liquidity is primarily based on the informational advantages of institutional investors. Although institutional investors are not involved in managing and overseeing firm activities, they do not have the same access to private information as insiders. However, institutional investors are likely to exploit informational advantage through economies of scale because the typically high institutional shareholdings help spread the cost of information acquisition (Schnatterly et al., 2008). Institutional investors are thus likely to act as informed traders (Kothare & Laux, 1995; Grullon & Wang, 2001) and their presence imposes costs of adverse selection on uninformed traders and market makers, resulting in a wider bid-ask spread and lower stock liquidity (Milgrom & Glosten, 1985).

A potentially influential factor that facilitates institutional owners' access to the firm's private information is their investment size. Focusing on this variable, Schnatterly et al. (2008) hypothesise that the size of institutional shareholdings provide them with better access to private information concerning the firm value. To test this, they use quarterly ownership data for the largest institutional owners of a sample of 6,515 firms from the CDA Spectrum database from the first quarter of 1983 to the third quarter of 1991. The design of their study is based on the trading behaviour in the NASDAQ market. Hence, the bid-ask spread proxies for the level of information the market maker believes the trader has, while the market maker's bid-ask

spread proxies for the perceived risk of trading with more informed traders. The authors find that the higher the ownership concentration of the largest institutional investors, the larger the bid-ask spread. This finding indicates that institutional investors have an informational advantage even in seemingly efficient markets. The larger their proportionate shareholding, the greater their access to firm-specific information. In contrast, the ownership of smaller institutional investors is negatively related to the bid-ask spread. Therefore, for smaller institutional investors, the costs of trading on asymmetric information outweigh the benefits, implying that information acquisition is not really beneficial.

Contrary to the finding documented in Schnatterly et al. (2008), Fehle (2004) finds a positive relation between stock liquidity and institutional ownership for a sample of 10,107 NYSE listed firms during the period 1980–1996. Unlike Schnatterly et al. (2008), liquidity is measured by lower effective and posted bid-ask spreads. Fehle (2004) interprets this finding to suggest that if institutional investors are restricted in their ability to adjust their ownership due to the size of the block they hold (Graves & Waddock, 1990), they will not engage in information-based trading. That is, institutions typically hold larger portfolios than other small investors, so a relative adjustment in their holdings results in a larger absolute trading volume. If the adjustment of the desired trading volume is large enough to have an effect on the stock price, institutional investors will face a restriction in their ability to turn over their holdings. Therefore, the holdings of institutional investors

can reduce the overall share of information-based trading, meaning that stocks with high institutional ownership have lower bid-ask spreads.

Rubin (2007) tests the effect of information asymmetries on institutional ownership for a sample of 1,369 NYSE firms over the period 1999-2003. Additionally, the study identifies some overlapping features of traders. An institutional investor can be an insider, an insider can be an institution, and a blockholder can be either or both, and so on. As such, Rubin (2007) considers the shareholdings of institutions which play the role of insiders as not institutional holdings.[18] The study supports both the adverse selection and trading hypotheses, showing that liquidity is mostly driven by institutional ownership rather than insider ownership. Further, institutional ownership enhances stock liquidity because of their greater number of trading activities while institutional blockholdings reduce stock liquidity due to adverse selection. An implication of the findings is that traders as institutional blockholders are negatively correlated with liquidity, suggesting that institutional blockholders are perceived by market makers to have superior information.

The above studies have treated institutional ownership as a homogeneous group without decomposing it into the various types. More

[18] The measure for insider holdings is based on data contained in SEC Form 3 and Form 4. By law, all insiders, including executives, officers, and beneficial owners who hold directly more than 10 percent of the firm's shares outstanding, must report any transaction on these forms within two business days. The measure for institutional holdings is the combined holdings of all financial institutions that report an SEC Schedule 13F but do not report themselves as insiders on Form 3 or Form 4. According to rule 16(a)-1 of the *Securities Exchange Act* of 1934, an institutional investor that holds more than 10 percent of the shares in a company is not considered an insider, and therefore is not required to submit Forms 3 and 4.

recent studies have considered institutional ownership as a heterogeneous group (Ali & Hashmi, 2018; Dang et al., 2018; Lee & Chung, 2018). For example, using a sample of 84 non-financial companies listed on Karachi Stock Exchange (KSE) for the period from 2005 to 2014 with turnover ratio as the liquidity proxies used, Ali and Hashmi (2018) show that different institutional ownership have different effects on stock liquidity. For instance, while ownership by bank and investment companies are positively associated with liquidity, ownership by insurance firms has no impact on stock liquidity.

While most of previous evidence on the relation between institutional ownership and stock liquidity emphasis on a single country analysis, and primarily on the U.S. markets (Heflin & Shaw, 2000; Rubin, 2007; Brockman et al., 2009), Dang et al. (2018) analyse the relation between institutional holdings and liquidity across an international sample of firms. In particular, using a comprehensive firm level data set of institutional ownership and stock liquidity across 41 countries over the period 2000-2010, Dang et al. (2018) show that institutional ownership is positively correlated with stock liquidity. Further, the positive liquidity effect of institutional ownership is mainly driven by non-blockholders.

In terms of foreign institutional block ownership, the literature mostly advocates a negative impact of foreign institutional shareholdings on stock liquidity. As large owners, foreign institutions are argued to be information-driven traders (Bushee & Goodman, 2007), hence contributing to the problem of information asymmetries (e.g. Dennis & Weston, 2001; Agarwal, 2007); Rubin, 2007; Brockman et al., 2009). The degree of information asymmetries

is likely to be higher in emerging markets in which foreign institutional investors are perceived as being more experienced, having better knowledge, and being better informed (Grinblatt & Keloharju, 2000). Further, since large firms in such markets are likely to have a close relationship with local government and industries, a shift from local ownership to foreign ownership is likely to result in a weakened informational system. Furthermore, foreign institutional investors can only follow the strategy of buy and hold, which in turn leads to inactive trading in the stock market and thereby reduces liquidity.

The arguments above motivate Rhee and Wang, (2009) to investigate the impact of foreign institutional block ownership on the Indonesian stock market liquidity. Examining daily share holdings of foreign investors in two Indonesian stock markets, Jakarta Stock Exchange (JSX) and Kustodian Sentral Efek Indonesia (KSEI), from January 2002 to August 2007, Rhee and Wang (2009) show that the increasing participation of foreign institutional investors in Indonesia contributes to an increase in informational asymmetries which results in reduced stock market liquidity.

Rhee and Wang, (2009) examine the impact of foreign institutional block ownership on stock liquidity in a single country, Indonesia, while Lee and Chung (2018) analyse how stock liquidity is related to foreign ownership for 20 emerging markets. These studies use both the daily bid-ask spread and the daily price impact of trades to measure liquidity. Both studies fid that although foreign institutions have information advantages over domestic investors and increase adverse selection cost by trading on superior

information, they bring benefits to traders as liquidity providers through increase in the competition in the price discovery process and therefore increase stock liquidity. This finding remains after controlling for the potential endogeneity problem probably associated with the preference of foreign investors on stocks with lower spreads (lower transaction costs) or with stocks with greater information asymmetry to exploit profit opportunities.3.4.2 State Ownership and Liquidity

SOEs are associated with a high level of government ownership and accordingly, government intervention (La Porta et al., 2000; Shleifer & Vishny, 1997). The literature offers two competing views on the association between state block ownership and liquidity in SOEs. The first view, which is based on the assumption that the state promotes the maximisation of public welfare, argues that firms with state block ownership are encouraged to increase informational transparency (Ng et al., 2009). With increased ownership (control), these state owners find it easier and more efficient to monitor management. Increased monitoring by state owners helps mitigate agency problems (Hope & Thomas, 2009) as well as ensuring greater compliance with government policies and reforms to improve informational transparency. The decrease in information asymmetries in turn results in higher market liquidity (Choi et al., 2010; Ding, 2014). Therefore, according to this view, state block ownership is associated with higher liquidity.

The competing view argues that firms with high state block ownership have less incentives to commit to information disclosure in order to conceal expropriation of minority shareholders (Shleifer & Vishny, 1997; La Porta et

al., 1999; La Porta et al., 2000). The increased information asymmetries would then increase the bid-ask spread and thus lower liquidity. The argument for the high level of information asymmetries in SOEs is based on property rights (Alchian, 1961; Alchian & Demsetz, 1972). In particular, while the property rights in non-SOEs belong to individuals or families, those in SOEs are ambiguous. Local and central government officials who are principals keep the controlling rights under the state name. Therefore, there is no official principal in firms with state block ownership and this leads to different incentives or different personal benefits in firms, resulting in a severe information asymmetry in SOEs (Ding & Ni, 2010). The high level of government ownership is thus likely to result in illiquid stocks.

Empirical studies on the relation between state block ownership and stock liquidity are sparse. Most of the studies are implemented in China where state block ownership dominates and is associated with greater agency problems and poorer corporate governance quality, creating a higher information asymmetry between outside investors and insiders (Shleifer & Vishny, 1994).

Choi et al. (2010) examine a sample of 271 firms listed on both Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) over two sub-periods; 1995–2000 and 2001–2003. In the first sub-period, they find a positive association between state block ownership and the bid-ask spread, consistent with inefficient monitoring of management in state-owned firms which consequently leads to higher agency costs. However, in the later period (2001–2003), they find that state-owned firms are associated with

higher liquidity, as exhibited by a lower bid-ask spread. They explain that the finding could be due to changes in regulations on state block ownership structure and corporate information disclosure. These changes could include: control transfer[19] (Wang, 2010); enhanced regulations on financial statements and auditors (Chen et al., 2010); and improvements regarding corporate governance structures (Wang, 2010).

Chu et al. (2015) test the ownership-control divergence (the divergence between their control rights and cash-flow rights, also called excess control rights) in the Chinese stock market. Their sample consists of 1,718 firm-year observations. Their results reveal a positive relation with liquidity, meaning that the larger the divergence between ownership and control, the lower the liquidity (higher bid-ask spread).

3.4.3 Family ownership and Liquidity

The relation between family block ownership and stock liquidity is also working under agency theory. In particular, it is argued that most founding families invest their private assets in the firm. As a result, large family owners have economic incentives to monitor managers closely and this leads to a decrease in the level of the conflict between the owner and the manager – the type I agency cost (Berle & Means, 1932; Jensen & Meckling, 1976). On the other hand, the combination of management and control incentivises family owners to exchange profits for private rents and thereby expropriate minority

[19] Starting in 2001, control rights can be transferred from the state to the private sector, and thus private shareholders can be controlling shareholders of some listed companies.

shareholders (Faccio & Lang, 2001) through pyramidal shareholder structures, tunnelling, and self-dealing. This leads to the type II agency cost.[20]

Research examining the influence of family block ownership on stock liquidity is scant. A number of studies test the relation between family block ownership and information asymmetries. Using data from S&P 500 companies during the period from 1994 to 2002, Wang (2006) shows that founding family block ownership is associated with a lower information asymmetry, as indicated by higher earnings quality. This study assesses the quality of earnings in the following four ways: the level of discretionary accruals in earnings; the ability of earnings components to predict future cash flows; the persistence of earnings; and the association of earnings with contemporaneous stock returns. In order to protect the family's reputation and wealth, and long-term firm performance, Wang (2006) argues that family owners are less likely to engage in opportunistic behaviour in reporting accounting information. The fact that these family firms have higher quality of accounting earning suggests greater transparency and thus a lower information asymmetry in family firms.

In contrast, using the ultimate owners of 2,980 firms in nine East Asian economies, Fan and Wong (2002) show greater family block ownership is associated with higher agency conflicts and higher information asymmetries. The highly concentrated ownership structure gives the controlling family

[20] The agency problem Type II argues that in emerging countries with highly concentrated ownership, the possess of more control rights than cash flow rights – dual class shares or other corporate control instrument – provides controlling shareholders with both opportunities and incentives to extract firm resources at the expense of outside shareholders (Claessens & Fan, 2002; Fan & Wong, 2002).

owners the incentives to report uninformative earnings to avoid detection of their expropriation activities.

The difference between the findings of Wang (2006) and Fan and Wong (2002) may be due to differences in the degree of ownership concentration. That is, while the study of Fan and Wong (2002) is more generalisable to East Asian countries, the U.S. and the UK firms in Wang's (2006) sample have more diffused corporate ownership. Moreover, differences in the institutional environment, including corporate governance, legal, and financial systems may also explain the reported differences.

Research on the relation between ownership concentration and ownership structures and stock liquidity is still scare in Vietnam. Tran et al. (2018) recently examine whether the role of different ownership structures on Vietnamese stock market liquidity varies during and after the 2008 Global Financial Crisis (GFC). The data is collected from the FPT Securities for the period from quarter 3/2007 to quarter 4/2013 to measure liquidity and ownership structure. Using a variety of liquidity proxies, such as relative bid-ask spread, trading turnover, implicit spread estimator, illiquidity ratio, depth of stock, and zero-return measure, as well as different ownership structures, such as state owned, foreign owned, and institutional owned, this study indicates that state ownership is the main driver of liquidity in the post-crisis period while there is no clear evidence for its effect on liquidity during the crisis. The implication of this result is that state ownership is associated with information asymmetry, agency problem, as well as inactive trading. Also, foreign ownership has no clear impact on stock liquidity in both sub-sample

periods while institutional ownership presents a weak influence on liquidity after the crisis. The unclear evidence from the test shows that individual investors are likely to have a negative impact on the decline in the stock market during the crisis. Additionally, the findings imply that the role of foreign investors is not significant in driving Vietnamese stock market, which is counter to the findings in the previous literature regarding liquidity in more developed markets.

Table 3.1: Summary of the literature on ownership and liquidity

Author	Year	Sample Size and Period	Ownership Variable	Liquidity Variable	Adverse Selection Variable	Methodology	Findings
Heflin, Frank Shaw, Kenneth	2000	260 firms: 259 NYSE; 1 AMEX 1988-1989	Total blockholdings	Total quoted depth; relative spread; effective spread	Lin, Sanger, and Booth (1995); Huang and Stoll (1997)	Ordinary Least Square (Cross sectional regression)	Positive regarding to relative and effective spreads; negative total quoted depths
Naes, Randi	2004	94 firms- Norway 1999-2001	Blockholding by insiders, State, Institution, non-institutional and individual foreign	Quoted spread; effective spread ; relative spread	Glosten and Harris (1988); George et al (1991)	Fixed effect panel regression and Granger causility	Owner concentration is found to be negatively related to spreads and information costs. A somewhat weaker negative relation is also found between spreads and insider holdings. No strong relationship can be documented between liquidity and institutional ownership. Ownership variables which affect spreads do not in general jointly affect depth in the predicted way, suggesting that spread and depth measure differ- ent dimensions of liquidity. Finally, a one-way Granger causality relation from ownership structure to liquidity is hard to document
Attig, Najah Fong, Wai Ming Gadhoum, Yoser Lang, Larry H P	2006	1031-Canadian firms in 1996	Ultimate Ownership	Average daily closing bid-ask spread; average variable bid-ask spread	Glosten-Harris (1988)	Cross sectional regression and reverse causality	Larger deviation between ultimate control and ownership results in more severe information asymmetry and greater stock illiquidity
Ginglinger Hamon	2011	1550 French firms; 1998-2003	Block ownership	Trading numbers; Relative turnover; Depth and average relative spread	Huang and Stoll(1997)	Ordinary Least Square (Cross sectional regression)	While pyramid structure reduce liquidity, double voting rights increase liquidity;Blockholders reduce liquidity as well
Comerton-Forde, Carole Rydge, James	2006	667 Australian firms; 1998-2003	Director, institutional and retail shareholdings	Relative bid-ask spread; Turnover ratio	Stoll(1978)	Ordinary Least Square	Under both theeffects of real friction and information friction, large concentrated ownership reduce stock liquidity
Paul Brockman Xuemin (Sterling) Yan Dennis Chung	2009	1225 firms NYSE, AMEX 1992-2001	Block ownership	Relative quoted spread, relative effective spread, quoted depths	Amihud(2002); Glosten and Harris (1988); Huang and Stoll (1997); Lin et al. (1995)	Cross sectional regression	Lack of trading rather than bid-ask spread reduce stock liquidity

Table 3.1 Continued

Author	Year	Sample Size and Period	Ownership Variable	Liquidity Variable	Adverse Selection Variable	Methodology	Findings
Atulya Sarin Karen Shastri Kuldeep Shastri	2000	786 firms AMEX&NYSE 1985	Insiders and Institutions	Relative bid-ask spread; daily weighted average bid-ask spread; quoted depth	George at al (1991); Glosten&Harris (1988); Madhaven&Smidt(1991)	Ordinary least squares regression and simultaneous equation	Negative relation between liquidity and both insider (supported by bid-ask srpead) and instituional ownership(not supported by bid-ask spread)
Patrick Dennis James Weston	2001	5500 firms; NYSE; AMEX; NASDAQ; Q4 1997 Q4 1998	Insiders and Institutions	Quoted bid-ask spread	Huang and Stoll(1997); Foster and Viswanathan (1993)	Two stage least squares	Although the information based trading is linked to the institutional ownership, the spread is negatively related to the ownership of institutional investors
Karen Schnatterly Kenneth Shaw William Jennings	2007	6515 firm quarter observations; 1983-1991	Large institutions	Bid-ask spread		Cross sectional regression	The greater the percentage of shares held by the largest institutional investors, the greater the bid-ask spreads
Frank Fehle	2004	10107 stocks-NYSE 1980-1996	Institutions	Posted spread, effective spread		Feasible generalized least squares	Bid-ask spreas reduce with the overall level of institutional ownership
Amir Rubin	2007	1369 firms NYSE 1993-2003	Insiders holding, insider blockholdings, insider management, insider non-management, institutional holdings, institutional blockholdings	Dollar volume, share volume, turnover, equal weighted bid-ask spread, time weighted bid-ask spread, effective spread, realized spread, Amihud (2002)		Cross sectional regression and simultaneous equations	Insider ownership increases with liquidity proxied by trade but decreases with liquidity proxied by order. Institutional ownership level is positively correlated with liquidity while institutional blockholdings are negatively correlated with liquidity
Rhee Wang	2009	2002-2007;JSX and KSEI	Foreign Institutional Ownership	Bid-ask spread; Depth of stock; Price sensitive		Granger causality test	The increasing participation of foreign institutional investors damages stock liquidity in an emerging market
Choi, Jongmoo Jay Sami, Heibatollah Zhou, Haiyan	2010	Two periods: 1549 firms in 1995-2000; 797 firms in 2001-2003; SHSE and SZSE	State ownership	Bid-ask Spread		Three stage Least Squares (3SLS)	Lower state ownership is associated with lower information asymmetry .An improved legal and institutional environment, the link between the government ownership and information asymmetry turns to be insignificant in the later period
Chu, Xiaojun Liu, Qigui Tian, Gary Gang	2015	345 Chinese listed firms on SHSE and SZSE; 2005-2009;	State ownership	Bid-ask effective spread; Adverse selection	Glosten and Harris (1988)	Ordinary Least Square	The impact of control-ownership divergence on stock liquidity is exaggerated by the more severe agency problems in SOEs

3.5 Corporate Governance and Stock Liquidity

Due to agency conflicts, managers have incentives to distort and hide information. Opportunistic managers may disclose selective information and keep some to support their wealth expropriation, thus exacerbating the information asymmetry problem in the market. To curb managers' perverse attempts to conceal information, corporate governance mechanisms are implemented as effective monitoring tools. As a result, firms with stronger corporate governance mechanisms are more able to mitigate information asymmetries (Leuz et al., 2003) and are thus associated with more liquidity.

Previous studies show that better corporate governance is associated with more frequent and more precise voluntary disclosure (Ajinkya et al., 2005; Karamanou & Vafeas, 2005); a lower level of information asymmetry (Diamond, 1985; Verrecchia, 2001); and a lower adverse selection problem for traders (Leuz & Verrecchia, 2000). Good corporate governance also attenuates earnings management activities, hence mitigating agency conflicts between managers and shareholders (Leuz et al., 2003; Farber, 2005).

The positive relation between corporate governance and stock liquidity is based on the argument that a lower level of information asymmetry and agency conflicts results in a higher level of stock liquidity (Kyle, 1985). In line with this argument, Chung et al. (2010) build an index of corporate governance based on six categories which are mostly linked to financial and operational transparency for a sample of NYSE/AMEX and NASDAQ stocks for the period 2001–2004. The index includes 10 governance standards

associated with the independence and effective functioning of the board, i.e., the audit committee, the nominating committee, and the compensation committee. These committees facilitate the board's role in monitoring management which helps align the interests of management with shareholders. For instance, the audit committee checks the adequacy and effectiveness of internal auditing, accounting, and financial controls and then makes recommendations on the information disclosure, thus limiting the potential expropriation of firm value or misreporting of firm performance. Consequently, the audit committee helps improve financial and operational transparency of the firm. Stock liquidity is proxied by the probability of information-based trading (measured by quote and effective spreads) and the probability of an asset being bought or sold without affecting its price (price impact). Their findings show that firms with better corporate governance are associated with better disclosure, which is an important attribute to greater stock market liquidity.

Kanagaretnam et al. (2007) identify whether four factors that capture corporate governance − board structure, board activity, and the percentage stock holdings of officers and directors − affect stock liquidity. While previous researchers have studied the relation between corporate governance and disclosure (Ajinkya et al., 2005; Karamanou & Vafeas, 2005), and the relation between disclosure and information asymmetries (Diamond, 1985; Verrecchia, 2001), they have not tested the direct association between corporate governance and information asymmetries. Kanagaretnam et al. (2007) provide a direct test of this relation by providing a triangulation of the

relations observed in prior research. Specifically, their test validates previous findings by documenting changes in the information asymmetries around earnings announcements, which is measured by changes in the bid-ask spread and depth. Both ordinary least squares (OLS) and two stage least squares (2SLS) regressions are used to reflect the simultaneity in market makers' decision to change spread and/or depth. The study uses a sample of 345 firms listed on either NYSE or the AMEX period from the June quarter to the September quarter of 2000. The results reveal that while the average spread decreases, the average depth increases significantly with board independence, board activity, and the percentage stock holdings of officers.

A question of whether a larger proportion of outside directors is more effective in minimizing the level of information asymmetries has evoked a continuous debate among academics. A board structure which includes a larger proportion of outside directors may increase the probability that the board will monitor management effectively. Fama and Jensen (1983) argue that an effective monitoring role of outside directors comes from the incentive to protect their reputations. Several studies illustrate that the presence of outside directors can prevent financial statement fraud (Beasley, 1996) or is likely to be associated with a higher level of corporate governance disclosure (Bujaki & McConomy, 2002). The more accurate and the higher level of disclosure result in a lower level of information asymmetry between the firm and the market.

Levesque et al. (2010) test how liquidity suppliers act in response to an increase in the information asymmetries prior to earning announcements in

firms with a lower proportion of outside directors. By using a large sample of 1,400 firms representing approximately 89 percent of the total value of shares traded on Canadian exchanges (TSX-300 Index) from January 1998 to December 1998,[21] they provide evidence suggesting that the higher the proportion of outside directors on the board, the lower the level of information asymmetries in the 6.5 hours prior to the quarterly earnings announcements. However, the lower information asymmetries are also associated with the larger proportion of voting rights held by outside directors as well as the larger proportion of outside directors in the audit committee.

Raheja (2005) contends that both outside and inside directors face constraints in their monitoring role. Specifically, while outside board members may provide more effective monitoring, they are less knowledgeable about the firm's opportunities. Inside board members have more firm-specific information but, at the same time, may have distorted objectives due to private benefits. As a solution to this problem, a board structure which includes both inside and outside directors can bring more monitoring.

Given the ability of an independent board to foster better disclosure, liquidity providers are likely to confront lower adverse selection in the presence of independent directors and this in turn increases stock liquidity. Foo and Zain (2010) test this prediction using a sample of 481 Malaysian public listed firms in 2007. Three measures of liquidity are used: trade based

[21] This study focuses on the sample period prior to the demise of Enron in 2001. This provides better separation of the market's reaction to differences in the quality of firm monitoring activities around earnings announcements and market effects due to the increased awareness of corporate governance failures, changes in governance regulation and imposed regulation starting 2002 and later.

measure – trading volume; order based measure – quoted depth; and price based measure – zero return occurrences. The board characteristics tested include the percentage of independent directors on the board; the percentage of independent directors on the audit committee; the percentage of non-executive directors on the board; and the number of board meetings during the year. Principal component analysis of these board measures yields two factors: board independence and board diligence. The results indicate that board independence and board diligence are significantly associated with higher stock liquidity, as reflected in a lower spread, and adverse selection. Thus, by ensuring independence from management's influence, board independence and board diligence can facilitate a more transparent operating environment characterised by improved financial disclosure. As a consequence, a higher level of liquidity is observed.

Using a sample of 239 Australian listed firms for the period 2004–2009, Aspris and Frino (2014) provide similar results regarding the relation between board independence and stock liquidity through the level of information disclosure. Director independence is determined from information disclosed in the annual report. The data set on the board includes details of individual directors for a sample of 239 firms listed on the Australian Stock Exchange (ASX) over the period 2004-2009. Details on the current and past directors of these firms including their position, appointment and cessation dates, age, and gender are obtained from Connect 4 and Morningstar's DatAnalysis databases. For these directors, they examine annual reports and announcements made to the ASX to ascertain the independent status of each

director. The liquidity measure used is the quoted spread. Adverse selection costs are measured using the Huang and Stoll (1997) spread decomposition model. Their results reveal that companies with a more independent board structure have higher levels of liquidity, as reflected by narrower spreads, lower price impacts, and lower levels of adverse selection. These results are both statistically and economically significant. Therefore, policies that promote the overall effectiveness of board oversight which, in this case, are the high assurance of independence from management's influence, are associated with higher market liquidity.

Using a sample of 2,532 firm-year observations of firms controlled by the state and 1,391 firm-year observations of firms controlled by non-state investors from the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE), over the period 2006–2008, Lei et al. (2013) show a positive relation between corporate governance and liquidity. An interesting observation within the SOE sample is the significant difference between central SOEs and local SOEs. In particular, the positive relation is noted mainly for SOEs with a more effective board or with a controlling shareholder playing a more active role in monitoring. Conversely, non-state companies are associated with greater liquidity when there are fewer layers in the company's pyramid structure and when there is a better alignment of cash flow and control rights. However, higher management compensation is associated with higher liquidity in both state and non-state companies.

3.6 Summary

The empirical studies discussed above on the determinants of stock liquidity focus mainly on ownership concentration, with different types of controlling (large) owners, and on corporate governance mechanisms. Despite differences in the sample, study period, and variable measurements across the studies, there is a consensus agreement that ownership structure and corporate governance mechanisms have a positive impact on stock liquidity. Most of the studies focus on the US market, with a sprinkle of studies in emerging countries but none in Vietnam. Therefore, it is intriguing to know whether the same results hold for Vietnam where corporate ownership is highly concentrated in the hands of the state and family, and where corporate governance is poor.

Table 3.2: Summary of the literature on governance and liquidity

Author	Year	Sample Size and Period	Corporate Governance Variable	Liquidity Variable	Adverse Selection Variable	Methodology	Findings
Kee H Chung John Elder Jang-Chul Kim	2010	4449-9078 observations NYSE/AMEX NASDAQ 2001-2004	Governance index using standards related to: board independence and effective functioning, including audit, nomination and compensation committees, director's compensation and ownership	Quoted spread, effective spread, market quality index	Price impact of trades, probability of information based (PIN) trading	Ordinary least square regression and fixed effects panel regression	Stocks of companies with better governance structures have narrower quoted and effective spreads, higher market quality index, smaller price impact and lowr PIN
Kiridaran Kanagaretam Gerald J. Lobo Dennis J. Whalen	2007	345 firms NYSE or AMEX June and September quarters 2001	Percentage of independent directors, percentage of independent directors on the audit committee, board size, the existence of independent nominating, compensation, and governance committees, directors' retirement age, number of audit committee and board meetings during the fiscal year.	Average percentage spread, average percentage depth	Changes in bid-ask spreads and depths	Ordinary least squares and two stage least squares regressions	Changes in bid-ask spread at the time of announcements is significantly negatively related to board independence, board activity and the percentage stock holdings of directors and officers; depth changes are significantly related to board independence, board activity and the percentage stock holdings of directors and officers
Terrence J. Levesque Theresa Libby Robert Matheiu Sean W.G.Rob	2010	145 firms TSX 300 Jan. 1998-Dec.1998	Number of directors, outside directors of board and audit committee, CEO and Chair separation, director share ownership	Quoted Spread	Changes in bid-ask spreads	Ordinary least squares	Larger proportion of outside directors reduce information asymmetry
Yee Boon Foo Mazlina Mat Zain	2010	481 firms Malaysia End of 2007	Percentage of independent directors on the board and on the audit committee, percentage of non-executive directors on the board, number of: board meetings and audit committee meetings.	Trading volume, quoted depth and zero return		Ordinary least squares regression	More independent and diligent boards are associated with higher liquidity
Angelo Aspris Alex Frino	2011	239 ASX listed firms in Australia 2004-2009	Current and past directors-position, appointment, cessation dates, age, gender	Quoted Spread	Price Impact Huang and Stoll (1997)	Ordinary least squares	Firms with more independent directors have higher levels of liquidity; independent directors facilitate a more transparent operating environment

Chapter 4

Hypotheses Development

4.1 Introduction

This chapter presents the theoretical framework and hypotheses on how liquidity is related to corporate ownership and governance in the emerging economy of Vietnam. Sections 4.2 and 4.3 develop the hypotheses on the association between ownership structure and liquidity, and between corporate governance and liquidity, respectively. Section 4.4 summarises the chapter.

4.2 Ownership Concentration and Stock Liquidity

The literature proposes several theories to explain the association between ownership concentration and stock liquidity, and they are agency theory, the stewardship theory, the adverse selection hypothesis, and the trading hypothesis. In this section, I apply these theories to develop hypotheses on how ownership concentration and structure are associated with the stock liquidity of Vietnamese firms.

Agency theory explains the relationship between the principal and the agent, and is concerned with resolving problems that can exist in this relationship due to misaligned goals or different aversion levels to risk. The most common agency relationship in finance occurs between shareholders

(the principal) and managers (the agent). The agency problem which arises from this relationship, coined as Type I, is commonly found in widely-held firms characterised by a separation between ownership and control (Berle & Means, 1932) – the principal (shareholders) engages the agent (managers) to make decisions associated with running the daily business of the firm. As representatives of the firm, managers own little or none of the equity of the firm they manage. Therefore, with control vested in their hands, managers may act in an opportunistic manner to maximize their personal benefits rather than the benefits of the owners (shareholders) (Jensen & Meckling, 1976). Agency costs arise because the principal may pay monitoring costs to limit the perverse activities of the agent or to guarantee that the agent will not take certain actions which would harm the principal.

Type II agency conflicts arise in firms with highly concentrated ownership where owners possess control rights in excess of cash flow rights, such as through the use of dual class shares or other corporate control instruments. The control-ownership wedge provides controlling shareholders with both the opportunity and incentive to extract firm resources at the expense of outside minority shareholders (Claessens & Fan, 2002; Fan & Wong, 2002). Since high ownership concentration is a salient feature of Vietnamese firms, the nature of agency conflict that prevails in these firms is of Type II.

In Type II agency relationship, controlling shareholders are argued to support their self-serving behaviours through various activities. One such activity is in limiting information disclosure so as to conceal information

about their self-serving behaviours. Controlling shareholders may also opportunistically time the release of valuable private information to the market. As a result, controlling shareholders impede the flow of information to the market, leading to a more opaque information environment for the firm. Thus, one can expect the presence of large controlling shareholders to exacerbate the information asymmetry problem, which is expected to lower stock liquidity.

As an alternative to agency theory explanation, some scholars suggest steward theory. Davis et al. (1997, p.24) explain that stewardship is a theory which is designed to examine situations in which executives as stewards of the firm are motivated to act in the best interest of their principals. This theory gives predictions that are opposite of agency theory. That is, managers are more likely to pursue organizational objectives rather than to serve their own self-interest (Miller and Le Breton-Miller (2006)). Board members might be viewed as mentors who help family managers generate value (Huse (2000)) and provide expert advice and counsel, rather than control the family's actions (Anderson and Reeb (2004)). This attitude is especially prevalent in firms where leaders are family members or are closely tied to the family (Miller and Le Breton-Miller (2006)). The benefits for firms associated with stewardship are lifelong commitment to the firm and diligent management of organizational resources (Davis et al. (1997)), and favourable relations with stakeholders (Miller et al. (2008); Arregle et al. (2007)). Therefore, under stewardship theory, family-founding concentrated owners are expected to be associated with less severe problems associated with hidden information

(Villalonga & Amit, 2006), thus mitigating information asymmetry, which is expected to enhance stock liquidity.

The *adverse selection hypothesis* posits that when informed controlling shareholders possess superior information relative to outside shareholders, the information asymmetries may promote unwillingness to trade and increase the cost of capital to the firm because investors "price protect" against potential losses from trading with informed traders (Bhattacharya & Spiegel, 1991). The bid-ask spread, a popular measure of market liquidity, provides a direct indication of the price protection that uninformed traders demand to compensate for their perceived information risk in trading with informed market participants. In particular, in the presence of information asymmetries, market makers will increase the bid-ask spread which in turn mitigates stock liquidity (Milgrom & Glosten, 1985; Easley & Hara, 1987). In sum, the *trading hypothesis* postulates that when ownership is concentrated, the availability of shares for trading or the free-float is limited, which accordingly will lower liquidity (Demsetz, 1968).

Following the above arguments, I predict the following:

H-1: Ownership concentration is negatively related to stock liquidity.

The type of controlling owners may also explain differences in the level of stock liquidity. Based on the existing literature, I identify four types of controlling owners and examine their association with stock liquidity: institutional investors; state; and family.

It is generally argued that institutional investors have an informational advantage over other investors because of their sheer size and superior valuation skills (Jennings et al., 2002). Their large size gives institutional investors economies of scale in resources and expertise in collecting and analysing firm information (Shleifer & Vishny, 1997). To the extent that institutional blockholders are better informed, their presence in the firm is likely to increase the degree of information asymmetries. This consequently gives rise to an adverse selection problem for market participants. Therefore, stock liquidity is expected to decrease in firms with institutional blockholders because market makers adjust their bid-ask spread to compensate for the potential loss of trading against these more informed traders (Milgrom & Glosten, 1985; Kyle, 1985). I thus predict:

H-2a: There is a negative relation between institutional block ownership and stock liquidity.

Another line of argument predicts the opposite, i.e., there is a positive relation between institutional block ownership and stock liquidity. In Vietnam, the liberalization of the stock markets in the early 1990s has attracted both foreign and domestic institutional investors such as mutual funds and pension funds. With an increasing interest in stocks with better disclosure (Bushee & Noe, 2000; Jiang & Kim, 2004), institutional investors therefore help promote better corporate governance and quality of information disclosure (Fan & Wong, 2002; Gul et al., 2010). This is because the substantial market power, influence, and better information acquisition technology (Ryan & Schneider, 2003) of institutional investors facilitate their

role in monitoring management and in mitigating information asymmetries by pressuring firms to disclose information in a more timely manner. It thus follows that having an institutional investor as a controlling owner helps mitigate agency conflicts and information asymmetries (Bhide, 1993), leading to higher stock liquidity.

The fact that institutional investors are subject to stringent rules and regulations due to their fiduciary duties to their investors (Lee & Marquardt, 2003) also explains why institutional investors can provide an effective corporate governance mechanism. As professionally managed financial institutions, institutional investors are active investors who manage a portfolio of stocks (Daems, 1978) and have strong incentives to create value for their shareholders through actively monitoring management (La Porta at al., 2000). Therefore, the competing hypothesis on the relation between insitutional ownership and liquidity predicts the follwing:

H-2b: There is a positive relation between institutional ownership and stock liquidity.

A salient ownership structure of Vietnam firms is high ownership by the state. In state-owned enterprises (SOEs), the state is the controlling shareholder of the firm. High state block ownership is likely to be attached to a higher level of agency problems due to the conflict between the government's political goals and the objectives of other shareholders. For example, the government may focus on social objectives and private gains, such as increasing employment (Shleifer & Vishny, 1994) to receive political votes from employees in SOEs (Boycko et al., 1996). This goal however departs from

the objective of profit maximisation which other shareholders expect and prefer the firm to pursue. The agency problem may also come from the influence of government to dictate corporate activities that favour their own private benefits by expropriating rents from minority shareholders (Choi et al., 2011). Agency problem is further aggravated in SOEs since the appointed managers and government representatives who are former or current government bureaucrats have fewer incentives to engage in effective monitoring (Fan et al., 2007).

SOEs are also likely to be associated with a lower quality of corporate governance and thus greater opacity for the following reasons. First, the connection with the central or local government provides SOEs preferential access to capital and especially government bailouts during periods of financial distress (Wang et al., 2008). Further, the connection with the government gives SOEs the assurance of not being disciplined by a higher cost of capital if they fail to make payment on time since most of capital come from government's support. Therefore, SOEs are less likely to disclose information or increase the quality of financial disclosure as they are less reliant on outside capital (Chaney et al., 2011).

Second, SOEs have a greater incentive to create an opaque information environment to hide expropriation of outside minority shareholders. Potential expropriation of outside minority rights is likely to be high in SOEs in countries such as Vietnam, where property rights protection is weak and the corporate governance mechanisms are ineffective (Shleifer & Vishny, 1997; La Porta et al.,1999). Research shows the incentives to expropriate minority

shareholders are negatively associated with the quality of searnings reporting (Deng et al., 2006). The greater agency problems in SOEs due in part to poor corporate governance suggests that the information environment of SOEs is relatively poorer than that of non-SOEs (Gul et al., 2010), suggesting that the high level of state ownership and control (in SOEs) is likely to have an adverse effect on stock liquidity (Brockman & Chung, 2003). The above argument leads to the following prediction:

H-3: Ownership by state is negatively related to stock liquidity.

Another prevalent ownership structure of Vietnamese firms is the high ownership of founding families. In my sample of 655 Vietnamese firms over the period 2007-2015, the average shareholding of controlling families is 8.5 percent.[22] The sticking point about family firms is whether the combination of ownership and control allows the founding concentrated owners to take actions that benefit themselves at the expense of outside minority shareholders or whether it provides an effective vehicle to mitigate managerial expropriation. On the one side, family firms face less severe Type I agency problem because of their ability to directly monitor the managers (Demsetz & Lehn, 1985). Since the family's resources are closely linked to the firm's welfare, family founders are likely to have strong incentives to monitor managers and prevent managerial expropriation of shareholders (Almeida & Wolfenzon, 2006). Moreover, better knowledge of the firm's business activities by family owners (Anderson & Reeb, 2003) enables them to achieve superior

[22] See Table 5.2 in Chapter 5 for further details.

oversight, which helps to detect manipulation of reported numbers and ensures quality information disclosure. Since families typically treat their company as an asset to be passed from one generation to another, their investment decisions are likely to be linked to long-term horizons which help reduce myopic investment decisions by managers (Stein, 1988; Stein, 1989; James, 1999). The long-term nature of family shareholdings suggests that the firm is likely to build a reputation with customers as well as external suppliers. Therefore, relative to other firms, firms with family-founding concentrated owners are expected to be associated with less severe problems associated with hidden information (Villalonga & Amit, 2006), thus mitigating Type I agency problem.

However, I argue that Type II agency problem is a more serious problem in family firms due to the unmatched interests between family owners and other minority shareholders. Considerable number of studies show that the shares of firms in countries with poor legal protection, especially in East Asian countries, are closely held in the hands of family members (Claessens et al., 2000; La Porta et al., 1999). This is indeed the case in Vietnam. With abundant ownership of cash flow rights, founding families have both the incentives and power to expropriate wealth from outside minorities. The combination of management and control often found in family firms has been found to induce sub-optimal investment decisions (Fama & Jensen, 1985). For example, while diversified shareholders in non-family firms are expected to choose to invest in projects which maximize shareholder value, controlling family shareholders are likely to choose projects which focus on firm growth or firm survival and not necessarily on shareholder value enhancement.

Evidence also shows that family owners have both the incentive and opportunity to manipulate accounting information flows to outside investors or to withhold bad news in order to reduce public scrutiny for private rents (Fan & Wong, 2002; La Porta et al.,1999). Additionally, family firms are more likely to appoint family members on the board (Anderson & Reeb, 2003), which potentially reduces monitoring efforts and at the same time increases information opacity associated with concealed indirect financial benefits (Shleifer & Vishny, 1997; Anderson & Reeb, 2003). Family owners' preference for a more opaque information environment, which discourages information disclosure to the public, results in a lower level of stock liquidity. Therefore, I predict the following:

H-4: There is a negative relation between family ownership and stock liquidity.

4.3 Corporate Governance and Stock Liquidity

Corporate governance mechanisms comprise a set of controls and procedures which explicitly provide the assurance that managers act in the interest of (minority) shareholders (Denis & Mcconnell, 2003). An effective corporate governance system therefore impedes management's ability to distort information disclosure (Leuz et al., 2003). I conjecture that an effective corporate governance mechanism improves financial and operational transparency (Beasley, 1996; Chen & Jaggi, 2000), leading to greater stock market liquidity.

Board independence is one of the key underpinnings of corporate governance. Non-executive directors (NEDs) are appointed by shareholders to represent their interests on company boards. The primary fiduciary duty of NEDs is therefore to the company's shareholders, meaning that they must not allow themselves to be captured or unduly influenced by the vested interests of other members of the company such as the CEO or controlling shareholders. Evidence from previous empirical work points out that the proportion of independent directors on the board is associated with an increased level of corporate disclosure (Bujaki & McConomy, 2002; Felo & Solieri, 2009; Felo, 2010), a lower incidence of financial statement fraud (Beasley, 1996), and higher quality reported earnings (Jaggi et al., 2009). All these outcomes suggest that, all else equal, firms with a more independent board have high stock liquidity.

However, unlike many other countries where minimum standards for independent boards are regulated (Dahya & Mcconnell, 2005), there is no clear legal stipulation of the role of independent outside directors in Vietnam regardless of what the evidence shows about the effectiveness of their monitoring role (Hai & Nunoi, 2008). Additionally, the role of the board of supervisors is still a long-debated topic in Vietnam because it has been depicted as being "toothless" in dealing with governance issues in recent corporate scandals in the country.[23]

[23] Some well-known examples showing weak corporate governance and insufficient board oversight include Vinashin Corporation, Vinaline Corporation, and ACB Commercial Bank.

Therefore, the high ownership concentration of Vietnamese firms, especially SOEs, which gives controlling shareholders significant power and influences over corporate decisions, also raises concerns on whether the monitoring role of independent boards is somewhat compromised. All these reasons suggest that the independent boards are relatively weak in monitoring management's activities (Cai et al., 2006). The significant information asymmetry which still remains implies that board independence have no impact on liquidity.

Therefore, I predict the following:

H-5: There is no role of independent directors on stock liquidity.

The next corporate governance mechanism I examine is CEO duality. Two competing theories exist to explain the monitoring effect of the leadership structure: agency theory and stewardship theory. Agency theory predicts that the separation of the role of CEO from the role of chair of the board is preferable given the inherent separation of the interests of principals and agents implied by this leadership structure (Fama, 1980; Jensen & Meckling, 1976). However, when the CEO also acts as the chair of the board (CEO duality), this practice can lead to managerial entrenchment and reduces board independence (Finkelstein & D'Aveni, 1994). Mace (1971) argues that CEO duality could influence the information transmitted to other shareholders and affect the selection of directors. Specifically, the responsibilities of setting the board agenda and moderating board discussion (Carter & Lorsch, 2004; Gillies & Leblanc, 2005) provide the CEO-chair the power to control the board agenda and information flow.

Moreover, combining the roles of CEO and chair in one person could create opportunistic managerial behaviours and compromise board monitoring (Daily et al., 2002). This is because the unified power of CEO and chairman creates a strong individual power base which could deteriorate the board's ability to exercise effective control. For example, CEO duality could constrain board independence and limit its oversight and governance roles (Finkelstein & D'Aveni, 1994). Importantly, the oversight and governance roles extend to the distribution of corporate information to outsiders. Therefore, firms with CEO duality are more likely to be linked with lower levels of information disclosures as the board is less likely to monitor effectively in these firms to ensure a higher level of transparency. The lower level of transparency is predicted to be associated with decreased market liquidity. Based on the above discussion, I formulate the following hypothesis:

H-6a: CEO duality is associated with lower stock liquidity.

Proponents of CEO duality are inclined towards stewardship theory which views managers as intrinsically honourable and good stewards of company resources (Donaldson & Davis, 1991). This theory considers managers as self-actualising individuals rather than opportunistic shirkers (Lam & Lee, 2008). Stewardship theory also suspects that combining the two roles into one position helps build a unity of command which reduces uncertainties and conflicts between top managers by establishing unambiguously-defined responsibility (Massie, 1965).

Under stewardship theory, CEO duality is not likely to be motivated solely by financial incentives. Other motivations include job satisfaction, advancement and recognition, respect for authority, and work ethic also help enhance the performance of managers. These dual CEOs do not risk losing their reputation. Their future employment and pension funds also motivate dual CEOs to align their interest with those of shareholders. The theory also argues that CEO duality could promote a unified and strong leadership with a clear sense of strategic direction. Since the CEO has knowledge of the business and industry and knows how to run the company, combining these two roles can help in making timely and optimal decisions (Brickley et al., 1997). Therefore, based on the stewardship arguments, CEO duality is expected to have a positive impact on stock liquidity.

H-6b: CEO duality is associated with higher stock liquidity.

When agency costs are relatively high, firms are likely to use corporate government mechanisms and voluntary disclosure to reduce these costs. One effective corporate governance mechanism is external auditors who have the capabilities and incentives to detect and report financial statement errors (Choi et al., 2008) and thus help reduce biased financial reporting (Becker et al., 1998; Kim et al.,2003). In this respect, external auditors can help mitigate the information asymmetry caused by agency problems (Fama & Jensen, 1983). They do this by assuring the credibility of accounting reports and the firm-specific information contained therein, which is likely to limit the entrepreneur's ability to deploy accounting information and hence his/her ability to extract wealth from outside shareholders.

Due to reputation concerns, auditors are motivated to pressure their client-firms to disclose more detailed and better quality firm-specific information in a timely manner (Camfferman & Terence, 2002). This argument has support in Fan and Wong (2005) who provide evidence suggesting that Big 4 auditor plays an important corporate governance mechanism in emerging markets with highly concentrated ownership. One can, therefore, expect a lower information asymmetry for firms associated with reputable auditors than for firms associated with less reputable auditors. I thus predict the following:

H-7: Firms with Big-4 auditors have higher stock liquidity.

4.4 Summary and Conclusion

This chapter presents the theoretical arguments and testable hypotheses of the thesis. It posits that ownership concentration and ownership structure are important determinants of stock liquidity. Hypotheses are presented for the relationship between stock liquidity and four types of controlling shareholders, i.e., financial institutions; state/government; and family.

With regard to the relation between corporate governance and stock liquidity, the discussion of this chapter focuses on board leadership and board monitoring. I hypothesise that board monitoring, proxied by independent directors on the board, the leadership structure, and the reputation of external auditors, are associated with stock liquidity.

Chapter 5

Data and Research Methods

5.1 Introduction

This chapter discusses the data and research method used in my study. Section 5.2 outlines the data selection criteria and data sources. Research method is discussed in Section 5.3, followed by the measurement of test variables in Section 5.4. Section 5.5 provides the descriptive analysis of my sample. Section 5.6 summarises and concludes the chapter.

5.2 Data

My initial sample consists of 5,237 firm-year observations for 655 firms listed on the two Vietnamese stock markets, Ha Noi Stock Exchange (HNX) and Ho Chi Minh Stock Exchange (HOSE), over the period from January 2007 to December 2015. I choose this sample period as it straddles two major regulatory initiatives: *Law of Securities* 2006[24], when was launched on 12th July 2006 and took effect on 1st January 2007, and *Circular* 38/2007/TT-BTC, which took effect on 25th April 2007. The *Law of Securities* 2006 was issued with the purpose of ensuring fair, efficient, and transparent trading of

[24] *The Securities Law* issued in 2006 governs the activities of public offering, listing, dealing, trading and investment of securities, as well as the establishment and regulation of securities companies, public funds and member funds. It also sets out objectives to improve the standard of disclosure of all listed companies.

securities in the stock markets. The *Circular* was issued to address the level of externally based financial reporting of Vietnamese listed firms so as to improve the level of information transparency. Further, the availability data required for my research is highly limited prior to 2007.

Data on the five largest shareholders, i.e., percentage shareholdings and the identity of the shareholders, were retrieved from the Osiris[25] database and annual reports available on firms' websites. Data on the percentage shareholdings of blockholders, defined as those who own at least five percent of outstanding shares, were also collected. Data on corporate governance were obtained from Tai Viet (vietstock.com.vn), a website which provides information on firms' CEO duality, board independence, and auditors.

Financial data, including total assets, total liabilities, and stockholders' equity were collected from the firm's annual reports. Daily stock trading data necessary for the construction of the liquidity measures were collected from the Electronic Board of the two stock exchanges. The data include low and high bid and ask prices, closing prices, end-of-day best bid and ask prices, and trading volume available at bid and ask prices. After dropping observations due to missing data, my final sample consists of 4,256 firm-year observations for 655 unique firms.

[25] OSIRIS is a fully integrated public company database and analytical information solution produced by Bureau van Dijk Electronic Publishing, SA (BvDEP).

5.3 Methodology

To test whether ownership and corporate governance are related to stock liquidity, I conduct a panel data analysis. Due to the inherently unbalanced nature of the data, I focus on panel regressions with time and firm fixed effects. Firm fixed effects take into account the effect of time-invariant firm-specific omitted variables on liquidity whilst time fixed effects take into account the effect of time-invariant omitted macroeconomic variables on liquidity. I estimate the model with standard errors clustered at the firm level. Clustering ensures that inferences are based on standard errors robust to correlations in residuals within a firm over time and across firms in the same year. The Breusch-Pagan (1980) Lagrange multiplier (LM) and White (1980) Lagrange multiplier (LM) are applied to test for the presence of unobserved heteroskedasticity.

The general regression model that tests the relation between ownership structure, corporate governance, and stock liquidity is expressed as follows:

$$Liquidity_{i,t=} \alpha + \beta_1 Ownership_{i,t} + \beta_2 Governance_{i,t} + \beta_3 Control_{i,t} + \varepsilon_{i,t} \quad (1)$$

where α is the intercept; β is the regression coefficient; and ε is the disturbance term. The variables of interest are *Ownership*, which is measured by the sum of the percentage shareholdings of blockholders ($\geq$ 5 percent) and the identity of the top five shareholders (namely state, family, and financial institutions). *Governance* represents the vector of governance mechanisms, which are *Board Independence,* measured by the percentage of independent directors on the board; *CEO duality,* a dummy which takes a value of 1 if the

CEO also holds the position of the chairman, and 0 otherwise; and *Big_4_Auditor,* a dummy which takes a value of 1 if firms using Big 4 auditing service, and 0 otherwise. Finally, *Control* is a vector of control variables. All the test variable are detailed in the next section.

A concern with the above regression specification is potential endogeneity. The empirical literature shows that models associated with ownership structure and governance variables may suffer from a reverse causality (Steven et al., 2005; Li et al., 2012). If the independent variable is correlated with the error term in the regression model, the regression coefficients may be biased. I address potential endogeneity bias by using the Two-Stage Least Squares (2SLS) regression approach which requires the identification of instrument variables (IV). The IVs should be not only highly correlated with the suspect endogenous variable but also independent of the disturbance term (Kennedy, 2003). In other words, the IVs identified must be related to ownership concentration but not directly to liquidity.

Based on the literature, I identify two instrumental variables. The first instrument is the time series predicted ownership concentration, following Becker and Milbourn (2011):

$$Predicted\ Ownership = Ownership_{i,2007} + T \times (Mean\ of\ Ownership - Ownership_{i,2007})(2015 - 2007). \quad (2)$$

The intuition behind this instrument is that the rate of increase in ownership concentration is expected to be greater in firms starting out with low ownership concentration early in the sample period. The reason is that the

predicted ownership is formed based on information in the earliest year in the sample; this prediction cannot reflect events late in the sample period, suggesting that endogeneity is unlikely. The second instrumental variable for ownership is the industry-mean block ownership. Industry-level ownership is expected to influence firm-level ownership. It is unlikely that industry-level ownership has directly affects firm-level liquidity (Prommin et al., 2016). To construct industry dummies, I define each sector by Industry Code 2 (the second level code). I have 10 groups of industrial sectors (Agriculture, Forestry & Fishing; Mining; Construction; Manufacturing; Transportation & Public Utilities; Wholesale Trade; Retail Trade; Finance, Insurance & Real Estate; Services; Public Administration; Non-classifiable Establishments). I then compute the mean block ownership and mean different ownership structures by industry code 2 for each year and use them as the second instrumental variable."

The Hausman (1978) F-statistic is used to test whether the ownership variable is endogenous and whether a 2SLS regression is appropriate. Also, the Hausman test is helpful in identifying whether the instrumental variables are weak. The null hypothesis of the Hausman test is that there is no endogeneity. Only if the null is rejected and the 2SLS regression is consistent, that I should employ the instrumental approach.

5.4 Measurement of Variables

5.4.1 Dependent Variable

The dependent variable in my analysis is stock liquidity. Previous research characterises liquidity as a "slippery and elusive concept" (Kyle, 1985), which is measured in terms of its tightness, depth, breadth, and resiliency (Demsetz, 1968). Tightness refers to the low transaction cost of turning around a buy or sell position in a short time, and is measured by the bid-ask spread (Kyle, 1985). Volume-based measures are used to represent both depth and breadth. Depth refers to the existence of abundant orders. The market is said to be deep when there are orders both above and below the trading price of an asset. A deep market tends to foster breadth since large orders can be divided into several smaller orders to minimise the impact on transaction prices. Breadth means that orders are both numerous and large in volume with a minimal impact on prices. Changes in price which trigger the balance of order flows are used to measure liquidity associated with resiliency. Resiliency is a characteristic of markets in which new orders flow quickly to correct order imbalances. This tends to move prices away from what is warranted by fundamentals (Lybek & Sarr, 2002).

Since there is no empirical research suggesting which measure of liquidity is the most appropriate, I use a number of widely used liquidity proxies, as defined below. For each liquidity variable, I average the daily values over the calendar year.

Turnover:

My first liquidity proxy is the turnover ratio *(Turnover),* which refers to the relative number of shares traded during the day (Al-sharif et al., 2015). It is calculated by dividing the total shares traded daily by the average number of shares outstanding. The higher the turnover, the more liquidity of the company.

$$Turnover_{i,t} = \frac{Trading\ Volume_{i,t}}{Total\ Tradable\ Share_{i,t}} x100$$

Average and Relative Effective Spread:

My second liquidity proxy is based on measures of the bid-ask spread − the deviation between the bid and ask prices − which is the implicit trading cost for market orders (a round trip). A wider bid-ask spread means higher trading cost, resulting in lower liquidity. The first measure is the relative quoted bid-ask spread (*Average Spread*), which is the difference between the quoted ask and bid prices, scaled by the midpoint of the prevailing quote (Ginglinger & Hamon, 2007):

$$Average\ (Bid - Ask)\ Spread_{i,t} = \frac{Bid\ price_{i,t} - Ask\ price_{i,t}}{Midpoint_{i,t}}$$

$$Where: Midpoint = {}^{1}/_{2}\ (Ask\ price + Bid\ price).$$

The second measure is the effective spread (*Relative Effective Spread*), which takes into account the possibility of a transaction within the spread. The

relative effective spread relates the spread to the midpoint of the spread and is computed as follows:

$$Relative\ Effective\ \ Spread_{i,t} = 2\left(\frac{Trading\ \ Price_{i,t} - Midpoint_{i,t}}{Midpoint_{i,t}}\right).$$

Amihud:

The Amihud's (2002) measure of liquidity (*Amihud*) captures the price impact of daily trading flow based on the argument that the price of illiquid stocks moves a lot more in response to a small change in volume (Al-sharif et al., 2015). Therefore, the higher the Amihud's measure, the lower the stock liquidity. *Amihud* is calculated by the absolute return scaled by the dollar volume of the stock:

$$Amihud_{i,t} = |R_{i,t}|/VOL_{i,t}$$

where $|R_{i,t}|$ and $VOL_{i,t}$

are the absolute daily return and daily dollar volume (using daily closing price × daily trading volume) respectively for firm *i* on day *t*. I transform the daily *Amihud* liquidity measure into an annual measure by taking the natural log of the simple average of daily measures in each year.

Zero Return:

The third liquidity measure I employ is the zero day return (Zero) developed by Wei (2010). If the cost of obtaining information exceeds the value of the

information, informed traders will reduce trading or even not trade, leading to a zero return. In other words, days with high transaction costs may witness a zero return. A security with high transaction costs will have less frequent price movements and more zero returns than a security with low transaction costs. Stocks with a high *Zero* value have low liquidity.

This measure is originated from the adverse selection framework of Milgrom and Glosten (1985) and Kyle (1985), and is computed as follows:

$$Zero_{i,t} = \frac{number\ \ of\ trading\ \ days\ with\ zero\ returns_{\ i,t}}{number\ \ of\ trading\ \ days\ for\ the\ year_{\ i,t}}.$$

5.4.2 Independent Test Variables

Ownership:

The ownership variables I examine are block ownership (*Block Ownership*) and the three different types of top five shareholders, namely institutional ownership (*Institution Ownership*), state ownership (*State Ownership),* and family ownership (*Family Ownership). Block Ownership* is computed as the sum of the percentage shareholdings of blockholders, defined as large shareholders who own at least 5 percent of the shares outstanding (Heflin & Shaw, 2000). Following past literature, institutional investors include banks, investment firms, insurance companies, pension funds, and mutual funds (e.g. Sarin et al., 2000; Dennis & Weston, 2001; Rubin, 2007). The remaining identities of the top five shareholders are defined

as the percentage of shares held by the top 5 shareholders who are: (i) foreign institutions (Foreign Institution); (ii) domestic institutional investors (Domestic Institution); (iii) total of foreign and domestic institutions (Institutional Ownership); (iv) state owners (State Ownership); and (v) family owners (Family Ownership).

Corporate Governance:

The first governance mechanism is *Duality*, which takes a value of 1 if the CEO also holds the position of the chairman, and 0 otherwise. *Duality* is a proxy of board leadership. The second governance mechanism is *Independent Board*, which is defined as the ratio of the number of independent director to board size (number of directors on the board). The third governance mechanism in my analysis is *Big_4_Auditor,* which takes a value of 1 if the firm uses the auditing service of a Big-4 auditing firm,[26] and 0 otherwise.

5.4.3 Control Variables

Following prior studies, a number of control variables are included in the empirical tests. The first control variable is stock price (*Price*), which is expected to have a positive impact on liquidity (Attig et al., 2006; Dennis & Weston, 2001). A lower stock price is associated with higher risk (Sharpe, 1964) because trades are often executed at the bid and ask prices. Therefore,

[26] The Big-4 auditors in Vietnam are Ernst & Young (E&Y), Deloitte, PricewaterhouseCoopers (PWC), and Klynveld Peat Marwick Goerdeler (KPMG).

any variances in price will have an impact on market liquidity. An increase in price could make dealers suffer a loss if they sell at a low ask price. *Price* is defined as the average of daily stock prices over the year.

My second control variable is return volatility (*STD Volatility*), proxied by the standard deviation of daily stock returns for each firm in each year. A negative association between liquidity and share return volatility has been demonstrated by Copeland and Galai (1983) and Ho and Stoll (1981). Spreads will narrow if there is a lower level of volatility due to the lower proportion of adverse selection and inventory risk (Copeland & Galai, 1983; Stoll, 1978).

I also control for firm size (Log (*Size*)), calculated by the natural logarithm of year-end market capitalisation of the firm. More corporate information is available to the public in the case of larger firms (Merton, 1987), suggesting that larger firms have a lower information asymmetry. The greater information transparency of larger firms is also due to the wider range of investors who put higher demand on these firms for information disclosure (Singhvi & Desai, 1971). Therefore, larger firms are expected to have higher liquidity. Conversely, it is more expensive to trade smaller stocks as there is less information available about them (Stoll & Whaley, 1983). This is due in part to the lack of incentive among managers of smaller firms to provide valuable information due to proprietary cost (Raffournier, 1995).

Other variables shown by previous studies to have an important influence on stock liquidity include tangible assets, cash over total assets, debt, book-to-market, dividends, and returns on equity (ROE). I therefore control for these variables in my empirical tests as well.

Tangibility is measured by the log of tangible assets in a firm. The payoffs on tangible assets are easier to observe, suggesting that firms with a higher proportion of tangible assets have a lower level of information asymmetry, and thus higher stock liquidity (Chung et al., 1999; Harris, 1994). I expect a positive coefficient on *Tangibility*.

The availability of cash (*Cash Ratio*), measured by cash divided by total assets, provides an indication of the degree of safety from firm liquidity (Amihud, 2002). *Cash Ratio* is accordingly expected to be positively associated with stock liquidity.

The debt ratio (*Total of Debt*) indicates the amount of debt in place to support assets. A reasonable capital structure is likely to attract more investors to invest in the firm, which in turn is expected to increase stock liquidity (Florackis, 2005).

Book to Market is used to control for risk characteristics of the firm. Lakonishok et al. (1994) show that low book-to-market stocks are over-priced and high book-to-market stocks are under-priced. The mispricing is likely to be noticeable in firms with a high degree of information asymmetry (Griffin & Lemmon, 2002). Hence, I expect the book-to-market ratio to be related to stock liquidity.

The return on equity (*ROE*) is measured by net income divided by total stockholders' equity. A high *ROE* reflects the company's efficiency in using capital to generate profits, thus indicates good firm performance which likely to attract greater investments in the stock (Gul & Leung, 2004). A positive relation between *ROE* and stock liquidity is thus predicted.

The final control variable is dividend (*Dividend*), which is computed as dividend payout divided by net income. Dividends can be utilised as a governance mechanism to control the manager and shareholder agency conflict by reducing the available cash which can be expropriated by insiders (Faccio et al., 2001). Moreover, when minority shareholders face a higher degree of information asymmetry relative to majority shareholders, they generally prefer higher dividends (Baba, 2009). Therefore, firms with a higher dividend payout are expected to have higher liquidity.

Additionally, I control for the exchange in which the stock is listed. I construct a HX dummy (*HX*) that takes the value of 1 for stocks listed on the Ho Chi Minh Stock Exchange, and 0 for stocks listed on the Hanoi Stock Exchange. I expect HOSE stocks to be more liquid than those on HNX since HOSE has significantly higher capital requirements. For example, HOSE requires at least two years of profits before a firm is listed compared to one year for listings on HNX. Companies listed on HOSE also tend to be larger and attract larger foreign ownership, implying greater information disclosure and thus higher liquidity. In contrast, those listed on HNX are relatively smaller and have greater ownership participation by the state.

Table 5.1: Variable definitions

VARIABLES	DEFINITION
Liquidity Measures	
Average Spread	The average of daily measures of the best bid price minus the best ask price divided by the midpoint quote x 100, over the calendar year
Relative Effective Spread	The average of daily measures of twice the absolute value of the difference between the transaction price and the midpoint in effect at the time of the trade x 100, over the calendar year
Amihud	The average of daily measures of the absolute return scaled by the dollar volume of the stock x 1000,000, over the calendar year
Zero	The average of the number of trading days with zero returns divided by number of trading days for the year, over the calendar year
Turnover	The average of the daily trade volume divided by the number of shares on issue / 100, over the calendar year
Ownership	
Block Ownership	The sum of all shareholdings in excess of 5 percent
Foreign Institution	The percentage of shares held by the top 5 shareholders who are foreign institutions
Domestic Institution	The percentage of shares held by the top 5 shareholders who are domestic institutions
Institutional Ownership	The percentage of shares held by the top 5 shareholders who are institutions
State Ownership	The percentage of shares held by the top 5 shareholders who are state owners
Family Ownership	The percentage of shares held by the top 5 shareholders who are family owners
Corporate Governance	
Duality	A value of 1 if the CEO also holds the position of the chairman, and 0 otherwise
Independent Board (%)	The percentage of independent directors on the board
Big_4_Auditor	A value of 1 if the firm uses the auditing service of a Big-4 auditor, and 0 otherwise

Table 5.1: Variable definitions (Cont.)

VARIABLES	DEFINITION
Control Variables	
Log (Size)	The log of market capitalisation
Log (Price)	The log of average daily closing price over the year
Book to Market	Book value to market value of equity
ROE	Net income divided by book value of equity
Tangibility	The log of tangible assets
Total of Debt	Total debt divided by total assets
STD Volatility	Standard deviation of daily closing returns over the fiscal year
Dividend	The sum of annual cash dividends per share divided by end-of year price
Cash Ratio	Cash over total assets
Exchange	A value of 1 if the exchange is HOSE (Ho Chi Minh); and 0 if HNX (Ha Noi)

5.5 Descriptive Analysis

Table 5.2 presents the descriptive statistics for stock liquidity, ownership variables, and firm characteristics over the full sample period (2007–2015). The mean and median levels of liquidity, as measured by *Average Spread,* are 0.971% and 0.815%, respectively. These figures at least double those of Indonesia (mean and median of 0.492% and 0.324%, respectively), another developing country, as reported by Rhee and Wang (2009). Therefore, relative to Indonesian listed firms, Vietnamese listed firms have lower stock liquidity. The mean value of *Amihud* and for Vietnamese firms is 1.050 percent, which is substantially larger in magnitude compared to 0.02 percent reported for US firms (Rubin, 2007). Rubin (2007) also report the mean of *Turnover* in the U.S. is 0.16 percent. This is higher than the 0.07 percent reported for Vietnamese firms, suggesting substantial lower liquidity in the Vietnamese stock markets.

The average (median) *Block Ownership* is 45.2 (50.5) percent, indicating highly concentrated ownership amongst the average Vietnamese firm. This mean value is similar to that reported for Indonesia at 51 percent (Hastori et al., 2015) but lower than that reported for Thailand at 62.5 percent (Prommin et al., 2016).

Of the various top five shareholders, the state has the highest average (median) shareholding at 21.4 (9.4) percent, which is slightly lower than the 24.5% reported for Chinese firms (Yu, 2013). Despite the privatisation of small-and medium-sized SOEs and the corporatisation of large SOEs during

the economic reforms in both Vietnam and China, many listed firms in these two countries still have a high level of state ownership.

Institutional investors, as a top five owner, has an average (median) shareholding of 14.8 (5.2) percent. To provide further insight into this variable, I partition these institutional owners into domestic and foreign. The table shows domestic and foreign institutional investors, as top five owners, average 11.7 and 3.2 percent, respectively. In comparison, domestic and foreign institutional owners average 18.8 and 10.3 percent in Chinese listed firms (Kim & Yi, 2015). Therefore, there is less participation in the corporate ownership by institutional investors, both domestic and foreign, in Vietnam.

Family ownership (as a top five owner) averages 8.50 percent in Vietnam. This figure is much lower than that reported elsewhere. For example, average family ownership is 19.1 percent in the U.S. (Yu-Thompson et al., 2016) and 28.6 percent in Indonesia (Mulyani et al., 2016).

With regard to the corporate governance measures, about 36 percent of CEOs in Vietnamese listed firms also hold the position of the chairman of the board (*Duality*). This proportion is close to that reported by Lam and Lee (2008) for Hong Kong listed companies, which is 41 percent. *Duality* is much more common among US companies, with 75 percent of CEOs also holding the chairman position (Rhoades et al., 2001).

The mean (median) of proportion of board members reported as independent (*Independent Board*) is 32.4 (30.3) percent in Vietnamese firms, close to the 33 percentage recorded for the U.S. firms (Miletkov et al., 2014).

Therefore, most companies in my sample meet the required one-third cut-off for non-executive independent directors on corporate boards.

Almost one-fifth of sample firms obtain the auditing service from reputable auditors (*Big_4_Auditor*), significantly lower than the 85 percent reported for Malaysia (Choi et al., 2008). The difference in the market share of big four auditors across the two markets may be due to the fact that the concept of a liberalised and open market-based economy is a more recent adoption in Vietnam than in Malaysia.

The mean daily stock volatility, as indicated by *STD Volatility,* is 3.30 percent and ranges from 1.45 to 6.55 percent. Thus, stock prices vary over a large range of values within a short period of time, in line with Bekaert and Harvey (1995) who note that emerging economies are characterised by high stock volatility.

On average, *Log (Size)* averages 12, equivalent to an average market capitalisation of 158,646 mil VND (6.98 mil US dollars). The market capitalisation of Vietnamese firms ranges from 6,400 mil VND (281 thousand US dollars) to 13,516,477 mil VND (595 mil US dollars). Sample firms carry on average 57.8 percent of debt in their capital structure, ranging from 9.1 percent to 80 percent. The median value of debt (50.5 percent) is high compared to other developing countries, such as Argentina, India, and Korea (Jong et al., 2008). Therefore, the capital expenditure of Vietnamese firms is largely financed by external debt rather than by equity, as expected in a transition economy where banks dominate.

Tangibility and *Cash Ratio* average 19.7 percent and 9.4 percent, respectively. Dividend yield (*Dividend*) averages 2.6 percent, ranging from 0 to 55.4 percent. The low average figure is not unexpected given the high interest expense required to service the high level of debt in Vietnamese firms. The average *Book to Market* value is 0.70 and the return on equity *(ROE)* averages 9.2 percent, indicative of high growth.

Table 5.2: Descriptive statistics for Vietnamese listed firms (2007-2015)

See Table 5.1 for variable definitions.

Variable	Mean	SD	Min	Max	p25	p50
Average Spread	0.971	0.605	0.152	2.988	0.555	0.815
Relative Effective Spread	3.660	2.193	0.929	15.058	2.265	3.028
Amihud	1.050	2.218	0.000	13.606	0.008	0.175
Zero	0.270	0.205	0.000	0.896	0.116	0.228
Turnover	0.017	0.022	0.000	0.116	0.003	0.007
Block Ownership	0.452	0.223	0.000	1.000	0.300	0.505
State Ownership	0.214	0.241	0.000	0.791	0.000	0.094
Family Ownership	0.085	0.153	0.000	0.953	0.000	0.000
Foreign Institution	0.032	0.086	0.000	0.463	0.000	0.000
Domestic Institution	0.117	0.193	0.000	0.875	0.000	0.000
Institutional Ownership	0.148	0.206	0.000	0.995	0.000	0.052
Duality	0.358	0.479	0.000	1.000	0.000	0.000
Independent Board	0.324	0.186	0.000	1.000	0.000	0.303
Big_4_Auditor	0.178	0.383	0.000	1.000	0.000	0.000
Log(Size)	11.955	1.601	8.764	16.419	10.840	11.831
Log(Price)	2.773	0.903	0.907	5.712	2.160	2.715
Book to Market	0.702	1.230	0.001	7.870	0.093	0.281
ROE	0.092	0.221	-1.292	0.508	0.036	0.112
Tangibility	0.197	0.192	0.001	0.828	0.052	0.133
Total of Debt	0.927	0.409	0.091	1.799	0.611	0.940
STD Volatility	3.307	0.945	1.453	6.550	2.650	3.215
Dividend	0.026	0.037	0.000	0.554	0.000	0.014
Cash Ratio	0.094	0.108	0.000	0.944	0.020	0.055

Table 5.2-A: Descriptive statistics for the subsamples of firms listed on Hanoi Stock Exchange

Hanoi Stock Exchange = HNX						
Variable	**Mean**	**SD**	**Min**	**Max**	**p25**	**p50**
Average Spread	1.137	0.707	0.152	2.988	0.560	1.001
Relative Effective Spread	4.352	2.553	0.929	15.06	2.603	3.864
Amihud	1.400	1.897	0.000	13.61	0.03	0.260
Zero	0.305	0.239	0.000	0.896	0.104	0.260
Turnover	0.007	0.023	0.000	0.116	0.003	0.007

Table 5.2-B: Descriptive statistics for the subsamples of firms listed on Ho Chi Minh Stock Exchange

Ho Chi Minh Stock Exchange = HOSE						
Variable	**Mean**	**SD**	**Min**	**Max**	**p25**	**p50**
Average Spread	0.758	0.337	0.152	2.988	0.553	0.717
Relative Effective Spread	2.772	1.100	0.929	10.84	2.096	2.566
Amihud	1.114	2.574	0.000	13.61	0.002	0.076
Zero	0.223	0.137	0.000	0.896	0.125	0.206
Turnover	0.016	0.022	0.000	0.116	0.003	0.007

5.6 Summary

This chapter discusses the data sources, sample selection criteria, and research methods. The final sample consists of 655 firms listed on both HOSE and HNX during the period from 2007 to 2015. Compared to other countries, Vietnamese firms have low levels of stock liquidity. Although block holdings are relatively high in Vietnam, this ownership feature is common among many developing countries. While state shareholdings in Vietnamese and Chinese listed firms are almost equivalent, the percentage ownership by institutional shareholders is much lower in Vietnamese firms. In terms of corporate governance, board independence and CEO duality of Vietnamese firms are comparable to those of firms in other countries. The percentage of firms using the service of Big 4 auditor seems rather low compared to other developing countries such as Malaysia.

Chapter 6

Empirical Results

6.1 Introduction

This chapter presents the empirical results of the tests on the relation between stock liquidity, ownership concentration, and corporate governance. Sections 6.2 and 6.3 present results from the univariate and multivariate analyses, respectively. Section 6.4 provides the results from the interaction analysis using the marginal effect method. Section 6.5 examines the potential non-linearity in the relation between ownership variables (block ownership and the identity of the top five shareholders) and liquidity. Section 6.6 addresses potential endogeneity that may bias the tests, followed by a chapter summary in Section 6.7.

6.2 Univariate Results

6.2.1 T-test and Mann Whitney Test

Table 6.1 displays the results from univariate tests of the relation between liquidity and the type of top five owners. Results from the parametric (*t*-test) and non-parametric (Mann Whitney) tests of significance are reported. To recap on the liquidity measures, a high value of *Turnover* and a small value of spread *(Average Spread* and *Relative Effective Spread)* translate into high liquidity, whereas a high value of *Zero* and *Amihud* represents low liquidity.

Results show that liquidity measured as *Average Spread, Amihud*, and *Turnover* has significant relationship with either one of the top five shareholders who are institutional investors *(Foreign Institution* and *Domestic Institution),* family *(Family Ownership),* and state *(State Ownership).* Specifically, firms with institutional shareholders have significantly higher liquidity, as proxied by *Turnover,* while firms with family and state as the top five shareholders are associated with lower liquidity, as measured by *Average Spread* and *Amihud*. However, the univariate tests using *Zero* and *Relative Average Spread* as measures of liquidity are insignificant across the different types of top five shareholders.

Table 6.1: Univariate tests for differences in mean liquidity

This table examines the relation between liquidity and ownership variables. Group "1" indicates firms that have top five owners as institutional investors (foreign and domestic institution), state, or family, and group "0" indicates those without. The definition of the liquidity proxies is provided in Table 5.1. p-values from parametric t-tests and non-parametric Mann-Whitney tests are reported. *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively.

		Family Ownership		**State Ownership**		**Domestic Institution**		**Foreign Institution**		**Institutional Ownership**	
	Number of Observations	2900	1736	2162	2474	2762	1874	3780	856	2265	2371
	Groups	0	1	0	1	0	1	0	1	0	1
	Mean	0.943	1.018	0.924	1.012	0.967	0.977	1.010	0.797	1.004	0.938
	T-test										
Average Spread	p-value	0.000***		0.000***		0.555		0.453		0.357	
	Mann Whitney										
	p-value	0.000***		0.002***		0.195		0.256		0.725	
	Groups	0	1	0	1	0	1	0	1	0	1
	Mean	3.543	3.855	3.698	3.627	3.584	3.772	3.792	3.075	3.704	3.617
	T-test										
Relative Average Spread	p-value	0.126		0.271		0.604		0.35		0.173	
	Mann Whitney										
	p-value	0.312		0.436		0.503		0.103		0.567	
	Groups	0	1	0	1	0	1	0	1	0	1
	Mean	0.930	1.249	0.971	1.119	1.030	1.079	1.107	0.793	1.110	0.992
	T-test										
Amihud	p-value	0.000***		0.004***		0.458		0.522		0.071	
	Mann Whitney										
	p-value	0.000***		0.000***		0.721		0.601		0.186	
	Groups	0	1	0	1	0	1	0	1	0	1
	Mean	0.252	0.299	0.258	0.280	0.260	0.284	0.275	0.246	0.265	0.274
	T-test										
Zero	p-value	0.775		0.521		0.625		0.351		0.152	
	Mann Whitney										
	p-value	0.891		0.132		0.811		0.127		0.657	
	Groups	0	1	0	1	0	1	0	1	0	1
	Mean	0.016	0.018	0.022	0.013	0.014	0.016	0.013	0.154	0.016	0.170
	T-test										
Turnover	p-value	0.201		0.602		0.000***		0.000***		0.000***	
	Mann Whitney										
	p-value	0.302		0.701		0.000***		0.000***		0.000***	

6.2.2 Correlation Analysis

The Pearson correlation matrix reported in Table 6.2 allows us to assess both the strength and direction of the linear relation between two variables. *Average Spread, Relative Effective Spread, Amihud,* and *Zero* are positively correlated with each other, but all these four liquidity measures are significantly negatively correlated with *Turnover*. The significant correlations between the various liquidity proxies are as expected, reflecting that there are common factors driving the different dimensions of liquidity (Hasbrouck & Seppi, 2001).

Block Ownership, Family Ownership, and *Domestic Institution* are positively correlated with the following measures of liquidity: *Average Spread, Relative Effective Spread, Amihud,* and *Zero*, but negatively correlated with *Turnover*. *State Ownership* is positively correlated with *Average Spread, Amihud,* and *Zero,* and negatively correlated with *Relative Effective Spread* and *Turnover*. All these results are as expected, showing a negative association between ownership concentration and liquidity.

Block Ownership is positively correlated with *State Ownership, Institutional Ownership, and Family Ownership.* Moreover, *Family Ownership* and *State Ownership* are highly positively correlated with each other. Similarly, *Institutional Ownership* is highly correlated with both *Foreign Institution and Domestic Institution.* These high correlation suggests that multicollinearity may be an issue when I put all of these ownership measures simultaneously in the same regression specification. Hence, I will proceed by running separate regressions for each ownership variable. For the control

variables, the small correlation coefficients also indicate there is not a severe problem of multicollinearity between them.

Table 6.2: Pearson correlation matrix

* denotes significance at the 5 percent level. See Table 5.1 for variable definitions.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 *Average Spread*	1.00																			
2 *Relative Effective Spread*	0.68*	1.00																		
3 *Amihud*	0.32*	0.24*	1.00																	
4 *Zero*	0.60*	0.36*	0.43*	1.00																
5 *Turnover*	-0.26*	-0.17*	-0.24*	-0.39*	1.00															
6 *Block Ownership*	0.07*	0.06*	0.14*	0.15*	-0.37*	1.00														
7 *State Ownership*	0.04*	-0.01	0.02	0.05*	-0.23*	0.45*	1.00													
8 *Family Ownership*	0.06*	0.05*	0.11*	0.07*	-0.02	0.14*	-0.37*	1.00												
9 *Foreign Institution*	-0.08*	-0.08*	-0.01	-0.01	-0.04*	0.23*	-0.13*	-0.02	1.00											
10 *Domestic Institution*	0.02	0.07*	0.02*	0.04*	-0.10*	0.34*	-0.15*	-0.36*	-0.06*	1.00										
11 *Institutional Ownership*	-0.02	0.03*	0.02	0.04	-0.12*	0.42*	-0.39*	-0.16*	0.36*	0.91*	1.00									
12 *Log (Size)*	-0.16*	-0.07*	-0.17*	-0.07*	0.05*	0.18*	0.04*	0.22*	0.03*	0.02	0.11*	1.00								
13 *Log (Price)*	-0.19*	-0.16*	-0.03*	-0.10*	0.05*	0.07*	0.09*	0.10*	-0.06*	-0.03*	0.01	-0.01	1.00							
14 *Book to Market*	0.07*	0.03*	0.11*	0.12*	-0.11*	0.03	0.11*	-0.06*	-0.05*	-0.05*	-0.07*	-0.07*	-0.13*	1.00						
15 *ROE*	-0.13*	-0.11*	-0.23*	-0.21*	-0.02	0.11*	0.14*	0.02	-0.04*	-0.03*	-0.02	-0.03*	0.17*	-0.08*	1.00					
16 *Tangibility*	-0.00	-0.02	0.01	0.02	-0.11*	0.12*	0.22*	-0.01	-0.11*	-0.05*	-0.05*	0.01	-0.03*	0.61*	-0.02	1.00				
17 *Total of Debt*	0.05*	0.07*	0.04*	0.01	-0.03*	0.01	-0.00	-0.09*	0.04*	0.02	-0.02	-0.17*	-0.16*	0.22*	-0.19*	-0.12*	1.00			
18 *STD Volatility*	0.25*	0.04*	0.08*	-0.22*	0.30*	-0.10*	-0.09*	-0.14*	0.02	0.05*	-0.02	-0.02	-0.03*	0.01	-0.08*	-0.04*	0.13*	1.00		
19 *Dividend*	-0.08*	-0.07*	-0.09*	-0.04*	-0.10*	0.09*	0.17*	-0.01	-0.12*	0.003	-0.01	0.05*	0.12*	-0.20*	0.16*	0.03*	-0.05*	-0.15*	1.00	
20 *Cash Ratio*	-0.01	0.02	-0.04*	0.01	-0.07*	0.09*	0.11*	0.07*	-0.14*	0.04*	0.05*	0.07*	0.26*	-0.23*	0.25*	-0.12*	-0.25*	-0.08*	0.16*	1.00

6.3 Regression Analysis

To test my hypotheses on the relations between ownership concentration and structure and liquidity, I perform fixed effects panel regressions with standard errors clustered at the firm level. Fixed effects allow me to address the relation between the predictor and outcome variables within a firm. Moreover, fixed effects remove the effect of time-invariant characteristics so that I can assess the net effect of predictors on the outcome variable.

Firstly, I analyse the variance inflation facto or tolerance statistic to confirm if there is a multicollinearity problem. The results from Table 6.3 show that multicollinearity is not a problem because all p-values of VIF are smaller than 10.

Table 6.3: Variance inflation factor results of test variables

Variables	Average Spread		Relative Average Spread		Amihud		Zero		Turnover	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Block Ownership	20	0.016	20	0.016	20	0.016	20	0.016	20	0.016
Foreign Institution	7.85	0.072	7.85	0.072	7.85	0.073	7.85	0.073	7.85	0.072
State Ownership	27	0.013	27	0.013	27	0.013	27	0.013	27	0.013
Family Ownership	9	0.031	9	0.031	9	0.031	9	0.03	9	0.03
Domestic Institution	5.6	0.02	5.6	0.020	5.6	0.02	5.6	0.02	5.6	0.02
Duality	1.23	0.816	1.23	0.816	1.22	0.816	1.23	0.813	1.22	0.817
Big_4_Auditor	1.43	0.7	1.43	0.700	1.43	0.698	1.41	0.711	1.42	0.706
Independent Board (%)	1.23	0.81	1.23	0.810	1.23	0.812	1.23	0.812	1.23	0.815
Log (Size)	2.27	0.441	2.27	0.441	2.27	0.441	2.25	0.444	2.25	0.444
Log (Price)	2.2	0.455	2.2	0.455	2.2	0.455	2.21	0.453	2.2	0.454
Book to Market	2.23	0.449	2.23	0.449	2.22	0.45	2.22	0.45	2.26	0.443
ROE	1.47	0.682	1.47	0.682	1.47	0.682	1.48	0.676	1.47	0.681
Tangibility	2	0.5	2	0.500	2	0.501	2	0.499	2.02	0.494
Total of Debt	1.42	0.706	1.42	0.706	1.41	0.707	1.44	0.694	1.42	0.704
STD Volatility	1.21	0.825	1.21	0.825	1.21	0.828	1.21	0.825	1.21	0.825
Dividend	1.46	0.683	1.46	0.683	1.46	0.686	1.53	0.652	1.5	0.665
Cash Ratio	1.32	0.758	1.32	0.758	1.32	0.758	1.33	0.753	1.35	0.742
Mean VIF	5.23		5.23		5.23		5.23		5.24	

Table 6.4 reports the results of multiple regressions where the dependent variable is liquidity, measured by *Average Spread, Relative Effective Spread, Amihud, Zero,* and *Turnover*. *Block Ownership* is positively and significantly related to *Average Spread, Relative Effective Spread, Amihud,* and *Zero* in specifications (1) to (4), and negatively and significantly related to *Turnover* in specification (5). These findings indicate that firms with higher ownership concentration have lower liquidity, as predicted in hypothesis H-1. The results support the adverse selection hypothesis for Vietnam (Milgrom & Glosten, 1985; Easley & Hara, 1987) which predicts that in the presence of information asymmetries, market makers will increase the bid-ask spread when trading with informed investor, and this in turn reduces stock liquidity. Consistent with Demsetz (1968)'s trading hypothesis, the results also show that concentrated ownership is associated with a lower availability of shares for trading, which accordingly reduces liquidity.

In sum, my findings for Vietnamese firms are similar to those of Heflin et al. (2005) and Naes (2004) for U.S. firms. However, there are some differences. For example, while my findings are supportive of both adverse selection and trading hypotheses, Heflin et al. (2005) and Naes (2004) find evidence supporting the adverse selection hypothesis. Both studies find the presence of large shareholders results in a greater proportion of informed traders whose trading activities create greater information asymmetries and ultimately illiquidity. Further, the above studies use liquidity measures from trading systems with some form of dealer intermediation, unlike my thesis which uses transaction data from a pure limit order-driven market.

Contrary to expectations, none of the corporate governance echanisms I examine are significant in explaining the cross-sectional difference in the stock liquidity of Vietnamese firms. This is indicated by the insignificant coefficient on *Duality, Independent Board,* and *Big_4_Auditor*. Although contrary to U.S. findings (Bacidore & Sofianos, 2002; Chung et al., 2010), my results are in line with those of Prommin et al. (2016), who also find corporate governance is not significantly related to stock liquidity in Thailand. The insignificant results suggest that corporate governance in Vietnam, like many other emerging markets, is relatively weak and ineffective. This could be due to the highly concentrated ownership of Vietnamese firms.

Of the control variables, only size *Log (Size*), price *Log (Price*), and volatility (*STD Volatility*) have explanatory power. Specifically, I find larger firms, as proxied by *Log (Size*), have higher stock liquidity irrespective of the liquidity proxies used. This finding is as expected because larger firms have lower information asymmetries (Merton, 1987) due in part to investors putting greater demand on these firms for information disclosure (Singhvi & Desai, 1971). The results for *Log (Price)* and *STD Volatility* are mixed, depending on the proxy of liquidity used. For example, firms with higher stock prices have lower liquidity when the latter is proxied by bid-ask spread but the reverse is observed for the *Amihud* measure. Firms with higher stock return volatility (*STD Volatility)* are associated with lower liquidity for all proxies of liquidity except for *Zero*. Overall, spreads narrow with lower levels of volatility, possibly due to the lower proportion of adverse selection and inventory risk (Copeland & Galai, 1983; Stoll, 1978).

Table 6.4: Fixed-effect panel regressions for liquidity (block ownership)

	Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
	(1)	(2)	(3)	(4)	(5)
Block Ownership	0.340***	0.637***	1.517***	0.147***	-0.035***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Duality	0.002	0.066	0.032	0.009	0.000
	(0.942)	(0.429)	(0.707)	(0.183)	(0.958)
Big_4_Auditor	-0.046	-0.123	-0.106	-0.011	-0.001
	(0.175)	(0.201)	(0.327)	(0.254)	(0.439)
Independent Board (%)	0.066	0.137	0.110	0.015	-0.001
	(0.301)	(0.503)	(0.565)	(0.329)	(0.754)
Log (Size)	-0.189***	-0.442***	-0.459***	-0.056***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log (Price)	0.064**	0.405***	-0.235***	0.010	0.001
	(0.021)	(0.000)	(0.003)	(0.159)	(0.164)
Book to Market	0.035***	0.044	0.022	0.003	(0.000)
	(0.006)	(0.213)	(0.670)	(0.399)	(0.632)
ROE	-0.062	-0.278**	-0.609*	-0.029**	(0.000)
	(0.195)	(0.025)	(0.059)	(0.026)	(0.807)
Tangibility	-0.179*	-0.241	0.240	-0.009	-0.007**
	(0.063)	(0.405)	(0.414)	(0.716)	(0.017)
Total of Debt	-0.102***	-0.118	0.062	-0.007	-0.003**
	(0.010)	(0.358)	(0.641)	(0.444)	(0.036)
STD Volatility	0.068***	0.943***	0.338***	-0.056***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	-0.506*	-0.472	0.777	0.07	-0.009
	(0.067)	(0.633)	(0.334)	(0.446)	(0.334)
Cash Ratio	-0.097	0.325	0.452	0.036	-0.006*
	(0.341)	(0.344)	(0.141)	(0.235)	(0.078)
Intercept	2.984***	3.678***	4.488***	1.000***	-0.014**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.037)
Number of Observations	4215	4215	4214	3742	3772
Adjusted R-Squared	14.80%	34.50%	17.00%	58.90%	35.30%
Year Dummies	Included	Included	Included	Included	Included

Next, I examine whether the identity of the top five shareholders matters to stock liquidity. Due to the high correlation between *State Ownership* and *Family Ownership,* between *Institutional Ownership* and Institutions (*Domestic Institution* and *Foreign Institution*), I run the regressions separately for these two variables. The results for state ownership are reported in Table 6.5 and those for institutions (*Domestic Institution* and *Foreign Institution*) and *Family Ownership* are in Table 6.6. Table 6.7 reports the results for *Institutional Ownership.*

In Table 6.5, firms with higher *State Ownership* have lower liquidity, as proxied by *Average Spread* and *Relative Effective Spread* in specifications (1) and (2) respectively. These firms also have a higher price impact (*Amihud* in specification (3)) and greater *Zero* returns (specification (4)), and a lower *Turnover* ratio (specification (5)). These results, therefore, support the prediction of hypothesis H-3 that firms with higher state ownership are associated with lower liquidity. They are also consistent with the view that firms with high state shareholdings have less incentive to commit to information disclosure in order to hide the expropriation of outside minority shareholders (Shleifer & Vishny, 1997). This is especially relevant in Vietnam where property rights are weak and governance mechanisms are ineffective (Shleifer & Vishny, 1997; La Porta et al., 1999). As in Table 6.4, none of the corporate governance variables are significant.

Table 6.6 reports the results for institutions (*Domestic Institution* and *Foreign Institution*) and *Family Ownership*. I find robust and significant results for *Family Ownership*. To be precise, firms with higher family ownership are

associated with lower liquidity across all measures of liquidity. These findings are consistent with hypothesis H-4a and with the findings of Fan and Wong (2002), supporting the argument that greater family shareholdings exacerbates information asymmetries due to Type II agency conflicts arising from the misalignment in the interests of family owners and minority shareholders (Claessens et al., 2000; La Porta et al., 1999). The high ownership concentration incentivises and enables controlling family owners to suppress information disclosure so as to avoid detection of their expropriation activities (Fama & Jensen, 1985). As is typically done in family firms, such perverse outcome is obtained through appointing family members on the board (Anderson & Reeb, 2003), which potentially reduces monitoring efforts and at the same time increases information opacity associated with concealed indirect financial benefits (Shleifer & Vishny, 1997; Anderson & Ree, 2003). Therefore, family owners prefer a more opaque information environment which discourages information disclosure to the public. This in turn lowers stock liquidity.

Although my findings are consistent with those of Fan and Wong (2002), they are inconsistent with Wang (2006). The reason is likely due to the fact that the firms in my thesis and in Fan and Wong (2002) are sampled from East Asian countries, while Wang (2006) samples firms from the U.S. and the UK which have a more diffused ownership structure.

The results for *Foreign Institution* and *Domestic Institution* in Table 6.6 and *Institutional Ownership* in Table 6.7 are somewhat weak, showing a significantly positive coefficient on institutions and institutional ownership

only when liquidity is proxied by the *Turnover* ratio. These findings are as predicted by hypothesis H-2b, respectively. The results imply that the presence of institutional investors in firms are likely to be associated with active trading. The higher number of shares are traded during the day, the greater turnover ratio, and thus increase stock liquidity.

The results for corporate governance variables remain insignificant in explaining liquidity in this set of regressions. Moreover, the results of control variables in Table 6.5 and Table 6.6 remain almost similar to those in Table 6.4.

In economic terms, the results from Tables 6.4 to 6.7 imply that a one standard deviation increase in *Block Ownership* decreases trading volume (*Turnover*) by a 0.35 standard deviation.[27] Similarly, for every one standard deviation increase in state, family, and domestic, foreign, and institutional ownership, *Turnover* decreases by a 0.22, 0.17, 0.16, 0.07, and 0.14 standard deviations, respectively.

[27] The economic significance is calculated by (beta of X * standard deviation of X)/ standard deviation of Y. In this case, X stands for *block ownership*, *state ownership*, *family ownership*, *domestic*, *foreign, and institutional ownership*. Y is *Turnover*.

Table 6.5: Fixed-effect panel regressions for liquidity (state ownership)

	Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
	(1)	(2)	(3)	(4)	(5)
State Ownership	0.194***	0.601***	0.820***	0.087***	-0.020***
	(0.002)	(0.004)	(0.000)	(0.000)	(0.000)
Duality	-0.001	0.069	0.016	0.007	0.000
	(0.976)	(0.414)	(0.856)	(0.273)	(0.869)
Big_4_Auditor	-0.030	-0.087	0.000	-0.002	-0.002
	(0.382)	(0.368)	(0.998)	(0.820)	(0.088)
Independent Board(%)	0.095	0.206	0.240	0.027*	-0.003
	(0.141)	(0.315)	(0.217)	(0.081)	(0.175)
Log (Size)	-0.189***	-0.443***	-0.462***	-0.057***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log (Price)	0.075***	0.428***	-0.186**	0.015**	0.000
	(0.007)	(0.000)	(0.017)	(0.033)	(0.848)
Book to Market	0.034***	0.041	0.017	0.002	0.000
	(0.008)	(0.250)	(0.751)	(0.564)	(0.438)
ROE	-0.053	-0.272**	-0.560*	-0.026*	-0.002
	(0.273)	(0.028)	(0.085)	(0.053)	(0.416)
Tangibility	-0.176*	-0.264	0.298	-0.004	-0.008**
	(0.073)	(0.362)	(0.323)	(0.869)	(0.019)
Total of Debt	-0.094**	-0.116	0.119	-0.002	-0.004**
	(0.020)	(0.375)	(0.381)	(0.867)	(0.015)
STD Volatility	0.074***	0.958***	0.370***	-0.053***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	-0.565**	-0.714	0.599	0.043	-0.003
	(0.044)	(0.474)	(0.460)	(0.651)	(0.750)
Cash Ratio	-0.110	0.278	0.416	0.034	-0.005
	(0.289)	(0.421)	(0.186)	(0.280)	(0.171)
Intercept	2.956***	3.574***	4.398***	0.986***	-0.013*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.080)
Number of Observations	4215	4215	4214	3742	3772
Adjusted R-Squared	14.50%	34.70%	16.70%	58.40%	31.20%
Year Dummies	Included	Included	Included	Included	Included

Table 6.6: Fixed-effect panel regressions for liquidity (foreign, domestic institutional ownership, and family ownership)

	Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
	(1)	(2)	(3)	(4)	(5)
Foreign Institution	0.083	-0.197	0.277	0.055	0.017***
	(0.649)	(0.693)	(0.606)	(0.269)	(0.001)
Domestic Institution	-0.011	-0.125	0.239	0.034*	0.018***
	(0.883)	(0.573)	(0.301)	(0.077)	(0.000)
Family Ownership	0.442***	0.532**	1.302***	0.111***	-0.025***
	(0.000)	(0.039)	(0.025)	(0.001)	(0.000)
Duality	-0.018	0.036	-0.062	0.002	0.001
	(0.536)	(0.658)	(0.475)	(0.773)	(0.404)
Big_4_Auditor	-0.031	-0.079	-0.027	-0.007	-0.001
	(0.375)	(0.417)	(0.810)	(0.473)	(0.504)
Independent Board (%)	0.074	0.167	0.122	0.017	-0.001
	(0.254)	(0.414)	(0.541)	(0.291)	(0.654)
Log(Size)	-0.188***	-0.446***	-0.454***	-0.056***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log(Price)	0.068**	0.428***	-0.211***	0.012	0.001
	(0.014)	(0.000)	(0.007)	(0.108)	(0.205)
Book to Market	0.038***	0.047	0.031	0.003	0.000
	(0.003)	(0.185)	(0.559)	(0.286)	(0.738)
ROE	-0.049	-0.256**	-0.522	-0.022	-0.002
	(0.304)	(0.044)	(0.111)	(0.101)	(0.430)
Tangibility	-0.158	-0.197	0.436	0.005	-0.010***
	(0.101)	(0.491)	(0.145)	(0.854)	(0.003)
Total of Debt	-0.091**	-0.098	0.158	0.002	-0.005***
	(0.024)	(0.455)	(0.241)	(0.822)	(0.004)
STD Volatility	0.068***	0.946***	0.338***	-0.056***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	-0.375	-0.306	1.514*	0.127	-0.016*
	(0.179)	(0.758)	(0.065)	(0.179)	(0.094)
Cash Ratio	-0.068	0.37	0.648**	0.049	-0.007**
	(0.509)	(0.284)	(0.038)	(0.115)	(0.039)
Intercep	3.046***	3.783***	4.715***	1.023***	-0.019***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.005)
Number of Observations	4215	4215	4214	3742	3772
Adjusted R-Squared	34.50%	17.00%	17.40%	58.70%	34.20%
Year Dummies	Included	Included	Included	Included	Included

Table 6.7: Fixed-effect panel regressions for liquidity (institutional ownership)

	Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
	(1)	(2)	(3)	(4)	(5)
Institutional Ownership	-0.048	-0.187	0.063	0.024	0.015***
	(0.497)	(0.360)	(0.779)	(0.210)	(0.000)
Duality	-0.008	0.047	-0.022	0.005	0.000
	(0.795)	(0.574)	(0.804)	(0.471)	(0.723)
Big_4_Auditor	-0.030	-0.080	-0.028	-0.007	-0.001
	(0.381)	(0.405)	(0.808)	(0.495)	(0.477)
Independent Board (%)	0.090	0.193	0.159	0.020	-0.002
	(0.166)	(0.348)	(0.421)	(0.207)	(0.507)
Log (Size)	-0.186***	-0.438***	-0.458***	-0.056***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log (Price)	0.075***	0.431***	-0.193**	0.014*	0.001
	(0.008)	(0.000)	(0.014)	(0.061)	(0.446)
Book to Market	0.036***	0.045	0.025	0.003	0.000
	(0.005)	(0.203)	(0.639)	(0.387)	(0.662)
ROE	-0.045	-0.249**	-0.506	-0.021	-0.002
	(0.347)	(0.046)	(0.122)	(0.107)	(0.353)
Tangibility	-0.159	-0.202	0.413	0.005	-0.009***
	(0.103)	(0.482)	(0.174)	(0.829)	(0.005)
Total of Debt	-0.086**	-0.089	0.167	0.003	-0.005***
	(0.035)	(0.500)	(0.218)	(0.742)	(0.003)
STD Volatility	0.073***	0.953***	0.358***	-0.054***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Dividend	-0.479*	-0.435	1.148	0.096	-0.013
	(0.088)	(0.660)	(0.158)	(0.307)	(0.174)
Cash Ratio	-0.095	0.333	0.507	0.041	-0.006*
	(0.356)	(0.332)	(0.105)	(0.185)	(0.094)
Intercept	3.009***	3.723***	4.603***	1.009***	-0.020***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)
Number of Observations	4215	4215	4214	3742	3772
Adjusted R-Squared	24.80%	27.30%	15.30%	45.90%	33.70%
Year Dummies	Included	Included	Included	Included	Included

6.4 Interaction Analysis

To test whether the power of governance attenuates the power of blockholders and the different types of large controlling shareholders in determining stock liquidity, I conduct an interaction analysis in this section. I compute the marginal effect of *Governance* on liquidity using the following interaction model:

$$Liquidity = \beta_0 + \beta_1 Governance + \beta_2 Ownership_{i,t} + \beta_3 (Governance \times Ownership_{i,t}) + \beta_4 Control_{i,t} + e_{i,t} \quad (3)$$

where the variables are as defined earlier. In the above, the proxies for *Governance* are *Duality, Independent Board,* and *Big_4_Auditor*. As before, I run the regressions for block ownership as well as for the various types of top five shareholders separately.

In the examining the interactions between corporate governance and ownership, I am interested in the coefficient of *Governance* (β_1) and the coefficient β_3 of the interaction term (*Governance x Ownership).* I expect that corporate governance may be less influential on liquidity when controlling shareholders use their power to circumvent governance rules. I thus expect the coefficient of the interaction term (*Governance x Ownership)* to be significantly positive with liquidity measured as *Average Spread, Relative Effective Spread*, *Amihud*, and *Zero*; while this coefficient is expected to be significantly negative with *Turnover*. In particular, a non-significant regression coefficient implies that the effect of corporate governance on liquidity is not moderated by ownership structures.

Tables 6.8 to 6.13 document the results from the interaction analysis. Specifications (1) to (15) show that the marginal effect of corporate governance (*Duality, Big_4_Auditor*, and *Independent Board*) on liquidity in the relation with block-owners and top five largest owners, namely state, family, institutions (foreign and domestic). Consistent with the previous results from the fixed effects regressions (Tables 6.4 to 6.7), most of the stand-alone governance variables are insignificant in the relation with liquidity. However, the interaction variable between corporate governance and ownership tells a different story. Specifically, the coefficient of the interaction term *(Ownership x Duality)* is positive and significant with *Amihud*, and *Zero*, columns (7) and (10) in Table 6.8, and negative and significant with *Turnover*, as shown in column (13). These findings reveal that in the environment with highly concentrated block ownership, *Duality* impairs stock liquidity, which is consistent with the agency cost argument (H-6a). The implication is that combining the roles of CEO and chair in one person is likely to be associated with a higher information asymmetry, possibly because the monitoring role of independent board in these firms is weak (Finkelstein & D'Aveni, 1994; Daily et al., 2002). This suggests that in firms with CEO duality and with controlling shareholders, the cost of obtaining information exceeds the value of the information, and therefore informed traders will reduce trading or even not trade, leading to lower liquidity.

The coefficient of the interaction term (*Ownership x Big_4_Auditor*) is negative and significant for *Average Spread and Amihud*. These results indicate a positive relation between *Big_4_Auditor* and liquidity in an emerging

market with highly concentrated ownership. These findings are consistent with hypothesis H-7 and with that reported by Fan & Wong (2005), implying that due to their reputation and credibility, a Big 4 auditor plays a critical role in mitigating information asymmetries between controlling shareholders and outside minority shareholders, by increasing the quality of information from financial statements (Becker et al., 1998; Kim et al., 2003), and thus enhancing stock liquidity. We find no significant coefficient on the interaction variable for *Independent Board*.

In Table 6.10, the insignificant result of the interaction term (*Family Ownership* x *Big_4_Audior*) can possibly be explained by the fact that family owners are associated with direct and close monitoring of firm activities (Anderson & Reeb, 2003) and this may result in lower information asymmetries between inside owners and managers. The less severe agency problems between owners and managers discourage family firms to pay higher auditing fees from high-qualify auditing service (Ho & Kang, 2013).

Table 6.9 shows that the interaction variable (*State Ownership* x *Big_4_Auditor*) is negative for *Relative Effective Spread* and *Amihud* measure of liquidity and positive for *Turnover* measure. Thus, reputable auditors have some role to play in liquidity in state-owned firms.

Table 6.11 shows that the interaction variable (*Foreign Institution* x *Big_4_Auditor*) is negative and significant for all liquidity measures, except *Turnover*. Hence, a reputation auditor enhanced stock liquidity in firms that have higher degree of foreign ownership.

Finally, Table 6.12 shows a similar positive effect of auditors on stock liquidity (*Amihud)* in firms with *Domestic Institution*. The interaction between *Domestic Institution* and *Duality* decreases liquidity when measured by *Relative Effective Spread.* The findings from Table 6.13 are similar to those in Table 6.12. That is, firms with Institutional Ownership and Big 4 auditors are positively related to stock liquidity (lower Amihud), while Duality is negatively related to stock liquidity (higher Relative Effective Spread).

Table 6.8: Marginal effect of corporate governance on liquidity in the relation with block ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by block ownership. *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Block Ownership	β_2	0.276***	0.373***	0.268	0.651***	0.758***	-0.125	1.070***	1.501***	2.018***	0.105***	0.137***	0.190***	-0.029***	-0.033***	-0.042***
		(0.000)	(0.000)	(0.142)	(0.007)	(0.000)	(0.833)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Duality	β_1	-0.076			0.053			-0.396			-0.028			0.005		
		(0.181)			(0.767)			(0.207)			(0.228)			(0.341)		
Big_4_Auditor	β_1		0.091			0.212			0.338			0.013			-0.004	
			(0.194)			(0.479)			(0.124)			(0.565)			(0.280)	
Independent Board	β_1			0.017			-0.417			0.422			0.038			-0.006
				(0.900)			(0.355)			(0.191)			(0.176)			(0.333)
Block Ownership x Duality	β_3	0.177			0.038			0.928***			0.078***			-0.011**		
		(0.102)			(0.912)			(0.005)			(0.003)			(0.017)		
Block Ownership x Big_4_Auditor	β_3		-0.236*			-0.592			-0.765**			-0.040			0.005	
			(0.063)			(0.279)			(0.049)			(0.289)			(0.379)	
Block Ownership x Independent Board	β_3			0.101			1.128			-0.808			-0.071			0.011
				(0.693)			(0.198)			(0.291)			(0.222)			(0.328)
Intercept	β_0	3.132***	3.052***	3.095***	4.116***	3.980***	4.282***	4.862***	4.601***	4.453***	1.024***	1.004***	1.007***	-0.015**	-0.015**	-0.011
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.012)	(0.021)	(0.115)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4279	4279	4215	4279	4279	4215	4277	4277	4214	3803	3803	3742	3832	3832	3772
Adjusted R-Squared		38.10%	37.70%	37.00%	45.00%	45.00%	45.00%	32.60%	32.20%	33.00%	47.10%	46.20%	49.20%	27.70%	27.90%	30.80%

Table 6.9: Marginal effect of corporate governance on liquidity in the relation with state ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by state ownership. *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
State Ownership	β2	0.171**	0.217***	0.152	0.601**	0.793***	0.415	0.696***	0.609***	0.372	0.073***	0.088***	0.095**	-0.017***	-0.020***	-0.021***
		(0.012)	(0.001)	(0.329)	(0.011)	(0.000)	(0.408)	(0.003)	(0.004)	(0.446)	(0.000)	(0.000)	(0.014)	(0.000)	(0.000)	(0.000)
Duality	β1	-0.024			0.053			-0.068			-0.003			0.002		
		(0.494)			(0.628)			(0.532)			(0.672)			(0.153)		
Big_4_Auditor	β1		-0.002			0.120			-0.139			0.005			0.004**	
			(0.970)			(0.366)			(0.188)			(0.693)			(0.023)	
Independent Board	β1			0.080			0.091			0.088			0.024			-0.004
				(0.275)			(0.734)			(0.713)			(0.193)			(0.242)
State Ownership x Duality	β3	0.105			0.072			0.263			0.039			-0.006*		
		(0.288)			(0.821)			(0.458)			(0.128)			(0.070)		
State Ownership x Big_4_Auditor	β3		-0.097			-1.012**			-0.899**			-0.028			0.007*	
			(0.359)			(0.011)			(0.043)			(0.414)			(0.097)	
State Ownership x Independent Board	β3			0.068			0.277			0.712			-0.014			0.002
				(0.762)			(0.707)			(0.356)			(0.799)			(0.818)
Intercept	β_0	3.083***	3.043***	3.024***	4.010***	3.859***	3.852***	4.598***	4.724***	4.510***	0.998***	0.996***	0.998***	-0.012*	-0.013**	-0.011
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.055)	(0.046)	(0.113)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4279	4279	4215	4279	4279	4215	4277	4277	4214	3803	3803	3742	3832	3832	3772
Adjusted R-Squared		35.50%	35.50%	34.70%	44.00%	44.10%	44.20%	28.50%	28.20%	29.20%	44.40%	44.10%	45.70%	18.50%	20.03%	20.02%

Table 6.10: Marginal effect of corporate governance on liquidity in the relation with family ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by family ownership. *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Family Ownership	β_2	0.470***	0.417***	0.443**	0.305	0.472*	1.189*	0.875*	1.328***	2.269**	0.082***	0.095***	0.115*	-0.020***	-0.021***	-0.036***
		(0.000)	(0.000)	(0.046)	(0.398)	(0.064)	(0.060)	(0.054)	(0.001)	(0.028)	(0.001)	(0.000)	(0.055)	(0.000)	(0.000)	(0.001)
Duality	β_1	-0.012			-0.026			-0.153			-0.003			0.001		
		(0.679)			(0.773)			(0.184)			(0.648)			(0.189)		
Big_4_Auditor	β_1		-0.020			-0.134			0.114			-0.002			-0.003	
			(0.604)			(0.203)			(0.335)			(0.878)			(0.262)	
Independent Board	β_1			0.090			0.218			0.359			0.021			0.005
				(0.188)			(0.328)			(0.274)			(0.202)			(0.140)
Family Ownership x Duality	β_3	-0.066			0.673			0.706			0.032			-0.002		
		(0.633)			(0.128)			(0.285)			(0.405)			(0.653)		
Family Ownership x Big_4_Auditor	β_3		0.102			1.024			-0.960			0.018			0.003	
			(0.489)			(0.143)			(0.108)			(0.731)			(0.656)	
Family Ownership x Independent Board	β_3			-0.011			-0.975			-1.697			-0.021			0.024
				(0.974)			(0.344)			(0.240)			(0.823)			(0.291)
Intercept	β_0	3.106***	3.084***	3.036***	4.128***	4.080***	3.856***	4.775***	4.720***	4.460***	1.012***	1.011***	1.013***	-0.015**	-0.017***	-0.014**
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.014)	(0.009)	(0.035)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4279	4279	4215	4279	4279	4215	4277	4277	4214	3803	3803	3742	3832	3832	3772
Adjusted R-Squared		33.80%	33.80%	33.20%	43.80%	43.30%	43.90%	26.70%	26.40%	27.10%	42.20%	42.10%	43.50%	8.50%	9.20%	9.50%

Table 6.11: Marginal effect of corporate governance on liquidity in the relation with foreign institutional block ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by foreign institution. p-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Foreign Institution	β_2	-0.012	0.276	-0.177	-0.114	0.459	-2.860**	0.338	0.662	-0.920	0.002	0.088	0.126	0.010*	0.013*	0.021
		(0.952)	(0.210)	(0.729)	(0.848)	(0.456)	(0.024)	(0.613)	(0.314)	(0.500)	(0.970)	(0.118)	(0.336)	(0.075)	(0.072)	(0.276)
Duality	β_1	-0.013			0.054			-0.018			0.000			0.001		
		(0.644)			(0.519)			(0.845)			(0.996)			(0.343)		
Big_4_Auditor	β_1		0.009			0.013			0.106			0.006			-0.002	
			(0.810)			(0.910)			(0.385)			(0.547)			(0.114)	
Independent Board	β_1			0.078			0.017			0.138			0.021			-0.002
				(0.227)			(0.933)			(0.514)			(0.179)			(0.465)
Foreign Institution x Duality	β_3	0.216			0.025			-0.751			0.084			-0.004		
		(0.481)			(0.977)			(0.390)			(0.304)			(0.679)		
Foreign Institution x Big_4_Auditor	β_3		-0.617**			-1.590**			-1.757**			-0.174**			0.006	
			(0.012)			(0.023)			(0.027)			(0.025)			(0.442)	
Foreign Institution x Independent Board	β_3			0.321			3.948			1.471			-0.133			0.048
				(0.627)			(0.132)			(0.427)			(0.469)			(0.293)
Intercept	β_0	3.125***	3.087***	3.065***	4.110***	4.044***	3.985***	4.753***	4.747***	4.632***	1.015***	1.012***	1.018***	-0.017**	-0.018***	-0.017**
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.010)	(0.008)	(0.010)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4279	4279	4215	4279	4279	4215	4277	4277	4214	3803	3803	3742	3832	3832	3772
Adjusted R-Squared		34.10%	33.70%	33.30%	43.50%	43.20%	43.60%	26.20%	26.30%	26.90%	42.20%	41.80%	43.70%	11.90%	12.60%	13.30%

Table 6.12: Marginal effect of corporate governance on liquidity in the relation with domestic institutional ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by domestic institution. *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Domestic Institution	β_2	-0.062	-0.068	-0.307	-0.002	-0.307	-1.592**	-0.042	0.294	0.349	0.018	0.014	0.002	0.013***	0.014***	-0.011
		(0.451)	(0.415)	(0.168)	(0.993)	(0.208)	(0.035)	(0.872)	(0.311)	(0.661)	(0.373)	(0.524)	(0.966)	(0.000)	(0.000)	(0.143)
Duality	β_1	-0.007			0.123			-0.066			0.005			0.001		
		(0.823)			(0.190)			(0.520)			(0.542)			(0.411)		
Big_4_Auditor	β_1		-0.030			-0.090			-0.023			-0.006			-0.001	
			(0.383)			(0.345)			(0.838)			(0.546)			(0.312)	
Independent Board	β_1			0.050			-0.049			0.210			0.018			-0.001
				(0.514)			(0.827)			(0.332)			(0.309)			(0.655)
Domestic Institution x Duality	β_3	-0.007			0.753*			0.437			0.001			-0.006		
		(0.957)			(0.051)			(0.311)			(0.987)			(0.195)		
Domestic Institution x Big_4_Auditor	β_3		0.011			0.441			-0.760**			0.014			-0.001	
			(0.939)			(0.273)			(0.043)			(0.699)			(0.834)	
Domestic Institution x Independent Board	β_3			0.356			2.083			-0.433			0.024			-0.005
				(0.235)			(0.252)			(0.690)			(0.756)			(0.606)
Intercept	β_0	3.011***	3.011***	3.038***	3.683***	3.700***	3.895***	4.631***	4.665***	4.565***	1.007***	1.006***	1.009***	-0.020***	-0.019***	-0.019***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.005)	(0.007)	(0.007)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4279	4279	4215	4279	4279	4215	4277	4277	4214	3742	3742	3803	3772	3832	3832
Adjusted R-Squared		34.10%	32.50%	33.30%	44.20%	46.00%	43.20%	27.50%	27.50%	26.90%	40.80%	41.20%	41.20%	15.60%	16.20%	16.20%

Table 6.13: Marginal effect of corporate governance on liquidity in the relation with institutional ownership

This table presents marginal effect of corporate governance proxies (duality, independent board and Big 4 auditor) on liquidity with ownership structure measured by institutional ownership. *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Coefficient	Average Spread			Relative Effective Spread			Amihud			Zero			Turnover		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Institutional Ownership	β2	-0.056	-0.016	-0.288	-0.029	-0.215	-1.850***	0.014	0.371	0.143	0.019	0.028	0.025	0.013***	0.015***	-0.007
		(0.477)	(0.841)	(0.145)	(0.901)	(0.337)	(0.005)	(0.956)	(0.155)	(0.835)	(0.350)	(0.196)	(0.622)	(0.000)	(0.000)	(0.381)
Duality	β1	-0.012			0.135			-0.049			0.002			0.000		
		(0.726)			(0.164)			(0.651)			(0.771)			(0.726)		
Big_4_Auditor	β1		-0.030			-0.085			-0.026			-0.007			-0.001	
			(0.385)			(0.374)			(0.817)			(0.506)			(0.439)	
Independent Board	β1			0.090			0.199			0.157			0.020			-0.002
				(0.167)			(0.334)			(0.425)			(0.211)			(0.514)
Institutional Ownership x Duality	β3	0.034			0.661*			0.207			0.020			-0.006		
		(0.786)			(0.063)			(0.608)			(0.571)			(0.152)		
Institutional Ownership x Big_4_Auditor	β3		-0.115			0.098			-1.082***			-0.016			-0.001	
			(0.404)			(0.799)			(0.006)			(0.652)			(0.807)	
Institutional Ownership x Independent Board	β3			0.352			2.440			-0.118			-0.002			-0.012
				(0.189)			(0.309)			(0.900)			(0.976)			(0.243)
Intercept	β0	3.012***	3.018***	3.042***	3.661***	3.715***	3.950***	4.622***	4.697***	4.592***	1.011***	1.010***	1.009***	-0.021***	-0.020***	-0.021***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.004)	(0.003)
Control Variables		Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Number of Observations		4215	4215	4215	4215	4215	4214	4214	4214	4214	3742	3742	3743	3772	3772	3773
Adjusted R-Squared		42.10%	47.50%	44.10%	37.20%	38.50%	36.40%	27.26%	28.50%	29.20%	41.20%	43.40%	40.20%	16.20%	17.50%	18.10%

To further analyse the interaction effects, I use plots to show the marginal effect of corporate governance on liquidity measures along with the 95 percent confidence bands over the entire range of block ownership structure. For brevity, I only show the plots for significant interaction results.

Figure 6.1: Marginal effect of duality on liquidity (Amihud) w/95 percent confidence bands frequency distribution of block ownership

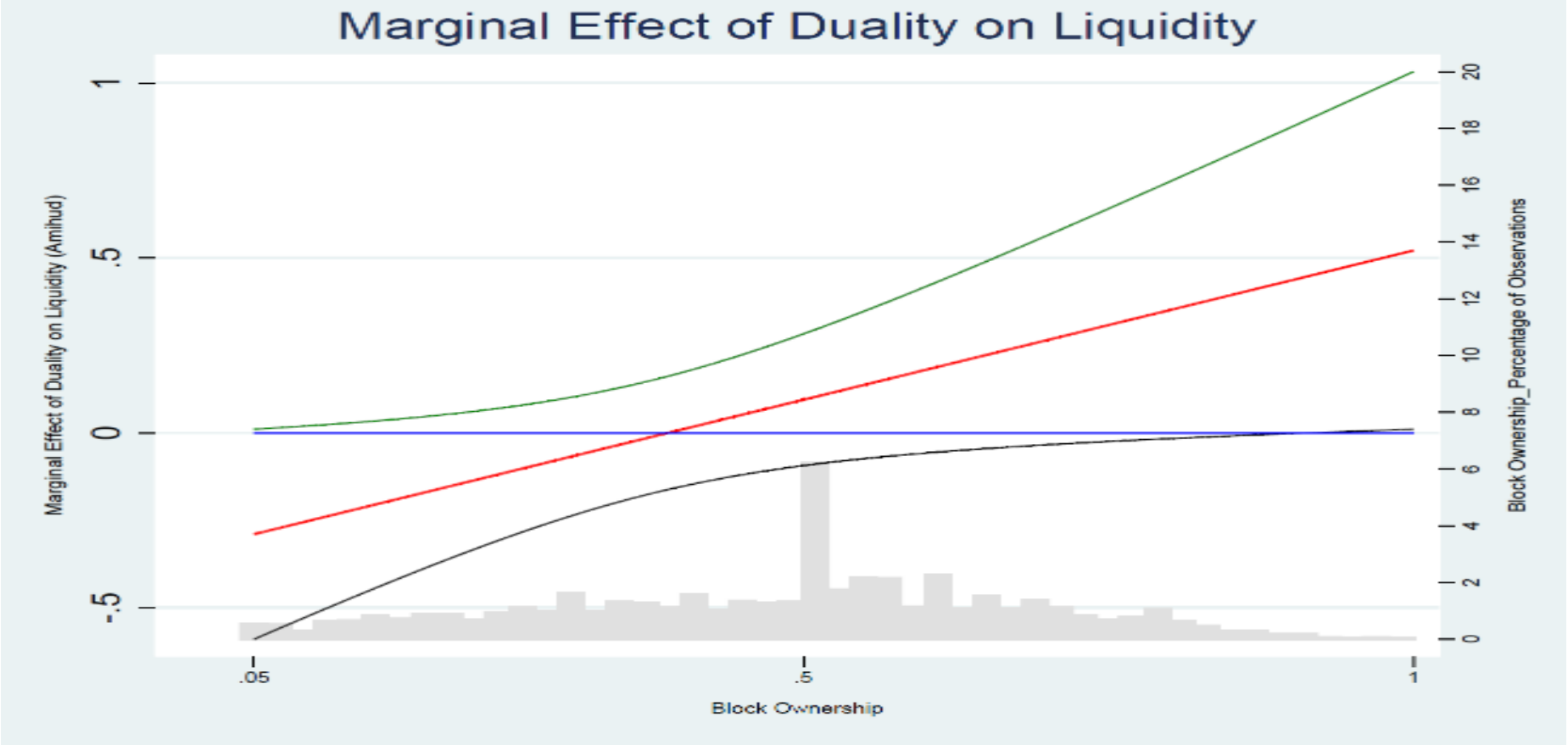
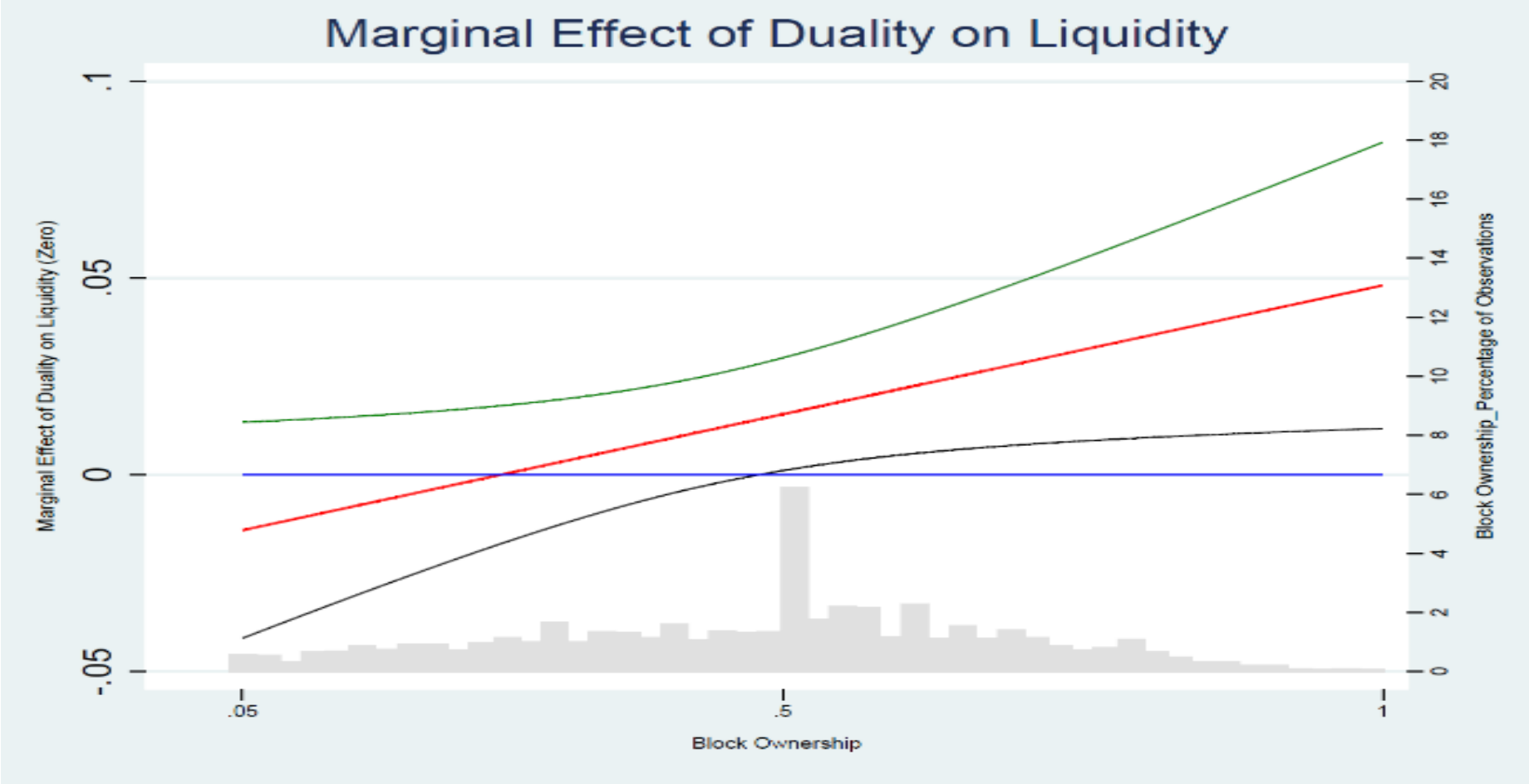


Figure 6.2: Marginal effect of duality on liquidity (Zero) w/95 percent confidence bands frequency distribution of block ownership



6.5 Testing for Possible Non-Linearity

In this section, I examine non-linearity of the relation between ownership concentration and stock liquidity. I argue that at low levels of ownership, large shareholders do not face a free-rider problem as they are not alone in bearing the costs of monitoring. Thus, there is a goal alignment effect in which controlling shareholders align their interest with minority shareholders (Yeo et al., 2002) and thus contributing to an effective monitoring mechanism, which is turn enhances transparency and thus stock liquidity.

In contrast, at high levels of ownership concentration, the entrenched shareholders may use their substantial voting power for preferential self-treatment and have the incentives to secure private benefits by extracting firm resources at the expenses of outside minority shareholders (Shleifer & Vishny, 1997; La Porta & Lopez-de-Silanes, 2002). The opportunistic behaviour from the controlling shareholders is probably by timing the release of private information to the market and hence exacerbating the information asymmetries, and as a result it is expected to be detrimental to liquidity.

The results for *Block Ownership* are provided in Table 6.14 and for the identity of the top five shareholders in Tables 6.15 to 6.18. In columns (1) to (5) of the tables, I include the quadratic term of *Ownership* in the model. In Table 6.14, columns (1) to (4) show no evidence of a quadratic relation between liquidity and *Block Ownership*.

I probe further by slicing the ownership variable into four quartiles with quartile 1 having the lowest percentage of blockholding. For each quartile, I construct a dummy variable. Then, I regress each of the five liquidity proxies on these dummy variables. The idea is that if the relation is non-linear, these dummy variables may exhibit different coefficients, indicating different effects on liquidity over different ranges of ownership. The regression results show that the dummy representing quartile 4 is significant (specifications (6) to (10)). Therefore, as expected, higher levels of ownership concentration measured by quartile 4 have a negative effect on stock liquidity. In particular, there is a positive relation between high block ownership concentration and liquidity proxied by *Average Spread, Relative Effective Spread, Amihud,* and *Zero*; and negative relation between high block ownership concentration and liquidity proxied by *Turnover.* These results are consistent with prior results. There is no evidence of a non-linear association between ownership and liquidity.

As with the preceding tests, I rerun the regressions for the four types of top five shareholders. The results are reported in Tables 6.15 to 6.19. The findings are, also, consistent with prior results when ownership structures are measured at quartile 4. Higher levels of state and family ownership are associated with lower level of stock liquidity, while higher levels of institutional ownership as well as domestic and foreign institutions enhance stock liquidity.

Table 6.14: Tests of non-linearity of the relation between block ownership and liquidity

Block Ownership^2 is the squared value of *Block Ownership* and *Block Ownership. Quartile 4* is 75 percent of *Block Ownership*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Block Ownership	0.284**	0.686*	0.037	-0.006	-0.048***	0.355	0.964	1.592	0.097	-0.030
	(0.019)	(0.081)	(0.939)	(0.855)	(0.000)	(0.201)	(0.315)	(0.100)	(0.321)	(0.700)
Block Ownership^2	0.170	0.426	2.147***	0.176***	-0.012**					
	(0.217)	(0.343)	(0.000)	(0.000)	(0.022)					
Block Ownership. Quartile 4						0.063***	0.074***	0.183**	0.034*	-0.005**
						(0.000)	(0.000)	(0.002)	(0.061)	(0.049)
Intercept	2.992***	4.276***	4.525***	1.074***	0.003	2.996***	4.259***	4.260***	1.059***	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.518)	(0.000)	(0.000)	(0.000)	(0.000)	(0.788)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjusted R-Squared	30.84%	42.70%	19.91%	54.93%	33.38%	31.01%	42.73%	19.76%	55.02%	33.52%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Table 6.15: Tests of non-linearity of the relation between state ownership and liquidity

State Ownership^2 is the squared value of *State Ownership* and *State Ownership. Quartile 4* is 75 percent of *State Ownership*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
State Ownership	-0.426**	0.186	-1.002	-0.027	0.001	-0.100	-0.459**	0.091	-0.059***	0.004
	(0.032)	(0.773)	(0.207)	(0.634)	(0.868)	(0.154)	(0.044)	(0.746)	(0.003)	(0.120)
State Ownership^2	0.461***	0.374	1.328***	0.094***	-0.019***					
	(0.000)	(0.337)	(0.006)	(0.006)	(0.000)					
State Ownership. Quartile 4						0.369***	1.228***	0.550	0.172***	-0.025***
						(0.002)	(0.002)	(0.251)	(0.000)	(0.000)
Intercept	2.838***	4.030***	3.720***	1.008***	0.005	2.839***	4.041***	3.626***	1.011***	0.006
	(0.000)	(0.000)	(0.000)	(0.000)	(0.257)	(0.000)	(0.000)	(0.000)	(0.000)	(0.203)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjuested R-Squared	29.37%	41.94%	17.32%	53.39%	25.02%	29.57%	42.01%	17.42%	53.53%	25.14%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Table 6.16: Tests of non-linearity of the relation between family ownership and liquidity

Family Ownership^2 is the squared value of *Family Ownership* and *Family Ownership. Quartile 4* is 75 percent of *Family Ownership*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Family Ownership	-0.018	-0.810	-0.483	-0.076	0.023	0.436	1.117	2.776	0.165	-0.030
	(0.892)	(0.163)	(0.364)	(0.249)	(0.305)	(0.620)	(0.105)	(0.302)	(0.700)	(0.210)
Family Ownership2	0.567**	2.510***	3.627***	0.279***	-0.061***					
	(0.020)	(0.001)	(0.000)	(0.000)	(0.000)					
Family Ownership. Quartile 4						0.074**	0.282**	0.620***	0.043***	-0.010***
						(0.035)	(0.014)	(0.000)	(0.000)	(0.000)
Intercept	2.956***	4.221***	4.167***	1.042***	-0.001	2.966***	4.215***	4.258***	1.043***	-0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.780)	(0.000)	(0.000)	(0.000)	(0.000)	(0.547)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjusted R-Squared	29.18%	41.93%	17.82%	53.08%	22.86%	29.22%	41.87%	18.02%	53.09%	23.45%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Table 6.17: Tests of non-linearity of the relation between foreign institutional ownership and liquidity

Foreign Institution^2 is the squared value of *Foreign Institution* and *Foreign Institution. Quartile 4* is 75 percent of *Foreign Institution*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreign Institution	-0.212	-1.127	0.057	-0.239	-0.031	0.182	0.524	1.380	0.117	0.003
	(0.463)	(0.228)	(0.961)	(0.505)	(0.311)	(0.212)	(0.268)	(0.618)	(0.206)	(0.679)
Foreign Institution^2	0.800	3.098	2.343	0.706	0.063**					
	(0.290)	(0.205)	(0.437)	(0.211)	(0.048)					
Foreign Institution. Quartile 4						-0.032	-0.163	-0.146	-0.031***	0.003**
						(0.339)	(0.136)	(0.279)	(0.002)	(0.019)
Intercept	2.924***	4.075***	4.038***	1.018***	-0.001	2.926***	4.074***	4.030***	1.020***	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.845)	(0.000)	(0.000)	(0.000)	(0.000)	(0.837)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjusted R-Squared	28.70%	41.71%	16.85%	52.77%	22.03%	28.70%	41.72%	16.87%	52.76%	22.06%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Table 6.18: Tests of non-linearity of the relation between domestic institutional ownership and liquidity

Domestic Institution^2 is the squared value of *Domestic Institution* and *Domestic Institution. Quartile 4* is 75 percent of *Domestic Institution*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Domestic Ownership	-0.061	0.385	-0.474	-0.040	0.010	0.014	-0.282	0.191	0.089	0.012
	(0.490)	(0.180)	(0.180)	(0.127)	(0.206)	(0.915)	(0.493)	(0.707)	(0.116)	(0.222)
Domestic Ownership^2	0.025	1.003	-0.236	-0.138**	-0.001					
	(0.905)	(0.142)	(0.779)	(0.025)	(0.881)					
Domestic Ownership. Quartile 4						0.046	-0.050	0.265	-0.027**	0.002**
						(0.258)	(0.707)	(0.104)	(0.024)	(0.005)
Intercept	2.931***	4.188***	3.974***	1.028***	-0.001	2.936***	4.213***	4.004***	1.026***	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.787)	(0.000)	(0.000)	(0.000)	(0.000)	(0.767)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjusted R-Squared	28.70%	41.76%	16.88%	52.78%	23.05%	28.68%	41.78%	16.74%	52.71%	23.01%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

Table 6.19: Tests of non-linearity of the relation between institutional ownership and liquidity

Institutional Ownership^2 is the squared value of *Institutional Ownership* and *Institutional Ownership. Quartile 4* is 75 percent of *Institutional Ownership*; *p*-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Average Spread	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**	**Average Spread**	**Relative Average Spread**	**Amihud**	**Zero**	**Turnover**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Institutional Ownership	0.003	-0.364	-0.275	0.033	-0.007	0.168*	0.909***	0.183	0.012	0.018
	(0.982)	(0.326)	(0.547)	(0.323)	(0.154)	(0.084)	(0.004)	(0.637)	(0.682)	(0.560)
Institutional Ownership^2	0.060	1.054*	0.807	-0.035	-0.011					
	(0.742)	(0.073)	(0.266)	(0.509)	(0.169)					
Institutional Ownership. Quartile 4						-0.072	-0.360**	-0.017	0.000	0.002**
						(0.142)	(0.024)	(0.929)	(0.991)	(0.021)
Intercept	2.943***	4.233***	4.084***	1.030***	-0.003	2.960***	4.257***	4.039***	1.034***	-0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.584)	(0.000)	(0.000)	(0.000)	(0.000)	(0.577)
Number of Observations	4279	4279	4277	3803	3832	4279	4279	4277	3803	3832
Adjusted R-Squared	28.69%	41.79%	16.79%	52.66%	23.16%	28.83%	41.85%	16.92%	52.71%	23.21%
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included

6.6 Robustness Check: Endogeneity

While theory suggests that ownership concentration affects stock liquidity, there is a concern about potential reverse causality in that the direction of causality may run from liquidity to ownership concentration. That is, firms with higher liquidity attract more shareholders, resulting in a greater dispersion in ownership and thus lower ownership concentration. Reverse causality is a form of endogeneity, which is a major challenge in empirical finance research. If this potential endogeneity problem is not addressed, the estimates may be inconsistent and the assumptions of the classical linear model may be violated. To deal with this possible endogeneity, I conduct a two-stage least squares (2SLS) regression analysis.

Table 6.20 provides the results from the first-stage regression. In the first stage, both instrumental variables, *Industry-mean Block Ownership* and *Predicted Block Ownership*, are highly significant at the 0.05 level. The relation between *Predicted Block Ownership* and *Block Ownership* is negative, suggesting that ownership concentration starts at a very high level and decreases in later years. This is consistent with the equitisation of SOEs in Vietnam.

The first-stage results show the adjusted R-squared values are relatively high, indicating that both instrumental variables are not weak. Additionally, Staiger and Stock (1997) suggest that, in the case of a single endogenous regressor, instruments are considered to be weak if the first-stage

F-statistic is less than ten. The F-statistic rejects the null hypothesis that the instrument is weak and is considerably large in magnitude.

Tables 6.21 to 6.26 report the results of the 2SLS regressions with robust standard errors. As compared to OLS regressions reported earlier, the 2SLS regressions have higher adjusted R-squared values. The results from Hausman test also show that p-values are less than 0.05 for all liquidity proxies, except for *Amihud* . Therefore, I can reject the null hypothesis of no endogeneity, suggesting that the 2SLS regression results are consistent. Importantly, the results show that correcting for reverse causality does not change earlier regression results. Therefore, the evidence that I provide in this thesis of a negative relation between ownership concentration (structure) and stock liquidity is robust to potential endogeneity concerns.

Table 6.20: First-stage least squared regressions

Industry-mean Block Ownership is an instrumented variable, measured by the mean of industry *Block Ownership*; *Predicted Block Ownership* is calculated by the equation (2); p-values in parentheses; *, **, and *** denote significance at the 0.1, 0.05, and 0.01 level, respectively. See Table 5.1 for variable definitions.

	Block Ownership	**State Ownership**	**Family Ownership**	**Foreign Institution**	**Domestic Institution**	**Institutional Ownership**
	(1)	(2)	(5)	(3)	(4)	(5)
Industry-mean Block Ownership	0.581***					
	(0.000)					
Predicted Block Ownership	-0.001***					
	(0.000)					
Industry-mean State Ownership		0.314***				
		(0.000)				
Predicted State Ownership		-0.002***				
		(0.000)				
Industry-mean Family Ownership			0.407***			
			(0.000)			
Predicted Family Ownership			-0.001***			
			(0.000)			
Industry-mean Foreign Institution				0.650***		
				(0.000)		
Predicted Foreign Institution				-0.001***		
				(0.000)		
Industry-mean Domestic Institution					0.494***	
					(0.000)	
Predicted Domestic Institution					-0.001***	
					(0.000)	
Industry-mean Institutional Ownership						0.358***
						(0.000)
Predicted Institutional Ownership						-0.002***
						(0.000)
Control Variables	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included
Intercept	-0.062	0.216***	-0.019	-0.087***	-0.088***	-0.019
	(0.183)	(0.000)	(0.481)	(0.000)	(0.006)	(0.481)
Number of Observations	4191	4191	4191	4191	4191	4191
Adjusted R-Squared	38.51%	62.88%	47.16%	34.81%	47.62%	47.16%
F-Statistic	88.47	237.58	125.64	75.59	127.96	125.64

Table 6.21: Second-stage least squared regressions: Block ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Block Ownership	0.456***	0.363***	1.100***	1.081***	1.725***	2.168***	0.166***	0.165***	-0.038***	-0.036***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Intercept	2.794***	2.775***	3.425***	3.367***	3.981***	3.792***	0.981***	0.980***	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.963)	(0.907)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	46.66		150.82		5.94		33.56		45.26	
P-Value	(0.000)		(0.000)		(0.948)		(0.001)		(0.012)	
Number of Observations	4215	4168	4215	4168	4214	4167	3742	3695	3772	3754
Adjusted R-Squared	31.78%	31.94%	43.68%	43.85%	23.50%	23.45%	56.47%	56.93%	35.55%	35.53%

Table 6.22: Second-stage least squared regressions: State ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
State Ownership	0.194***	0.311***	0.601***	0.623***	0.820***	1.312***	0.087***	0.100***	-0.020***	-0.026***
	(0.002)	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Intercept	2.956***	2.714***	3.574***	3.287***	4.398***	3.617***	0.986***	0.967***	-0.013*	0.002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.080)	(0.659)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	161.61		65.5		16.06		41.53		268.3	
P-Value	(0.000)		(0.000)		(0.246)		(0.000)		(0.000)	
Number of Observations	4215	4168	4215	4168	4214	4167	3742	3695	3772	3754
Adjusted R-Squared	30.55%	30.55%	43.10%	43.10%	21.85%	21.85%	55.03%	55.03%	27.53%	27.53%

Table 6.23: Second-stage least squared regressions: Family ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Family Ownership	0.437***	-0.072	0.551**	0.244	1.242***	-0.282	0.101***	-0.004	-0.022***	0.018***
	(0.000)	(0.418)	(0.031)	(0.383)	(0.001)	(0.415)	(0.000)	(0.887)	(0.000)	(0.000)
Intercept	3.007***	2.812***	3.716***	3.511***	4.661***	4.040***	1.008***	1.000***	-0.018**	-0.005
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.015)	(0.339)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	53.43		133.51		36.51		51.25		125.98	
P-Value	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)	
Number of Observations	4215	4168	4215	4168	4214	4167	3742	3695	3772	3754
Adjusted R-Squared	29.48%	29.48%	42.90%	42.90%	20.94%	20.94%	54.19%	54.19%	21.41%	21.41%

Table 6.24: Second-stage least squared regressions: Foreign institutional ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreign Institution	0.044	-0.073	-0.203	-0.638	0.092	2.488***	0.037	0.072	0.010*	0.014*
	(0.813)	(0.694)	(0.688)	(0.282)	(0.866)	(0.001)	(0.453)	(0.171)	(0.077)	(0.056)
Intercept	3.003***	2.811***	3.683***	3.439***	4.618***	4.273***	1.008***	1.005***	-0.018**	-0.007
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.013)	(0.170)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	57.27		102.09		14.02		34.46		21.6	
P-Value	(0.000)		(0.000)		(0.3726)		(0.000)		(0.001)	
Number of Observations	4215	4168	4215	4168	4214	4167	3742	3695	3772	3754
Adjusted R-Squared	29.73%	29.73%	42.75%	42.75%	20.63%	20.63%	54.00%	54.21%	24.28%	24.28%

Table 6.25: Second-stage least squared regressions: Domestic institutional ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Domestic Institution	-0.063	-0.038	-0.165	0.139	0.052	-0.107	0.018	0.009	0.014***	0.008***
	(0.403)	(0.572)	(0.454)	(0.515)	(0.827)	(0.690)	(0.330)	(0.639)	(0.000)	(0.002)
Intercept	2.995***	2.815***	3.695***	3.502***	4.614***	4.055***	1.005***	1.001***	-0.018**	-0.007
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.013)	(0.200)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	120.66		140.12		6.77		95.59		23.36	
P-Value	(0.000)		(0.000)		(0.9135)		(0.000)		(0.011)	
Number of Observations	4215	4168	4215	4168	4214	4167	3742	3695	3772	3754
Adjusted R-Squared	29.74%	29.74%	42.83%	42.83%	21.20%	21.20%	54.23%	54.23%	24.95%	24.95%

Table 6.26: Second-stage least squared regressions: Institutional ownership

	Average Spread		Relative Effective Spread		Amihud		Zero		Turnover	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Institutional Ownership	-0.048	0.001	-0.187	0.082	0.063	0.613	0.024	0.022	0.015***	0.013***
	(0.497)	(0.981)	(0.360)	(0.612)	(0.779)	(0.652)	(0.210)	(0.129)	(0.000)	(0.000)
Intercept	3.009***	2.818***	3.723***	3.506***	4.603***	0.052*	1.009***	1.003***	-0.020***	-0.008
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.056)	(0.000)	(0.000)	(0.004)	(0.137)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Hausman Test										
Chi-Squared	44.30		56.65		9.56		63.79		36.69	
P-Value	(0.761)		(0.356)		(0.686)		(0.000)		(0.012)	
Number of Observations	4215	4168	4215	4168	4214	4191	3742	3695	3772	3754
Adjusted R-Squared	28.70%	29.74%	40.20%	42.82%	70.16%	71.46%	53.22%	0.5424	24.03%	25.03%

Table 6.27: Summary of main findings

	Name	Theories	Relationship with Liquidity				
			Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
Ownership Concentration	*Block Ownership*	Adverse Selection Trading Hypothesis Agency Cost	+	+	+	+	-
Ownership Structures	*State Ownership*	Adverse Selection Trading Hypothesis Agency Cost	+	+	+	+	-
	Family Ownership	Adverse Selection Trading Hypothesis Agency Cost Stewardship	+	+	+	+	-
	Domestic Institution	Trading Hypothesis	x	x	x	x	+
	Foreign Institution	Trading Hypothesis	x	x	x	x	+
	Institutional Ownership	Trading Hypothesis	x	x	x	x	+
Corporate Governance	*Duality*		x	x	x	x	x
	Independent Board		x	x	x	x	x
	Big_4_Auditor		x	x	x	x	x

Notes: +; -; and x: positive; negative; and no relationship between variables, respectively.

Table 6.27: Summary of main findings (cont.)

	Name	Relationship with Liquidity				
		Average Spread	Relative Effective Spread	Amihud	Zero	Turnover
Interation	*Block Ownership*Duality*	x	x	+	+	-
	*Block Ownership*Independent Board*	x	x	x	x	x
	*Block Ownership*Big_4_Auditor*	-	x	-	x	x
	*State Ownership*Duality*	x	x	x	x	-
	*State Ownership*Independent Board*	x	x	x	x	x
	*State Ownership*Big_4_Auditor*	x	-	-	x	+
	*Family Ownership*Duality*	x	x	x	x	x
	*Family Ownership*Independent Board*	x	x	x	x	x
	*State Ownership*Big_4_Auditor*	x	x	x	x	x
	*Domestic Institution*Duality*	x	+	x	x	x
	*Domestic Institution*Independent Board*	x	x	x	x	x
	*Domestic Institution*Big_4_Auditor*	x	x	-	x	x
	*Foreign Institution*Big_4_Auditor*	x	x	x	x	x
	*Foreign Institution*Independent Board*	x	x	x	x	x
	*Foreign Institution*Big_4_Auditor*	-	-	-	-	x
	*Institutional Ownership*Duality*	x	+	x	x	x
	*Institutional Ownership*Independent Board*	x	x	-	x	x
	*Institutional Ownership*Big_4_Auditor*	x	x	x	x	x

Notes: +; -; and x: positive; negative; and no relationship between variables, respectively.

6.7 Chapter Summary

My empirical results indicate that ownership concentration and the different types of top five owners matter to stock liquidity in Vietnam. Consistent with past studies, higher ownership concentration is associated with a larger bid-ask spread (*Average Spread* and *Relative Effective Spread*), a higher level of price impact (*Amihud),* more days with no trading (*Zero*), and lower trading activity (*Turnover).* Of the various identity groups of top five owners (state, institutional investors, and family), I find that while state and family controlling shareholders diminish stock liquidity, institutional controlling owners (domestic and foreign) enhances stock liquidity measured by a high ratio of *Turnover.*

By testing the interaction effects between corporate governance and ownership, I find that contrary to the bulk of evidence reported elsewhere, I do not find corporate governance mechanisms on their own matter to stock liquidity in Vietnam. In contract, I find substantial evidence of Big 4 auditors having a substitute effect on ownership and contribute to higher stock liquidity, while duality has a complement effect on ownership and leads to lower stock liquidity.

Chapter 7

Summary and Conclusions

7.1 Introduction

This final chapter begins with a summary of findings in Section 7.2. This is followed by Section 7.3, which highlights the major contributions of the thesis to the literature. Finally, Section 7.4 outlines the limitations of the thesis and offers some avenues for future research.

7.2 Summary of Findings

I examine three related research questions concerning how ownership concentration and corporate governance are related to stock liquidity. In order to answer these questions, this study employs several empirical estimations with a panel data of 655 Vietnamese firms listed on the Ho Chi Minh and Hanoi Stock Exchanges over the period 2007 to 2015.

The first research question asks whether ownership concentration in Vietnam matters to stock liquidity. This study employs panel regressions with time and firm fixed effects with the implication that firm fixed effects take into account the effects of time-invariant firm-specific omitted variables on liquidity as well as the effect of time-invariant omitted macroeconomic variables on liquidity. To address potential reverse causality, I use instrumental variables methods with 2SLS estimation.

Both trade-based and order-based liquidity proxies are constructed to capture the different dimensions of liquidity, comprising trading cost, breath, and depth. The results show that block ownership is negatively associated with stock liquidity, as indicated by a lower trading cost, and a higher trading volume and depth. The results are consistent with the argument that the separation of ownership and control between controlling and minority shareholders creates an information asymmetry problem. Higher information asymmetries lead to lower levels of trading and larger bid-ask spreads. My results are in accordance with Naes (2004) and Heflin et al. (2005) for the U.S. stocks. The presence of controlling shareholders increases information asymmetries, resulting in increasing bid-ask spreads which in turn decreases stock liquidity. Lower liquidity is also due to reduced availability of shares for trading as a result of the highly concentrated ownership.

My second research question asks whether the identity of the top five largest shareholders matters to stock liquidity in Vietnam. I focus on state ownership, family ownership, and foreign and domestic institutional ownership, and institutional ownership. The empirical results show that both state ownership and family ownership are negatively related to liquidity, irrespective of how liquidity is measured. Controlling shareholders, either as the state or the founding family, have major voting power and influence over firm decisions. These controlling shareholders are likely to exploit the firm's resources to support their private interest and are thus more likely to constrain information disclosure. The ensued opaque informational environment has an adverse effect on stock liquidity.

In line with Shleifer and Vishny (1997), the negative effect of state ownership on liquidity advocates the view that firms with high level of state ownership have less incentive to commit to information disclosure to conceal minority shareholders' expropriation, especially in Vietnam where protection of property rights is weak and where governance mechanisms are ineffective (Shleifer & Vishny, 1997; La Porta et al., 1999). State blockholders' behaviour increase the high level of information asymmetries, resulting in lower liquidity.

Consistent with the findings of Fan & Wong (2002), I find evidence supporting a Type II agency problem caused by the unmatched interests between family owners and other minority shareholders (Claessens et al., 2000; La Porta et al., 1999). To be precise, I find a negative effect of family ownership on liquidity. The implication is that family controlling owners are likely to hide expropriation of outside minority shareholders through sub-optimal investment decisions (Fama & Jensen, 1985;Anderson & Reeb, 2003). These family blockholders' behavior potentially reduces monitoring efforts by creating a more opaque information environment, resulting in lower levels of stock liquidity.

I find a positive relation between stock liquidity and institutional ownership (foreign and domestic institutional ownership), only when liquidity is proxied by trading activity *(Turnover)*. A possible explanation for this positive association is that as professionally managed financial institutions, (foreign and domestic) insitutional ownership act as monitors to mitigate

agency problems caused by managers or controlling shareholders and thus mitigate information asymmetries, leading to higher stock liquidity.

Research on governance and transparency is still scarce in Vietnam. Vietnam is an emerging country that has adopted Western-style governance principles in the last decade, inspired by the OECD governance code. Since the Vietnamese society is based on informal relationships instead of formal contracting, and their judicial environment is weak, Vietnam provides an interesting setting to study whether "international good governance practices" are associated with liquidity. My final question thus focuses on whether corporate governance is related to stock liquidity in Vietnam. I use CEO duality, board independence, and Big 4 auditor as proxies of firm-level corporate governance. While existing evidence suggests that firm-level governance are effective monitoring mechanisms in countries with weak shareholder protection (Gul & Leung, 2004; Gill & Mathur, 2011), I fail to establish a relation between proxies of internal corporate governance and liquidity in Vietnam. The engagement of a Big 4 auditor and supervisory board independence do not seem to have a material effect on stock liquidity in Vietnamese firms, and neither does the separation of the CEO from the chair position.

In further analysis, I test the interaction effect of ownership concentration and corporate governance on liquidity. I find that in the emerging market of Vietnam, there is a significant negative effect of CEO duality on stock liquidity associated with the high concentrated ownership. The combining of CEO and chair in one person compromises board

monitoring, and increases the negative relation between ownership concentration and liquidity. Also, the findings from the interactions show a substitute effect of Big 4 auditors and ownership concentration. That is, in the environment of highly concentrated ownership, reputation auditors play a valuable role in the governance of firms. These large audit firms are associated with reputation (DeAngelo, 1981) and litigation (DeAngelo, 1981), which provide an assurance of the accuracy of the firm's financial statements (Camfferman & Terence, 2002), leading to a reduction in information asymmetries and an increase in stock liquidity.

Interesting, the role of independent board seems to be comprised in Vietnam where there is the existence of blockholders and different controlling owners.

7.3 Contributions

Illiquidity is one of the major problems that emerging markets suffer, and thus high cost of equity. Improving liquidity will lower cost of equity allowing Vietnamese firms to invest in capital expenditure enabling economic growth and the well-being of the population.

Therefore, the thesis makes several significant contributions to the extant literature. First, it sheds the light on the underlying factors driving liquidity in Vietnamese firms. Based on adverse selection hypothesis, the research shows that ownership concentration enhances information asymmetry and decreases stock liquidity. This evidence adds to the strand of

the extant U.S. literature that tests for the relation of ownership concentration and stock liquidity (Heflin & Shaw, 2000; Rubin, 2007; Brockman et al., 2009).

Second, I contribute to the literature by focusing on ownership types. The evidence I document suggests that state and family ownership are relatively related to illiquidity, irrespective of how liquidity is measured. In contrast, foreign and domestic institutional ownership have a positive impact on liquidity when measured by *Turnover,* a proxy for trading activity. It shows the important role of institutional investors playing on decreasing information asymmetry.

The evidence from the ownership structures on liquidity suggests that state ownership worsens stock liquidity. Therefore, I suggest that the Vietnamese government should speed up the privatisation process. In contrast, the positive effect of foreign and domestic institutions on firm liquidity indicates a place for policies that will attract more institutional investors into Vietnamese firms. This may also enhance the quality of corporate governance in domestic firms.

The third major contribution of this thesis lies in documenting further the marginal effect of corporate governance and ownership on liquidity. This helps to address the limitation of extant studies which examined separately the effect of ownership concentration on stock liquidity (Brockman et al., 2009; Heflin & Shaw, 2000; Rubin, 2007; Liu, 2013; Yosra & Sioud, 2011; Rhee & Wang, 2009) and corporate governance on stock liquidity (Chung et al., 2010; Kanagaretnam et al., 2007; Foo & Zain, 2010; Aspris & Frino, 2014).

I contribute to these streams of the literature by examining how both corporate governance and ownership structure interaction affecting stock liquidity.

Specifically, I document the complementary effect of duality and ownership concentration on stock liquidity. Consistent with agency theory, the combining of CEO and chair in one person provides greater opportunities for managerial entrenchment and expropriation of minority shareholders in firms with high ownership concentration.

I also document a substitute effect of Big 4 auditor and ownership concentration. In particular, Big 4 auditors play a major role in stock liquidity in firms with higher foreign institutional ownership. The non-significant results for independent board suggest the weakness of board monitor in Vietnam (Minh & Walker, 2006).

I sum, I contribute to the Vietnam by showing that the effectiveness of corporate governance depends on the level and type of ownership concentration, and that these mechanisms should be studied together. Moreover, the findings of my study suggest that the Vietnam government and listed firms should design policies to increase the participation of domestic and foreign institutions so as to enhance stock market liquidity and reduce the cost of capital for Vietnamese firms. This should improve the economic wealth of the country.

7.4 Limitations and Avenues for Future Research

The empirical analysis of this study is subject to several limitations. First, like all studies, this study faces some data limitation. For example, firms do not disclose all governance information in their annual reports. Despite having an electronic network, the stock markets studied do neither provide easy and full access to high frequency stock data. Thin trading poses another limitation as there are many days of non-trading in the data may affect the accuracy of the measures of the liquidity variables.

My research is not immune to problems associated with endogeneity, which is a common problem in corporate finance research. One of the limitations of endogeneity is instrument variable approach. For example, the instrumental approach in this thesis is 2SLS, which suffers from finite-sample bias. Most of the justification for the use of IV is asymptotic. Therefore, future research should find alternative estimators, such as LIML (limited information maximum likelihood), which have better small sample properties than 2SLS with weak instruments. LIML is a linear combination of the OLS and 2SLS estimate (with the weights depending on the data), and the weights happen to be such that they (approximately) eliminate the 2SLS bias.

There is scope for future research to provide a more extensive analysis of the role of other corporate governance variables and stock liquidity, including the presence of an audit, nomination and a remuneration committee (Foo & Zain, 2010), and the independence of these committees.

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