RATIONALE, MOTIVATION AND EFFECT OF FOREIGN INVESTMENT IN VIETNAMESE COMPANIES

by

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ABSTRACT

BEN VAN LE. Rationale, motivation, and effect of foreign investment in Vietnamese companies. (Under the direction of DR. LLOYD BLENMAN).

Existing literatures have documented that foreign investors in developed markets hold disproportionately more shares of firms with high turnover rates. In Vietnam, I find evidence that foreign investor ownership percentage is higher in firms with lower turnover rates, firms located in the south of Vietnam, firms listed on the Hochiminh stock exchange, firms that are listed longer on the exchange, large firms, and firms with low past returns. The effect of turnover rate on foreign ownership percentage is weak, while the coefficients of firm size and firm age since IPO are consistently robust.

I find that foreign investors hold more in firms with lower government ownership, and firms audited by a prestigious international audit company only holds for firms listed on the Hanoi exchange. I find that the thesis that foreign investor percentage ownership stakes are higher in firms with higher current ratios holds only for the firms listed on the Hochiminh stock exchange. Although average firm size is higher for State-Owned Enterprises (SOEs) and foreign investors strongly prefer investing in large size firms, they strongly show their preference in firms other than SOEs. By excluding the effect of size, I find that foreign ownership percentage stakes in firms listed on the Hanoi exchange are lower than foreign ownership percentage stakes in firms listed on the Hochiminh exchange. Interestingly, since dividend began being taxed, foreigner ownership percentage has been lower in firms with high dividend yields.

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BOT	build operate transfer
BT	build transfer
BTO	build transfer operate
CPI	consumer price index
FDI	foreign direct investment
IPO	initial public offering
MOF	Ministry of Finance
PCI	provincial competitiveness index
ROE	return on equity
SOEs	state owned enterprises

CHAPTER 1: INTRODUCTION

Studies find evidence that investors do not fully take advantage of the benefits of global diversification. Solnik (1974), among others, finds that cross-border diversification of equity portfolios offers potential gains to investors. De Santis and Gerard (1997) argue that severe U.S. market declines are contagious at the international level, and often imply a significant reduction in the expected gains from international diversification. Grauer and Hakansson (1987) suggest that the risk of an investment portfolio can be reduced by incorporating foreign securities, and finds that the gains from including non-U.S. asset categories into the universe of portfolio assets were remarkably large.[1]

However, Merton (1987) and Huberman (2001) indicate that investors are more likely to invest in familiar securities. French and Poterba (1991) and Tesar and Werner (1994) show that at the beginning of the 1990s, the proportion of stock market wealth invested domestically was in excess of 90 percent for the U.S. and Japan, and more than 80 percent for the U.K. and Germany. French and Poterba (1991) find that the reason for the lack of international diversification is the result of investor choices, rather than institutional constraints such as transaction costs and a dividend withholding tax.

Coeurdacier and Rey (2013) point out that equity home bias has decreased in developed countries due to the financial globalization trend, but still remains high in most

[1] This is the essence of the equity home bias phenomenon. Investors invest mainly in their home securities ignoring the effects of diversification.

countries, and is particularly high in emerging markets. Kang and Stulz (1997) and Dahlquist and Robertsson (2001) among others have noted that foreign investors prefer high liquidity stocks.

Vietnam is a transition economy but is also in the set of frontier economies. The classification as a frontier market often reflects a country's political and market environment, including depth and breadth of financial markets, legal and regulatory infrastructure, and the general ease with which foreign investors can do business. Frontier markets represent countries in need of significant improvement in several areas including market size, openness to foreign ownership, ease of capital inflows and outflows, efficiency of infrastructure, and political stability[2].

The International Monetary Fund (IMF) shows that frontier markets collectively are expected to enjoy economic growth similar to that of emerging markets over the five years through 2017 (4.47 percent versus 4.67 percent, respectively)[3]. In addition, investors might anticipate outsized returns from frontier markets. It is rational to argue that frontier countries' markets are less developed and are generally riskier in terms of liquidity, market structure, and political climates.

Then, one would expect a risk premium relative to developed markets (and also, one could argue, to emerging markets). Investors also find frontier markets attractive for a potential investment diversification. There is no or imperfect correlation of any asset class or sub-asset class investment with frontier markets and the remaining assets in their

[2] There are many other classifications of frontier economies. Such classifications include low levels of absolute consumption, high growth rate of consumption and fragility.

[3] The real average annual gross domestic product growth rates as provided by the IMF World Economic Outlook Database (October 2012).

portfolios. More importantly, Vietnam is a frontier market with a combination of abundant natural resources and low labor costs, which are catching the attention and interest of large investors.

I examine the case for equity home bias in Vietnam, a transition economy, with its stock exchanges in the early stages of development. The results show that the effects of political risk, volatility and firm beta on foreign ownership percentages are different for the two exchanges.[4] The Hanoi exchange was established five years after the Hochiminh exchange, but the number of listed firms on it has grown faster than the number of firms listed on the Hochiminh exchange.[5] There is significant equity home bias in Vietnam.

In addition to the preference of foreign investors for firms located in the south part of Vietnam and firms listed on the Hochiminh exchange (in the south), foreign direct investment is also more concentrated in Hochiminh City and its surrounding provinces. Hanoi, the capital, and its neighboring provinces attract a lower than average level of foreign direct investment per capita.

Contrary to existing studies, I find that foreign investors in Vietnam tilt their portfolios towards firms with lower turnover rate, a measure of market liquidity[6]. For the

[4] Foreign ownership percentage equals 1-domestic ownership percentage. Low foreign ownership percentages are associated with high equity home bias.

[5] The minimum capitalization requirement for firms to be listed on the Hanoi exchange is VND 30 billion. The corresponding amount on the Hochiminh exchange is VND 120 billion. In addition, in order to be listed, firms are required to be profitable in the last 2 years at the time of becoming listed and the minimum ROE of the year right before being listed must be at least 5 percent. After being listed, the firms are allowed to switch their exchange if they meet the exchange requirement, but are not allowed to simultaneously list on both exchanges. During the time the firm is listed, if the market capitalization of the firm falls below the minimum required, and the firm does not raise more capital, the firm has to delist or switch their exchange.

[6] MSCI classifies Vietnam as a frontier market. Blanco (2013) argues that the frontier equity markets are typically pursued by investors seeking high, long-term returns arising from the exploitation of natural

largest turnover-rate quintile, foreign ownership percentage is consistently smaller than average foreign ownership percentage, while for the first two smallest turnover-rate quintiles, foreign ownership percentage is generally larger than the average foreign ownership percentage.

Dahlquist and Robertsson (2001) summarize implicit and explicit barriers when analyzing potential explanations for the existence of the equity home bias. They provide evidence that foreign investors tend to invest in firms with certain attributes such as larger size, firms with high export sales, and firms with high market liquidity, as measured by turnover rate.

Chan, Covrig and Ng (2005) argue that the standards of information disclosure in developing countries are not as good as those in developed countries. I argue that, a fortiori, in a frontier market more reliable information is available about a firm, after its listing. The firm's age since its IPO directly influences foreign investors' knowledge about that firm. Also, if the firm has been listed longer, this longer existence signals more certainty about its performance.[7] I show that the firm that has been listed longer attracts a significantly higher foreigner ownership percentage.

Governmental controls in firms can be classified as a political risk for foreign investors. The economy of Vietnam shares a lot of similarity with that of China. Sun and Tong (2003) indicate that the Chinese government still plays an important role in the

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resources. The finding of this dissertation shows that foreigners prefer investing in stocks that trade less often. The finding seems consistent with Blanco's (2013) argument. The evidence also shows that the negative effect of turnover rate on foreign investors' holdings tends to decline over time and turns positive in 2012. This may imply a trend that as the stock market becomes more developed, the effect of turnover rate reverses the sign to have a positive effect, as shown in studies such as Dahlquist and Robertsson (2001), which find a positive relation between turnover rate and foreign holdings.

[7] The listed firm is automatically forced to be delisted if its profits for 3 successive years are negative.

reform of SOEs. This study shows that the same can be said of Vietnam. Privatization in Vietnam has changed thousands of SOEs from 100 percent governmental holding to private firms or firms with substantial reduction of government ownership percentage. The Vietnamese government still dominates corporate policies in hundreds of listed firms.

Megginson et al. (1994) find that profitability, operating efficiency, and real sales of the firms significantly improve following privatization. Sun and Tong (2002) summarize that the reason is generally because SOEs sometimes mix social objectives with maximizing profitability and the management is selected based more on political connections rather than on managerial skills. This dissertation shows that such political risk negatively affects the holdings of foreigners, but the effect is different in the two exchanges.

Foreigners disproportionately invest more in stocks with lower government ownership percentages. When I consider the two exchanges separately, foreign ownership percentage and government ownership percentage are negatively correlated. Firms listed on the Hochiminh exchange have higher foreign ownership percentages than firms listed on the Hanoi exchange. The findings also indicate that firms tend to list on the exchange closer to their headquarters. This implies the preference of foreigners for firms located in the south, closer to Hochiminh. The dissertation, therefore, shows that geographic, political and cultural factors influence foreigners' holdings in the market of Vietnam.

The findings of this dissertation support existing studies that foreign ownership percentage is strongly positively correlated with firm size. More importantly, foreign ownership percentage in SOEs, defined as firms in which government holds at least 50

percent of total shares outstanding, is strongly inferior to foreign ownership percentage in non-SOEs, even though the average firm size of the former is much higher than the size of the latter.

Grinblatt and Keloharju (2001) find that Finnish investors whose native language is Swedish are more likely to own stocks of firms located in Finland that have annual reports in Swedish. In Vietnam, the firms audited by foreign audit agencies will have financial statements issued in Vietnamese and in English. I argue that foreign investors are more familiar with English than with Vietnamese.

The four foreign audit firms doing business in Vietnam; Ernst and Young, KPMG, Deloitte and PricewaterhouseCoopers, are prestigious and world famous. I hypothesize that the information from these 4 audit firms is more reliable than that disclosed by other audit firms. I therefore also predict that foreigners would prefer investing in firms audited by those 4 major international audit firms. The evidence supports this hypothesis and prediction.

CHAPTER 2: LITERATURE REVIEW AND ASSOCIATED HYPOTHESES

Although the benefits of international diversification are well established in the literature, a lot of studies find the evidence that investors do not take advantages of the global diversification. Solnik (1974), among others, finds that cross-border diversification of equity portfolios offers potential gains to investors. De Santis and Gerard (1997) argue that severe U.S. market declines are contagious at the international level, and often imply a significant reduction in the expected gains from international diversification. They also find that, the expected gains from international diversification for a U.S. investor is about 2.11 percent a year on average, and have not significantly declined. Grauer and Hakansson (1987) suggest that the risk of an investment portfolio can be reduced by incorporating foreign securities, and find that the gains from including non-U.S. asset categories in the universe were remarkably large.

However, Fu (2009) indicates that investors in reality often do not hold perfectly diversified portfolios. Rather, Merton (1987) and Huberman (2001) argue that investors are more likely to invest in securities they know about.

French and Poterba (1991) and Tesar and Werner (1994) show that at the beginning of the 1990s, more than 90 percent of the U.S. and Japan stock market wealth was domestically invested. The corresponding rate is more than 80 percent for the U.K. and Germany markets. French and Poterba (1991) find that investor choices, rather than institutional constraints such as transaction costs and a dividend withholding tax, are the reason for the lack of international diversification.

In international markets, investors normally have a preference for investing in their home countries; this phenomenon is called equity home bias. Karolyi and Stulz (2003) summarize that equity home bias is pervasive across countries. Dahlquist and Robertsson (2001) summarize two potential categories of explanation for the existence of home equity bias, implicit barriers and explicit barriers. They focus their study on the implicit barriers, since over time, explicit barriers have been fallen.

There are two trends showing the different evidence about whether foreign investors are less informed than local counterparts. Some studies show that foreign investors are not less informed than domestic, others show the reverse relationship. Using the dataset of Finnish stock markets, Grinblatt and Keloharju (2000) show that over their sample period, foreign investors are better at picking Finnish stocks than are domestic investors. Seasholes (2000) finds evidence in Taiwan that foreign institutional investors buy stocks before positive earnings announcements and sell stocks before negative earnings announcements. Both papers explain that foreign institutional investors do better because they are more skilled at acquiring and interpreting information.

Karolyi (2002) shows that foreign investors in Japanese equities outperformed domestic individuals and institutions, including banks, trust and life insurance companies, and corporations themselves during the Asian financial crisis period. However, on the other hand, a host of studies using data from different countries also provide evidence that foreign investors are less informed than domestic investors. Brennan and Cao (1997) develop a model of international equity portfolio relying on informational differences between foreign and domestic investors and find that U.S. investors being at an informational disadvantage relative to locals in foreign markets.

Choe, Kho and Stulz (2001) find that foreign investors buy at higher prices and sell at lower prices than do resident investors in Korea. Shukla and Van Inwegen (1995) show that when picking U.S. stocks, U.K. money managers underperform American money managers. Using German data Hau (2001) finds that proprietary trades on the German stock market do better when they are geographically closer to Frankfurt. Dvorak (2005) using Indonesian data, and Choe et al (2005) using Korean data all find that foreign investors are at an informational disadvantage.

Upon making their portfolio allocation decisions in a mean-variance model, the informational disadvantage of foreign investors matters if foreign investors perceive that foreign stocks are riskier. Dahlquist and Robertsson (2001) argue that due to information asymmetries, foreign investors feel less informed about a country and its firms. Because of information disadvantages, foreign investors prefer investing in firms more known to them or in firms with specific attributes. Gehrig (1993) constructs the optimal portfolio when foreign investors know less and shows that this assumption leads to an overweighting of domestic assets.

In a deeper investigation, Kang and Stulz (1997) show evidence that controlling for firm size, small firms that have high export rate and firms with higher share turnover have more foreign ownership. Both Kang and Stulz (1997) and Dahlquist and Robertsson (2001) examine ownership percentages in several industries. Dahlquist and Robertsson (2001) show that Swedish firms belonging to construction industry is locally well-known, but not known internationally, therefore, foreign ownership percentage in those firms is low. Foreign ownership percentage stake is overweighed in chemicals and

pharmaceuticals. Kang and Stulz (1997) indicate that foreign ownership percentage stake is higher in firms belonging to the manufacturing industry.

Lin and Shiu (2003) examine foreign ownership percentage in the Taiwan stock market from 1996 to 2000. They find foreign investors favor large firms and low book-to-market stocks, firms with high export ratios with which they are more familiar on account of their higher foreign sales. Due to their different tax status, foreign investors may also hold slightly more stocks with low dividend yield. Interestingly, foreign investors hold more shares of high beta stocks than of low beta stocks for small firms, but not for large firms. They argue that this is because large firms have lower investment barriers than small firms. Foreign investors, who demand high expected returns associated with high beta stocks to compensate for the costs associated with the high barriers to investment in small firms, may cause the phenomenon.

The home bias literature has documented numbers of relations between portfolio holding decisions and different measures of proximity or familiarity, including geographic, economic, cultural, and industrial proximity. Coval and Moskowitz (1999, 2001), Huberman (2001), Portes and Rey (2000), and Grinblatt and Keloharju (2001) all show that the cultural proximity[8] of the market and assets, as well as the geographic

[8] Grinblatt and Keloharju (2001) show in Finnish market that, investors whose native tongue is Finnish prefer holding and trading Finnish companies that publish their annual reports in Finnish to Finnish firms that publish their reports in Swedish and vice versa. In addition, controlling for the language with which the firm communicates and the distance from the investor, investors in Finland prefer holding and trading firms whose CEO is of similar cultural origin.

proximity[9], and industrial proximity[10], has an important influence on investor stockholdings and trading.

Coval and Moskowitz (2001) show that the weight of a U.S. stock in a U.S. mutual fund, has a negative relationship with the distance between the fund location and the firm's headquarters location. Mutual fund managers earn substantially abnormal returns in nearby investments. They also show that the extent to which a firm is held by nearby investors is positively related to its future expected return. The results suggest that investors trade local securities at an informational advantage.

They also find that mutual fund managers do better with their holdings of stocks of firms located more closely to the location of the mutual fund. Grinblatt and Keloharju (2001) use the rich dataset of Finland and find that in the Finnish market, investors are more likely to trade stocks of firms that have similar language and culture with those of the investors. Kang and Stulz (1997) and Dahlquist and Robertsson (2001) observe that proximity preference is less acute among larger, better-known manufacturing firms,

[9] Grinblatt and Keloharju (2001) show that local investors in Finland prefer holding and trading stocks whose headquarters are closer to their locations than in those stocks whose headquarters are in more distant locations. Coval and Moskowitz (1999) provide evidence that the preference for investing close to home also applies to portfolios of domestic stocks. Specifically, in the U.S. market, U.S. investment managers exhibit a strong preference for locally headquartered firms, particularly small, highly levered firms that produce non-traded goods. The results suggest that asymmetric information between local and nonlocal investors may drive the preference for geographically proximate investments, and the relation between investment proximity and firm size and leverage may shed light on several well-documented asset pricing anomalies.

[10] The similarity in industrial base of the home and target host countries can improve investor – firm familiarity concerns across markets. For instance, investors from resource-based economies may prefer holding and trading stocks of resource oriented firms. Brainard (1997) finds that a large portion of multinational investment occurs between industrialized countries as both the source and destination markets.

consistent with investors being reluctant to hold securities of firms with which they are not familiar.

They observe that foreign investors tend to hold larger positions in firms that produce tradable output. They suggest that trade provides opportunities for increased information flow. For instance, U.S. investors are more likely to invest in Japanese firms with large tradable output, such as Sony, than those with little tradable output, such as Japan Telecom, because they are familiar with consuming their products.

Chan, Covrig and Ng (2005) use a rich source of explanatory variables and find that foreign investors are likely to invest more in large size firms, firms with high stock market turnover. They also find that foreign investors are more concerned about a country's ability to offer investor protection rights. Foreign investors invest more in countries with higher GDP per capita, higher real growth rate of GDP, and higher country credit rating. In addition, foreign investors tend to overweight in countries sharing their language, and which are also closer geographically.

In addition, Degryse and Ongena (2005) find that a new borrower may have to visit the bank two or three times to obtain a loan. Loan rates decrease with the distance between the firm and its lending bank, because of transportation costs. Hauswald and Marquez (2003) find that the uninformed lender charges a higher loan rate to remote borrowers to compensate for the adverse selection problem.

Ko et al. (2007) examine the Japan and Korea markets and find that foreign investors have a clearer preference for stocks with large capitalization and low book-to-market ratios than do institutional investors in both Japanese and Korean stock markets. The stocks that are preferred simultaneously by both institutional and foreign investors

show statistically significant positive abnormal returns in both Korea and Japan, whereas those preferred by either institutional or foreign investors show statistically significant positive abnormal returns only in Korea.

Jeon, Lee and Moffett (2011) examine the relationship between foreign ownership percentage and the decisions on payout policy in the Korean stock market and find that most of foreign investors are institutional, and show a preference for firms that pay high dividends. They agree that institutions are more effective at monitoring management and detecting firm quality than retail investors. Firms may be able to signal their quality by initiating dividends and attracting institutional investors who have the tax advantages over individuals. In particular, only high- quality firms are able to bear the tax-based costs of dividends to attract better informed investors, while low-quality firms cannot, because they do not want their true type to be revealed.

Sercu, Piet and Vanpee (2007) specify several possible theories that purport to explain equity home bias. However, they conclude that none of the theories can explain the full extent of equity home bias. The first theory deals with the hedging of domestic risk. Domestic assets serve as a better hedge for risks that are home-country specific such as inflation risk and domestic risk. Investments in domestic assets are likely to follow the performance of the domestic market in general. However, empirical evidence from Sercu, Piet and Vanpee (2008) and others is weak, indicating that using the need to hedge domestic risk as an explanatory factor cannot explain the puzzle.

The second theory tries to explain equity home bias by focusing on transaction costs and the role of barriers to international investments. Martin and Rey (2004) show that small transaction costs can cause a severe equity home bias. However, Warnock

(2001) concludes that foreign turnover rates are similar to domestic turnover rates. Hence in his setting, transaction costs fail as an explanation for the equity home bias puzzle.

The third theory focuses on information asymmetries. Many studies show that foreign investors are not less informed than domestic counterparts. Brennan and Cao (1997) develop a model of international equity portfolio relying on informational differences between foreign and domestic investors and find that U.S. investors are at an informational disadvantage relative to locals in foreign markets. Dziuda and Mondria (2012) among others argue that individuals watch domestic television, listen to domestic radio, and read domestic newspapers. They have more precise information about domestic assets' payoffs, and hence, investing domestically carries less risk when these individuals invest on their own.

Dahlquist and Robertsson (2001) argue that due to information asymmetries, foreign investors feel less informed about a country and its firms. Because of information disadvantages, foreign investors prefer investing in firms more known to them or in firms with specific attributes. Gehrig (1993) constructs the optimal portfolio when foreign investors know less and shows that this assumption leads to an overweighting of domestic assets.

Both Kang and Stulz (1997) and Dahlquist and Robertsson (2001), note that firms that are more well-known to foreign investors have greater foreign ownership percentage. They believe that large firms are more well-known than small firms. Kang and Stulz (1997) analyze the holding of foreign investors in the Japanese market and find that foreign investor ownership percentage is disproportionately high in firms with good

accounting performance, high market capitalization, low leverage, and low individual risk.

Dahlquist and Robertsson (2001) find that foreign investors show preference for large firms, firms listed on international stock exchanges, and exporting firms. However, foreign investors invest less in firms with a dominant owner. Ko et al. (2007) examine the Japan and Korea markets and find that foreign investors have a stronger preference for stocks with large capitalization and low book-to-market ratios than do institutional investors in both Japanese and Korean stock markets.

Hypothesis 1: The foreign ownership stake in larger firms is higher than that in smaller firms.

Kang and Stulz (1997) show evidence that small firms that have high export rate and firms with higher share turnover have higher foreign ownership percentage stakes. Both Kang and Stulz (1997) and Dahlquist and Robertsson (2001) examine the ownership percentage in several industries. Dahlquist and Robertsson (2001) show that Swedish firms belonging to construction industries are locally well-known but not known internationally, therefore, foreign ownership percentage in those firms is low. However, foreign ownership percentage is overweighed in chemicals and pharmaceuticals which are internationally well-known industries.

Grinblatt and Keloharju (2001) use a Finnish dataset and find that in the Finnish market, investors are more likely to trade stocks of firms that have similar language and culture with those of the investors. Kang and Stulz (1997) and Dahlquist and Robertsson (2001) observe that proximity preference is less acute among larger, better-known

manufacturing firms, consistent with investors being reluctant to hold securities of firms with which they are not familiar.

Sarkissian and Schill (2004) find that the geographic proximity of a foreign market plays a dominant role in selecting overseas listing destinations. Degryse and Ongena (2005) find that loan rates decrease with the distance between the firm and its lending bank, because of transportation costs.

If domestic investors have better information their expected returns should differ from those of foreign investors. Grinblatt and Keloharju (2000), using Finnish stock markets data, and Huang and Shiu (2006) using Taiwanese data show that over their sample periods, foreign investors are better at picking stocks than are domestic investors. In the market of Taiwan, Seasholes (2000) finds that foreign institutional investors perform well before earnings announcements of firms. They buy stocks before positive earnings announcements and sell stocks before negative earnings announcements. These papers explain that foreign institutional investors outperform domestic investors because they are more skilled at acquiring and interpreting information.

Karolyi (2002) shows that in Japan, foreign investors outperformed domestic individuals and institutions, including banks, trust and life insurance companies, during the Asian financial crisis period. Dziuda and Mondria (2012) argue that foreign institution investors can hire domestic and foreign experts to perform analyses about domestic and foreign markets, thus, information-based explanations of the equity home bias puzzle do not take into account this possibility.

Chan, Covrig and Ng (2005) argue that the standards of information disclosure in developing countries are weaker than those of developed countries. There are 4

prestigious international audit firms doing business in Vietnam: Ernst and Young, KPMG, Deloitte, and PricewaterhouseCoopers. Their audit reports are of high quality. Audit fees charged by those 4 audit firms are much higher than audit fees charged by local audit firms. Therefore, only listed companies that have good informational transparency hire those prestigious audit firms.

Hypothesis 2: Foreign ownership percentage is higher in firms audited by a prestigious international audit company.

Hochiminh is the economic center of Vietnam, with the best infrastructure system and the more open-minded ideology of a market economy. The market capitalization minimum requirement is lower for firms listed on the Hanoi exchange. The two exchanges require that the ROE of listed firms be 5 percent or higher. In addition, the Hochiminh exchange requires the listed firms to be profitable for the 2 last years.

Hypothesis 3: Foreign ownership percentage is higher in firms listed on the Hochiminh exchange.

Dahlquist, Pinkowitz and Stulz (2003), show that controlling shareholders who are typically domestic investors hold part of the firm's shares. Hence only a percentage of the shares can be freely traded. Morse and Shive (2011) find that measures of patriotism are significantly related to equity home bias measures. Ke, Ng and Wang (2006) find no supporting evidence for the information-based explanation and tend to conclude that familiarity drives equity home bias.

Sun and Tong (2002) propose that SOEs mix social objective with maximizing profitability and the management is elected due to political connections rather than on managerial skill. The Corruption Perceptions Index 2012 for Vietnam shows a low

transparency rating. Vietnam ranks 123 out of 176 countries, where ranking 1 means the most transparent and lowest level of corruption. Hence foreign investors prefer firms having low government ownership stakes.

Hypothesis 4: Foreign ownership percentage is higher in firms with lower government ownership percentage.

In addition, the data show that 199 out of 703 listed firms have government ownership percentage being at least 50 percent. The average of government ownership stake in the whole market is 25.16 percent. Previous studies show the negative effect of ownership concentration. High percentages of government ownership can also proxy for ownership concentration.

CHAPTER 3: FOREIGN DIRECT INVESTMENT, THE REFORMS OF STATE OWNED ENTERPRISES AND STOCK EXCHANGES IN VIETNAM

3.1. Foreign Direct Investment in Vietnam

The political –social structure of Vietnam is unique with the unusual changing from a market economy to a Soviet Union styled economy (1954 in the North, 1975 in the South), and then currently from the Soviet Union styled economy back to a market economy. After the defeat of France in 1954, Vietnam was temporarily divided into two parts, the North and the South. The south was considered democratic, supported by the United States and the Western developed countries. In the North, the government nationalized and transformed existing private enterprises to establish a Soviet Union style economy in the North of Vietnam. This enabled the government to maintain state control of the economy's "commanding heights". The government immediately installed a central-planning society-economy model, similar to those of Soviet Union and China.

The main purposes of the model are quick industrialization, collectivization of agriculture and strong central control of the economy. In order to achieve these objectives, the Vietnamese leaders claimed that SOEs should play a leading role in the economy. Consequently, the SOE sector was rapidly established through both a comprehensive nationalization program of existing privately-owned enterprises and a creation of new SOEs. Indeed, by the end of 1960, 100 percent of the industrial enterprises, 99.4 percent of the commercial enterprises, and 99 percent of the transportation enterprises, which had been private firms, were nationalized and transformed into SOEs. In addition, during the

first five-year 1961-1965, the government invested, on average, 61.2 percent of total budget expenditures in establishing new SOEs. Consequently, by 1965, North Vietnam had both nationalized firms and newly established SOEs, both were called SOEs.

Under the central planning regime, the SOEs were directly controlled and managed by governmental agencies. The governmental agencies decided all plans and strategies of SOEs: how to produce, what to produce and how to distribute the products. The duties of the SOEs are simply those of receiving inputs, operating the production processes and submitting the finished products to the state. In particular, operating profits, pre-determined in the SOEs plans, were transferred to the government budget, while losses were subsidized by the government budget.

While in the North, the economy is planning centralized, the economy of the South of Vietnam was a market economy. But the data and information of this economy are not available and well documented.

After the unification of the country in 1975, the Vietnamese government repeated the nationalization procedure, implemented in the North after 1954, on private firms in the South. Under this process, almost all of private and public enterprises under the former government in the South were quickly and forcefully transformed into northern-style SOEs.

By the beginning of 1978, the government nationalized about 1,500 private enterprises, with about 130,000 employees or 70 percent of the workforce in this sector. Those firms were consolidated and became 650 new SOEs. The ownership in the society of Vietnam is similar to what Guriev and Megginson (2005) summarize “in the socialist countries, public ownership of the means of production was the essential piece of

ideology; private ownership was limited to personal consumption goods and – in some countries – to small agricultural land plots".

The performance of SOEs exhibited lower levels of efficiency since employees in those firms do not have much incentive to perform well. Employees in the firms received flat salary to complete production plans assigned by the government agencies. The production plans include plans of input, plans of output and distributions. The accounting system was quite simple. Profit was calculated based on the number of products produced during the period, multiplying by the rate of profit planned in each unit of products. Because of that, the management policy of government in those SOEs can be considered failure[11]. The consequences of this failure policy were huge. The average growth rate of GDP was only 1.7 percent compared to 13.0 or 14.0 percent per year as targeted. In addition, with an almost closed economy combined with a bad agricultural harvest the government was not able to supply inputs to the production of SOEs and food to people.

Facing the threat of economic crisis, the government started to reconsider the merits of the model that it was pursuing. Since January 1981, the government began to allow SOEs some limited open rights in production process. By which, besides the plans assigned by government agencies, SOEs could have an extra production plan and decide

[11] Prices of all products were predetermined and controlled by the government. For instance, the total cost of a product was 100 and the planned profit rate was considered 5 percent, then the price of the product was 105. Although products were priced, they were not freely traded in the market. The distribution system of the government, the unique official distribution channel, sold these products to specific governmental employees, workers of SOEs. Farmers were allowed to buy only some essential goods such as clothes, salt, kerosene for lighting, tobacco for wedding or funeral, cookies for New Year events. The government decided the consumption level of each person, and one was not allowed to buy more than the level determined. That initiated a black market in which some people sold their surplus to those who needed it at a very high price.

what and how to produce. This means that after they completed their assigned plans, SOEs were allowed to produce and sell products to a limited market. It is called “limited market” since the distribution system was mainly managed by the government. The government collected products from SOEs and then distributed them to employees of SOEs and employees working in the governmental agencies.

Despite having some achievements with respect to industrial production, reform measures in the 1980-1985 were not able to save the system of central planning. Specifically, the economy was still stagnating with a high state budget deficit and inflation. In an attempt to revive the economy and control inflation, a policy package (price, wage and monetary reform) was launched in September 1985. Consequently, prices were still centrally determined and SOEs were given more subsidies. In 1986, the consumer price index (CPI) was 487 percent. The unexpected macroeconomic impact of the policy package urged the government to take more drastic economic-reform measures in the second half of the 1980s.

During the reforms of the economy, centering on the transformation of SOEs, the capital from abroad has been critical to the development of a transition economy of Vietnam. In 1987, the National Assembly of Vietnam approved the first Foreign Investment Law in Vietnam to initiate the inflow of capital from investors around the world. One year later, the first total foreign direct investment (FDI) registered capital was USD 219 million. By the end of 2012, the accumulated FDI registered capital reached

USD 210,251 million with 14,522 projects, while the GDP of 2012 is USD 155,820 million[12].

According to the General Statistic Office of Vietnam, up to December 2012, the top four countries with largest cumulated FDI registered capital include Japan, 28.7 USD billion, Taiwan, 27.1 USD billion, Singapore, 24.9 USD billion, and South Korea, 24.8 USD billion. The data indicate that the market of Vietnam is more attractive to investors coming from countries close to Vietnam.

[12] According to the General Statistics Office, investment is the entire amount of expenses (spending) to maintain or increase production capacity and resources to improve the material and spiritual living standards of the entire society in a given period, including investment to generate fixed assets, investment to increase current assets, spending on purchasing precious assets, reserving gold in the form of goods, commodities and stocks in residents and other investment to improve people's knowledge, enhance social welfare, improve the ecological environment, support people's welfare, etc.

Inward (inflow) foreign direct investment is total amount of legitimate cash and in-kind that foreigners invest in Vietnam and in approved projects, in the form of foreign currency, machinery, equipment, supplies, materials, fuels, finished goods, semi-finished goods, value of industrial property rights, technical know-how, technical processes and services, intellectual property rights and other legal properties. Appendix F specifies the forms of FDI in Vietnam, accumulated until 12/31/2012.

Some of the capital market inflows are FDI if the foreigners take control of the listed firm, and some are the shareholding of FDI firms. The correlation between the origin of foreign investors in FDI and in the stock market is approximately 0.45.

Registered FDI capital is the value of licensed projects. Implementation FDI capital is the value of licensed projects that are implemented. The accumulated FDI registered capital of each year is the cumulative capital that is registered up to the end of that year. That is the total of the accumulated amount at the beginning of the year and the additional capital registered during the year.

Table 1: Foreign direct investment from 1991 to 2012

Year	GDP growth (%)	CPI (%)	Total GDP (USD Billion)	Foreign Direct Investment (FDI)				
				Number of Projects	Registered Capital (USD Billion)	Implementation Capital (USD Billion)	Percentage of Registered by GDP	Percentage of Implementation by GDP
1991	6.10	68.00	9.61	152	1.28	0.43	13.36	4.46
1992	8.60	18.00	9.87	196	2.08	0.57	21.06	5.83
1993	8.10	5.00	13.18	274	2.83	1.12	21.47	8.48
1994	8.80	14.40	16.29	372	4.26	2.24	26.17	13.76
1995	9.50	12.70	20.74	415	7.93	2.79	38.22	13.46
1996	9.30	4.50	24.66	372	9.64	2.94	39.08	11.92
1997	8.20	3.60	26.84	349	5.96	3.28	22.19	12.21
1998	5.80	9.20	27.21	285	4.87	2.37	17.91	8.72
1999	4.80	4.12	28.68	327	2.28	2.53	7.96	8.81
2000	6.80	-0.60	33.64	391	2.76	2.40	8.21	7.13
2001	6.90	0.80	35.29	555	3.27	2.23	9.25	6.31
2002	7.10	4.00	37.95	808	2.99	2.88	7.89	7.60
2003	7.30	3.18	42.72	791	3.17	2.72	7.43	6.38
2004	7.79	7.71	49.42	811	4.53	2.71	9.17	5.48

Table 1: (continued)

2005	8.44	8.29	57.63	970	6.84	3.30	11.87	5.73
2006	8.23	7.48	66.37	987	12.00	4.10	18.09	6.18
2007	8.46	8.30	77.41	1,544	21.35	8.03	27.58	10.38
2008	6.31	22.97	99.13	1,171	71.73	11.50	72.36	11.60
2009	5.32	6.88	106.01	1,208	23.11	10.00	21.80	9.43
2010	6.78	9.19	115.93	1,237	19.89	11.00	17.15	9.49
2011	5.89	18.58	135.54	1,191	15.62	11.00	11.52	8.12
2012	5.20	9.09	155.82	1,287	16.35	10.05	10.49	6.45

The FDI ratios on GDP are relatively high in 2 periods 1994-1997 and 2007-2010. Particularly, the FDI registered capital is equal 72.36 percent of GDP for 2008, one year after the WTO membership of Vietnam. This may be the consequence of a series of international affairs related to Vietnam. In 1994, the United States officially abolished the embargo against Vietnam, put in effect in 1964 for the North and 1975 for Vietnam as a whole. In 1995, the formal normalization of diplomatic relations between Vietnam and the United States was set, after 20 years without formal diplomatic contacts. In 2007, Vietnam became an official WTO official member.

Figure 1 presents the registered FDI, percentage of registered FDI over GDP and GDP growth each year from 1991 to 2012. The left scale in figure 1 is the value, in USD million. The bars depict the value of registered FDI. The right scale indicates the percentage. The fluctuation lines in the figure show the two measures: the percentage of registered FDI over total GDP, the percentage of implementation FDI over GDP, and the GDP growth of each year. The GDP growth is pretty high for 2 periods, 1992-1997, and 2002-2007. The Asian financial crisis during 1998-1999 negatively affected the GDP growth and registered FDI.

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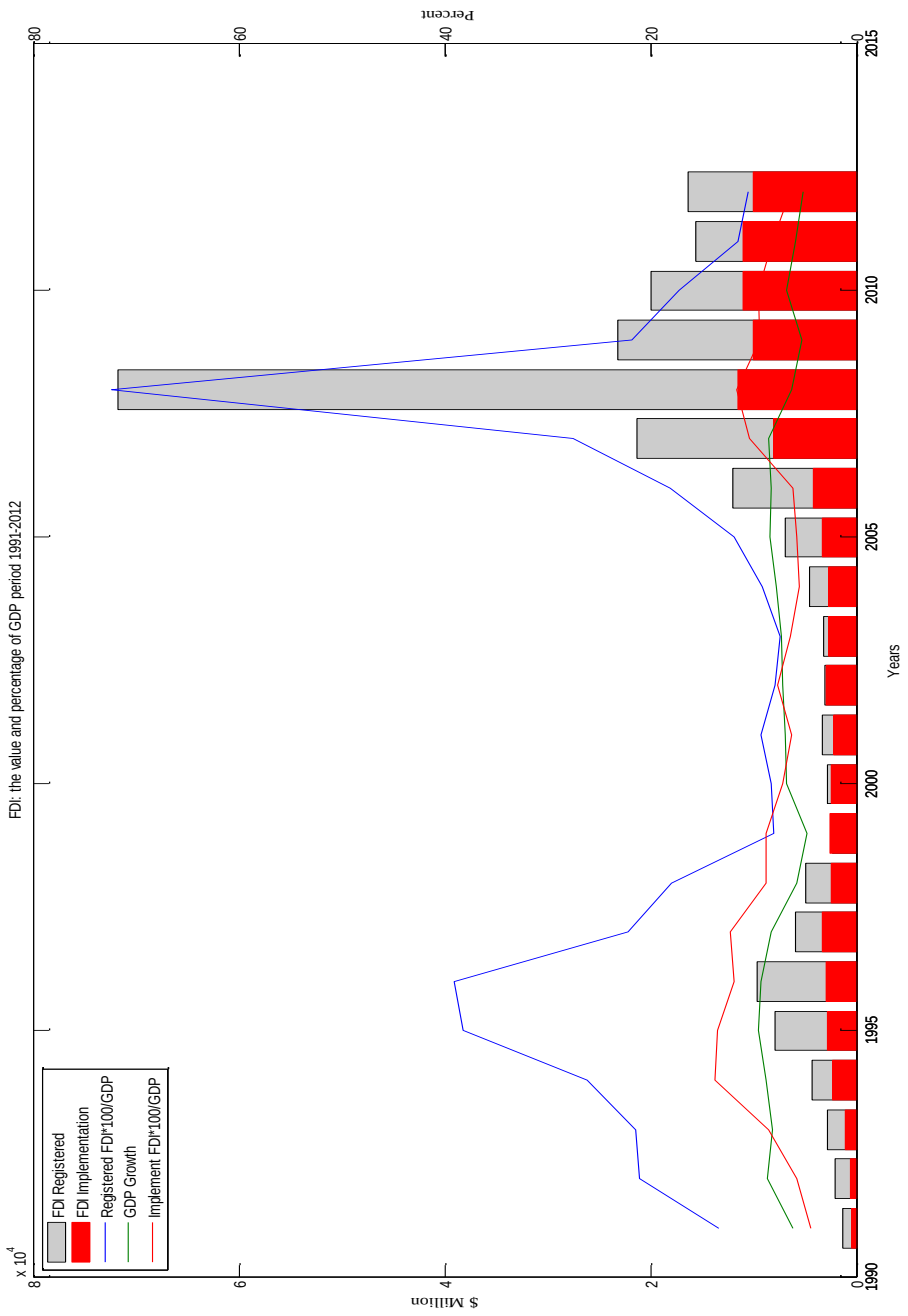

Figure 1: Foreign direct investment, the value and percentage by GDP from 1991 to 2012

Cheng and Kwan (2000) investigate the determinants of the location of foreign direct investment in China during the period 1985-1995. They find that throughout 29 Chinese regions, regions with markets, good infrastructure, and preferential policy had a positive effect but wage cost had a negative effect on FDI. Education had a positive, but insignificant effect on FDI. In addition, FDI per capita had a strong self-reinforcing effect of its past value on its current value.

Vietnam comprises of 63 provinces (and cities that are equivalent to provinces) which are divided into 6 regions. Each region includes provinces (cities) that share similar social-economic attributes. For instance, region 1 includes Hanoi, the capital, and its surrounding provinces. The primary characteristic of this region is that the region is the Hong Delta River area. Over thousands of years, people have shared lunar/agricultural culture. The southeast region (region 5) includes Hochiminh city and surrounding provinces. Region 5 is considered more industrialized than region 1. Appendix E provides the descriptions of the 6 regions in Vietnam in more detail.

Figure 2 provides the FDI per capita of the 6 regions for a period from 2007 to 2012. In addition to the 6 regions, I also divide the total sample into 2 large regions, the north region and the south region. The classification of the north and the south is consistent with the later section where I analyze the location effect on foreign ownership in the stock exchanges of Vietnam. The north region is the area from Danang northwards, and the Hochiminh area is the area from Danang southward. The data shows that the FDI per capita is higher for provinces of the southeast region (region 5) and lowest for provinces of region 2.

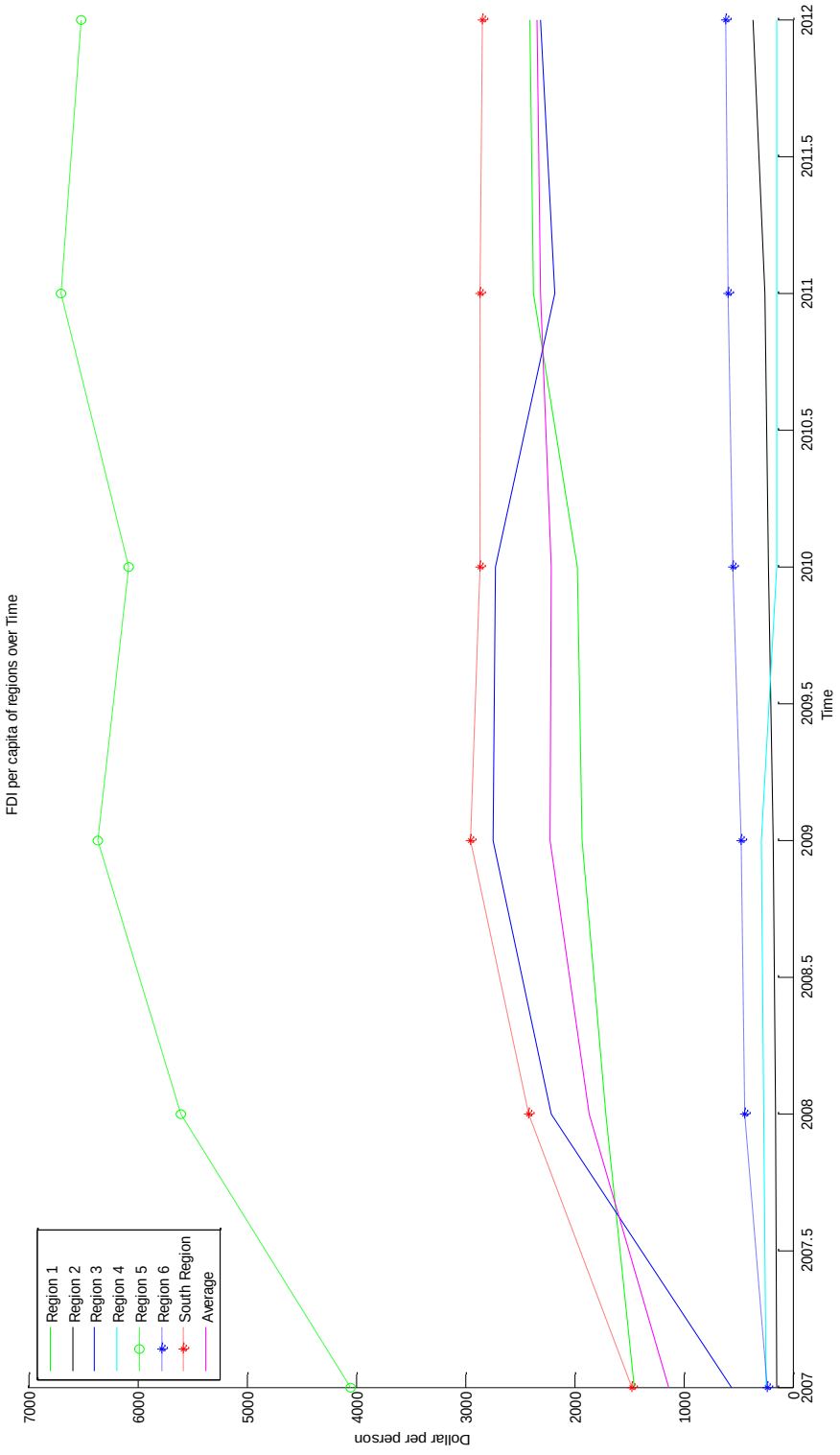

Figure 2: Foreign direct investment by regions from 2007 to 2012

Figure 2 shows that FDI is more concentrated in the south area, particularly, in Hochiminh city and the around southeast provinces. This region, considered the most active area, has highest per capita income and attracts the highest per capita FDI. Region 2 and region 4 are mountainous areas, and have the lowest FDI per capita level. The data in table 24 shows that among the top 5 provinces or cities in attracting foreign direct investment, four provinces or cities are in the southeast area.

Interestingly, Hanoi, the capital of Vietnam, and its surrounding active provinces only have the FDI level close to the average FDI level of the country. Although per capita income and transportation of region 1 are more improved than those of region 3, the per capita FDI of region 3 is a little higher than that of region 1. This finding is consistent with the finding in the next section, implying that foreign ownership in the listed companies in Vietnam is higher for firms located in the south region, and for firms listed on the Hochiminh stock exchange, in the south than for firms located in the north region, and firms listed on the Hanoi stock exchange, in the north of Vietnam.

In a deeper analysis of the determinants of the FDI per capita location in Vietnam, I regress the FDI per capita (dependent variable) on several explanatory variables, using a panel data for a period of 2007-2012. The dependent variable is the year end accumulated registered FDI of each province divided by the year end population of that province. The definitions of independent variables are included in Appendix A. The description of PCI, provincial competitiveness index, methodology is included in Appendix B.

The regression results are summarized in Appendix I. In all of the four models, the TotalStudent is strongly significant. The results imply that the total number of

primary, secondary, and high school students in each province has a pronounced effect on FDI per capita. An increase in a student for every one thousand people will increase investment from USD 3.69 to USD 4.65 FDI per capita. It can be interpreted that foreign investors prefer investing in locations with higher educated population, a potentially good labor source. In addition, since the infrastructure and transportation in Vietnam are less developed than those in developed countries, it may be costly and difficult to recruit workers from distant regions in Vietnam. By recruiting labor in the surroundings, FDI firms can save expenditures.

The coefficient of the last year FDI per capita is also consistently significant. The results also support Cheng and Kwan (2000) finding a strong self-reinforcing effect of its past value on its current value.

I expect that foreign investors prefer to invest in provinces or cities with higher provincial competitiveness indices to save entry costs, enjoy high transparency and access to information, reduce time on understanding and complying with regulations of the local authorities. In addition, higher PCI also implies lower informal charges that are under the table expenses, higher proactivity of provincial leaders, higher business support from provincial authorities such as provincial services for private sector, provision of regulatory information to firms, business partner matchmaking. However, the coefficient of PCI is insignificant and negative, indicating that provinces with higher PCI have lower per capita FDI.

Some possible explanations for a negative relationship between per capita FDI and PCI as follows. First, under the table expense may be considered efficient in a corruption environment. In a society with lower transparency, some extra expense may

help a firm acquire information or assets that are not available to other firms. The firm can exploit the acquired assets or information for its profit maximization purpose and the benefits may be much higher than expenses. Second, in a unique political party country, a close relationship with local authorities is a crucial key to the success of a firm.

The coefficients of Bed and Doctor are also insignificant and negative. The negative coefficients suggest that as the number of hospital beds and medical doctor per capita increase, the FDI per capita declines. However, I expect that foreigners invest more in provinces and cities with better medical and treatment conditions.

3.2. Privatization of State Owned Enterprises

The Sixth National Party Congress of December 1986 marked an important shift in the economic reforms. Specifically, the central planning mechanism was officially abandoned and replaced by a targeted market economy. This policy is often referred to as economic reform called renovation (doi moi in Vietnamese). The first and most important component in the framework of doi moi was Decision 217/HDBT, issued in November 1987. Under this Decision, the elements of the old planning mechanism on the SOEs are removed. Particularly, the SOEs had rights to determine both inputs and outputs of the production. Prices of products were now determined on the basis of supply and demand conditions in the market, but not by the government agencies as before.

Guriev and William Megginson (2005) summarize that privatization has spread to many industries, including those that had never been privately owned, and has transformed command economies in post-communist countries into decentralized ones. More importantly, privatization has revolutionized global financial markets. In Vietnam,

the government launched a privatization, preferably called ‘’equitization’’ program in mid-1992. This effort in restructuring the SOEs achieved an impressive result in reducing the number of SOEs. The number of SOEs decreased from 12,297 in 1991 to 6,264 by April 1994.

The SOEs were further restructured following the issuance of Decision 90 and 91 in 1994 on the establishment of General Corporations, namely General Corporation 90 and General Corporation 91. Specifically, Decision 90 called for the establishment of state corporations with at least five voluntary SOE members and minimum legal capital of VND 100 billion while Decision 91 called for formation of much larger corporations with at least seven SOE members appointed by the state and minimum legal capital of VND 1,000 billion.

Implementing these Decisions, the government consolidated several existing SOEs and established new SOEs to form 90/91 General Corporations. Therefore, each 90/91 General Corporation comprises an average of 20 to 30 subsidiaries which are independent one from each other in business. With respect to management, the General Corporation 90 belongs to corresponding ministries or provincial governments while the General Corporation 91 is directly under the control of the Prime Minister. For example, in 1995, the ministry of construction of Vietnam managed about 15 construction corporations which are General Corporations 90, the Prime Minister monitored about 50 General Corporations 91.

The SOEs have been significantly reorganized after the enactment of the Law on SOEs in 1995. According to the Law, SOEs are classified into two groups, profit-seeking SOEs and non-profit SOEs. Moreover, the roles of ministries and provincial governments

in controlling the SOEs (controlling agencies) are clearly defined in this Law. In specific, the controlling agencies have the authority to restructure or dissolve SOEs as well as appoint senior positions in the SOEs (the Chairman and other members of the board of directors, the manager and chief accountants).

Furthermore, the responsibilities of the Ministry of Finance (MOF) in managing the capital of government in the SOEs, the relationship between MOF and other controlling agencies of the SOEs are determined in the Law. Importantly, the SOEs are allowed to decide what, how and for whom to produce. The SOEs are almost independent in using their capital and assets including those received from the government. In SOEs, only important investment requires the approval of the governmental authority. Finally, SOEs have rights of using their profits.

It is a wide spread belief in Vietnam that, the SOE reform measures in this period, combined with the success of macroeconomic reform and investment from abroad, has led Vietnam to achieve a high rate of economic growth, especially in the period of 1992 -1997. The abolishment of the embargo against Vietnam in 1994, the formalization with the United States in 1995 boosted the foreign investment in Vietnam with the ratio of FDI on GDP being higher than 10 percent. During this period, the yearly GDP growth rate is at least 8.1 percent and up to 9.5 percent.

However, the SOEs entered a difficult phase since the end of 1997 due to the financial crisis in Asia. Indeed, they faced serious problems in selling their products in both the domestic market and the international market because of the currency devaluations of neighbor countries. Consequently, the SOEs' performance generally deteriorated, and many of them incurred losses. In fact, by the end of 1997, around 60

percent of the total SOEs reported negative profits. Poor performance of the SOEs partly resulted in a decrease in economic growth for the period of 1998-1999. To improve the poor performance of the SOEs and avoid subsidies from the state budget to SOEs, the government has been continuously conducting SOEs reform since 1998, focusing on SOEs privatization. This is consistent with Guriev and William Megginson (2005) arguing that the fiscal issues provide government with incentives to undertake the privatization–to raise cash and to eliminate public subsidies to SOEs.

The government stipulates several steps of SOEs privatization. First, the government agency managing the SOE (ministers, provincial people's committees and state corporations) forms the steering committee for privatization. Then, the committee is responsible for selecting a list of SOEs that fulfill the requirements for privatization and submit the Prime Minister for approval. The government consecutively selects SOEs for privatization based on the role of these SOEs. For example, the least important SOEs such as construction SOEs usually rank higher priority for privatization while the most important SOEs including electric SOEs will be privatized later. In the second step, the company's privatization board, after established, is responsible for preparing the company's financial statements for the last three years, a report on the company's personnel, and other required reports.

Those reports will be transferred to the company trade union. In the next step, the general manager of the selected SOE has to settle debts, clarify the status of unsold materials, and liquidate assets identified for liquidation, open an account at a State Treasury agent to deposit proceeds from sales of the privatized enterprise's shares, and establish a register for listing prospective shareholders. In the fourth step, the company

privatization board must prepare a three-year business plan for the post-privatization period and establish a council to re-evaluate company valuation based on regulations and guidance of the Ministry of Finance.

Practically, this duty is the most complex and time-consuming in the privatization process. In the following step, the company's privatization board must publicly announce its pre-privatization financial status and plan to sell its shares. During this process, the government and existing employees rank the first and the second priority to buy the firm's shares, respectively. This means, the company's privatization board first considers the ownership of the government in the post-privatized firm. Second, this board determines the firms 'shares available to the existing employees. Then, the rest of the firm's ownership will be sold to other investors.

The main approach of privatization is the share issue privatization. Based on the privatization plan, the board organizes the sales, deposits proceeds to the account at the State Treasury, and then reports the controlling governmental agency. Furthermore, the board proposes a list of candidates for the board of directors and supervisors. Then the company privatization board organizes the first shareholder meeting in order to elect the board of directors, the board of supervisors and adopt the chapter of the privatized company. In the first meeting, the control rights of the newly privatized are completely set to the new owners.

In a summary, during the privatization of SOEs, the company's privatization board, appointed by the government agency, plays a critical role. This is consistent with Sun and Tong (2003) finding that the government of China has played a critical role during the SOEs reform in China. Up to the end of 2004, a total of 2,242 SOEs, with a

total capital of about VND 17,700 billion, have completed the privatization process. The number of SOEs in 2010 is 3,283 including around 1,200 SOEs with 100 percent government ownership. The government plans to reduce the number of SOEs every year to target 650 SOEs in 2015 and then around 200 SOEs in 2020 through the privatization process. The contribution of SOEs to the GDP of Vietnam during period 2006-2010 is around 28 percent. SOEs do not seem to have to compete with other firms, because they receive government support and existing guarantees.

Table 2: The decrease in the number of SOEs from 2000 to 2012

Year	Total number of firms	Total number of SOEs	100% foreign Capital Firms	Joint Ventures	Percentage of SOEs over Total number of Firms
2000	42,288	5,759	854	671	13.62
2001	51,680	5,355	1,294	717	10.36
2002	62,908	5,363	1,561	747	8.53
2003	72,012	4,845	1,869	772	6.73
2004	91,756	4,597	2,335	821	5.01
2005	112,950	4,086	2,852	845	3.62
2006	131,318	3,706	3,342	878	2.82
2007	155,771	3,494	4,018	943	2.24
2008	205,689	3,328	4,612	1,014	1.62
2009	248,842	3,364	5,412	1,134	1.35
2010	291,299	3,283	5,995	1,259	1.13
2011	324,691	3,265	7,516	1,494	1.01
2012	341,603	3,239	7,523	1,453	0.95

The table indicates that while the number of SOEs has declined, the number of 100 percent foreign capital firms and joint ventures has increased over the time. The total

number of firms increases by 800 percent from 2000 to 2012. The data also shows that the increase in the number of joint ventures still remains low.

3.3. The Stock Exchanges in Vietnam

The stock market in Vietnam initiated in Hochiminh city (in the South of Vietnam), the largest economic center of Vietnam, on 28th July 2000 with only 5 listed stocks corresponding to 5 initial listed companies. In 2005, Hanoi stock market (in the North) officially traded with 7 listed stocks. By the end of 2012, the number of listed firms in both exchanges is 703.

Each stock exchange has a market index, the Hochiminh stock exchange index is called the VN-INDEX, and the Hanoi stock exchange index is the HaSTC Index. The index of each exchange is the value-weighted stock price index of all common stocks traded on that exchange.

Figure 3 reveals that the percentage of the total market capitalization relative to GDP is almost 45 percent in 2007, and 29 percent in 2012. Although the number of listed firms significantly increases from 236 firms in 2007 to 703 firms in 2012, the ratio of the total market capitalization to GDP declines sharply.

The major reason for the drop of this percentage is the decline in the stock exchanges in Vietnam since 2008. The VN Index decreases from 927 in 2007 to 316 in 2008, and then 414 in 2012. In 2007, out of 236 listed firms, 225 firms had foreign ownership. In 2012, out of 703 listed firms, 661 firms have foreign ownership.

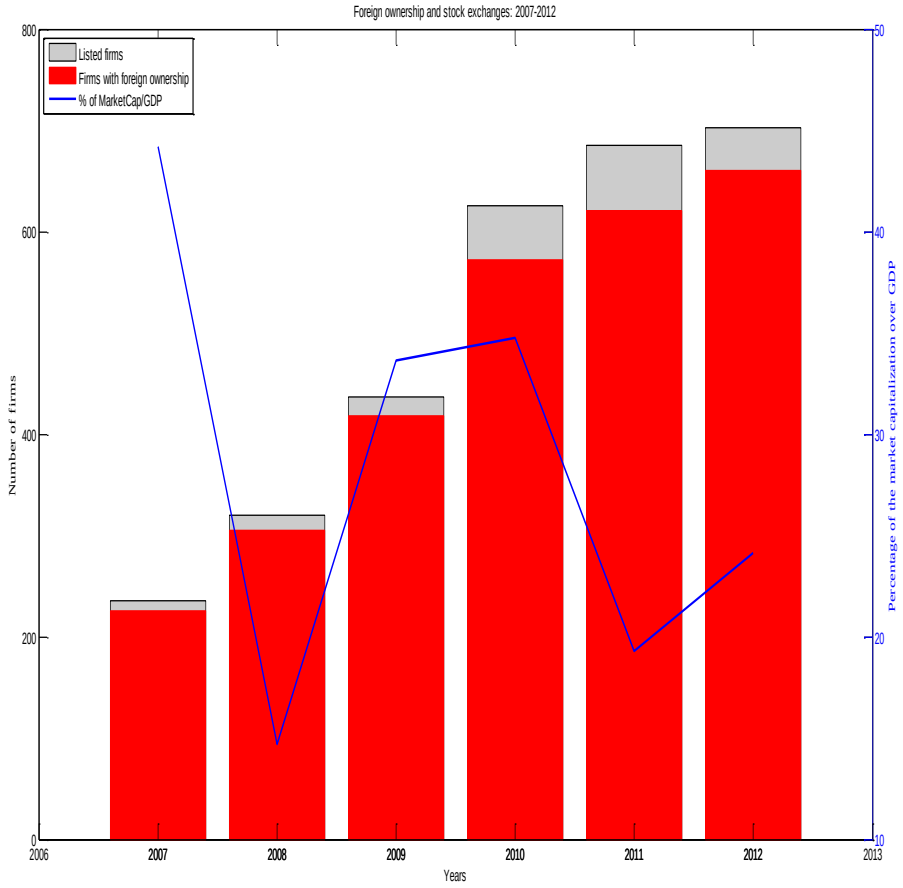

Figure 3: Foreign ownership percentage, number of listed stocks and market capitalization as a percentage of GDP from 2007 to 2012

CHAPTER 4: DATA AND EMPIRICAL MODEL

4.1. Data Descriptions

This dissertation uses a time series dataset including all listed firms in the stock markets in Vietnam in a period of 2007-2012. The number of listed firms a year includes all firms that are listed by the end of that year. However, for calculation of some variables, such as returns, beta, and volatility, I include only listed firms having 52 weeks of transactions for the year.

The data are collected from different sources. Daily stock prices prior February 2007, foreign ownership, and government ownership in each firm at year end are from the stock exchanges of Vietnam and the FPT Securities company, an entity doing business under the control of Vietnam FPT group and the stock exchanges of Vietnam. Macro factors such as GDP and other information in Table 1 come from the General Statistic Office of Vietnam and DataStream. Tax laws and regulation is provided by the website of the Government and the Ministry of Finance of Vietnam. The other information including daily stock prices after February 2007, year firms' measures of dividend yield, market capitalization, etc. are from DataStream.

There are two stock exchanges in Vietnam, located in the 2 largest cities of Vietnam, Hanoi stock exchange located in Hanoi, and Hochiminh stock exchange located in Hochiminh. The Hochiminh stock exchange was launched in August 2000, while the Hanoi stock exchange was launched in July 2005. By the year end of 2007 there were

105 firms listed on the Hanoi stock exchange and 131 firms listed on the Hochiminh stock exchange. However, by the year end of 2012, the number of firms listed on the former was 395, higher the number of firms listed on the latter, 308 firms. Each market has its own market index called VNINDEX and HSTC indices for Hochiminh and Hanoi, respectively. The 2 stock exchanges are under the control of the State Securities Commission of Vietnam. Each exchange has several securities companies called members, doing business to provide information to investors, help stock exchanges and listed firms in listing procedures.

The stock prices to compute returns and estimate firms' β are unadjusted prices. The returns calculated are daily return. If the firm is listed before 1/1/2007, I use only firm's price index from 1/1/2007, for firms listed after 1/1/2007, I use firm's price index from the first day transaction. Firm β is estimated by the market model, using firm's daily return and market's daily return. Firm β is the slope of relationship between the firm's stock price index and the market's price index where the firm is listed. If the firm changed the market it lists, I use the index of the market that the firm is currently listed at the year end of 2012.

The data of government ownership is collected from financial statements of every single firm at the end of every year. The financial statements were audited by audit firms and submitted to the State Securities Commission of Vietnam (SSC), as well as the exchange where the firm is listed. There are 4 prominent audit firms carrying out audit services including PricewaterhouseCoopers, KPMG, Deloitte, and Ernst and Young.

The data of foreign ownership percentage is available to investors, posted by the FPT Securities Company, a member of Hanoi stock exchange. The foreign ownership

percentage has been updated almost daily, the calculation is implemented after each transaction.

The dataset includes all listed firms, and firms with foreign ownership. The ownership of foreign investor is at year end from 2007 to 2012. The laws and regulations of Vietnam have imposed the limits of foreign ownership, by which, the limit of holding for foreign investors is 49 percent of outstanding stocks in non-banking listed firms, and 30 percent of outstanding stocks in commercial banks. The exchange rate between USD and Vietnamese Dong (currency of Vietnam) increases from 16.100 in 2007 to 20.800 in 2012.

The market value of stocks in listed firms increases from VND 505,640 billion in 2007 to VND 783,224 billion in 2012. However, the total number of outstanding stocks increases from 92,264 million to 290,757 million; the market value increases less than the total number of outstanding stocks because of the stock market price decline from 2008 until the end of 2012. The market index declines from 927 in 2007 to 414 in 2012[13].

In January 2007, Vietnam became an official member of the World Trade Organization (WTO), causing the number of listed firms and foreign investment to increase. By the end of 2006, there were totally 176 firms listed, by the end of 2012, there were 712 listed firms. The number of firms with foreign ownership is 226 in year end of 2007 and 703 in year end of 2012. In this dissertation, I exclude all firms delisted by year end of 2012.

[13] There has been a rapid increase in the number of listed firms from 2007 to 2012. However, due to the world financial crisis in 2008, the stock market of Vietnam was negatively affected. The plummet in prices of several stocks has caused the market index to fall from 927 in 2007 to 316 in 2008.

Table 3: Summary of foreign ownership percentage, the number of firm and the two stock exchanges from 2007 to 2012

Year	2007	2008	2009	2010	2011	2012
Number of firms listed	236	320	437	626	685	703
Hanoi exchange	105	160	251	360	388	395
Hochiminh exchange	131	160	186	266	297	308
Firms listed having FO	225	305	418	572	620	661
Hanoi exchange	96	147	235	309	336	359
Hochiminh exchange	129	158	183	263	284	302
Equally weighted average FO percentage	11.67	9.74	7.57	6.85	6.61	7.55
Hanoi exchange	4.03	3.52	3.40	3.50	3.67	4.67
Hochiminh exchange	17.88	15.83	13.11	11.35	10.56	11.22
Value weighted average FO percentage	22.08	21.98	19.52	18.48	19.54	20.06
Hanoi exchange	15.65	17.11	12.31	10.57	14.54	14.19
Hochiminh exchange	24.58	23.70	21.39	20.25	20.54	20.79
Median FO[14] percentage	4.25	3.42	2.08	1.40	1.41	1.96
Hanoi exchange	1.00	0.87	0.80	0.69	0.69	1.05

[14] FO: Foreign ownership

Table 3: (continued)

Hochiminh exchange	12.59	10.43	7.75	4.80	4.05	4.41
Max (both exchanges)	49	49	49	49	49	49
Min (both exchanges)	0	0	0	0	0	0
Total Market Capitalization (VND trillion)	505.63	218.39	608.84	749.65	536.95	783.22
Hanoi exchange	141.10	58.58	125.33	137.28	82.98	87.16
Hochiminh exchange	364.53	159.81	483.51	612.37	453.97	696.06
GDP (VND trillion)	1,143.70	1,485.00	1,658.40	1,980.90	2,535.00	2,720.00
Percentage of GDP	44.21	14.71	36.71	37.84	21.18	28.79
VN Index (Market Index)	927	316	495	485	352	414
Exchange rate (VND/USD)	16,114	16,997	17,941	18,932	21,033	20,820

This table summarizes foreign ownership percentage average in each stock exchange and the total market as a whole. Foreign ownership percentage is the total shares held by foreigners divided by the total outstanding shares at year end of each firm. The equally-weighted average is calculated by taking the percentage of shares owned by foreigners for each firm and then averaging this percentage across firms. The value-weighted average is the total share value owned by foreigners in all firms dividend by the market value of the total market.

The equal mean is calculated as the average of simple foreign ownership percentage of all listed firms. The largest value is for 2007, with an equally foreign ownership of 11.67 percent, and the smallest corresponding is 6.61 percent for 2011. The value weighted percentage of foreign ownership is calculated using the market capitalization as the weight. Table 2 shows that the value weighted percentage of foreign ownership is much larger than the equally weighted percentage of foreign ownership, implying that foreign investors prefer investing in large size firms. The ratio of market capitalization of both stock exchanges on the GDP is highest for 2007, at 44 percent and lowest for 2008, at 14.7 percent, and the market index is also lowest in 2008 with almost two-third decline from 2007.

Table 4 summarizes foreign ownership percentage by the countries of origin of the foreign investors. Japan ranks number one holding 22.48 percent total market capitalization of the sample. The table presents the original country of foreign investors. The total market capitalization held by all foreign investors at year end 2012 is VND 157,091 billion. However, the market capitalization available to determine investor origin is VND 82,676 billion, about 52.63 percent.

Table 4: Summary of foreign ownership percentage by countries

Country	Percentage
Japan	22.475
USA	13.669
Singapore and Malaysia	12.269
United Kingdom	9.443
Hong Kong	8.170
Germany	7.411
Cayman Islands	6.958
Denmark	6.559
France	3.450
British Virgin Islands	2.588
Australia	2.458
Switzerland	1.916
South Korea	0.845
Thailand	0.809
Chile	0.287
Taiwan	0.262
Finland	0.139
Mauritius	0.112
China	0.065
Ireland	0.049
Sweden	0.031
Canada	0.022
Netherlands	0.014
Total	100

Table 4 indicates that Asian countries including Japan, Singapore and Malaysia disproportionately hold more shares in the market of Vietnam. Japan ranks number 1, Singapore ranks number 3 in both table 4 and Appendix B implying the proximity preference of investors for both FDI and investment in the stock markets of Vietnam. Both countries are geographically close to Vietnam.

Table 5: Foreign ownership percentage by industries

Industry	Equally weighted foreign ownership percentage	Value weighted foreign ownership percentage
Pharmaceuticals and Biotechnology	17.56	38.12
Food Producers	11.69	36.94
Fixed Line Telecommunications	25.27	36.47
Travel and Leisure	13.31	28.49
Industrial Engineering	5.14	28.13
Household Goods and Home Construction	12.88	26.10
Electricity	10.08	25.93
General Industrials	6.87	25.57
Health Care Equipment and Services	15.71	24.57
Nonlife Insurance	19.82	22.69
Oil and Gas Producers	16.05	21.91
Technology Hardware and Equipment	12.67	21.44
Financial Services (Sector)	7.59	20.48
General Retailers	9.23	19.81
Personal Goods	10.72	17.84
Chemicals	10.93	17.83
Banks	16.61	17.31

Table 5: (continued)

Industrial Transportation	7.28	15.98
Electronic and Electrical Equipment	7.61	14.81
Construction and Materials	4.87	13.46
Real Estate Investment and Services	8.90	12.95
Software and Computer Services	7.01	9.63
Industrial Metals and Mining	7.75	8.74
Gas, Water and Multi-utilities	13.58	8.68
Mining	6.04	7.73
Support Services	5.24	7.68
Unclassified	4.10	7.67
Beverages	3.70	4.07
Oil Equipment and Services	4.81	2.15
Media	2.44	2.14
Average	7.81	20.02

Table 5 presents foreign ownership average in each industry. The equally-weighted average is calculated by taking the percentage of shares owned by foreigners for each firm and then averaging this percentage across firms. The value-weighted average is the total share value owned by foreigners in all firms dividend by the market value of the total market.

In Vietnam, the measure of industries of each firm is different between several agencies. At this time, there is no concrete standard about industry of a firm. I use the industry classification of the DataStream for my analysis. Table 5 shows the evidence that foreign investors hold more stocks in pharmaceuticals and biotechnology with the foreign ownership of 38.12 percent calculated using weighted value where the weight is the firm's market capitalization. The weighted average foreign ownership may be considered high since the limit foreign ownership imposed by the government is 49 percent.

The corresponding value is 17.56 percent computed using a simple average. In Vietnam, most of medicine is imported, the local pharmaceuticals and biotechnology is quite primitive. The next industries are food producers, fixed line telecommunication and travel and leisure. Banking industry average ownership is 17.31 percent of market capitalization weighted value, and 16.61 percent simple weighted value, while the limit ownership for foreign investors is 30 percent for this industry.

Dahlquist and Robertsson (2001) find evidence of low foreign ownership in construction firms of Sweden. They argue that this industry appears typically local, as a sequence, foreign investors are not familiar with this industry. The evidence in Vietnam is consistent with the evidence in Sweden, and the foreign ownership percentage is low in construction firms. Real estate is also an industry that does not appear attractive to foreign investors.

In 1993, it was the first time Vietnam has the Law of Land. The 1980 Constitution specified that people can own houses, but cannot own land, rather, land is owned by the government which is all people's representative. This regulation is still in effect and

seems to prevent foreign investors from long run investing. Currently, citizens are allowed to own their houses, but not allowed to own the land on which the houses are located. The public ownership of land everywhere is mandated by the constitution, which makes it ambiguous to determine the owner of a piece of land.[15] Beverages and media are less attractive to foreign investors, but are more local, because those products are mostly consumed by domestic markets, but not exported.

4.2. Empirical Model

Studies including Kang and Stulz (1997) and Dahlquist and Robertsson (2001) investigate several firm characteristics to examine the determinants of foreign ownership in several developed markets. I use some novel firm characteristic variables in a multivariate linear regression analysis to explore the relationship between foreign ownership percentage and firm characteristics. The estimated equation is a standard linear regression model as follows.

$$y_{i,t} = \alpha + \beta X_{i,t} + \varepsilon_{i,t}$$

where $y_{i,t}$ is the foreign ownership percentage in firm i at year-end t, $X_{i,t}$ is a vector that represents the firm i's characteristic variables i at year t ; and $\varepsilon_{i,t}$ is the error term.

The explanatory variables are also summarized in Appendix A, including:

Size: This variable is the market capitalization of the firm at each year-end. Current studies find evidence that the foreign ownership and the firm size have a positive

[15] Citizens have all rights to their lands but the ownership. For example, they can use their land for living, leasing, etc., or sell the land. In official documents, when a person sells his land, it is written as "sell the right to use the land", but cannot state "sell the land". Due to the ambiguous regulation about the ownership, whenever the government would like to take over the land currently used by a household, the compensation imposed by the government is usually lower than the market value of the land taken over. The household cannot appeal since the public, but not the household, is the owner of that land.

relationship. In the regression, I use the log of the market capitalization of the firm at each year end.

DividendYield: The value of all dividends paid during the year divided by the market value of the firm at year-end.

Systematic risk is the beta coefficient for the market model, estimated using daily returns. The market index where the firm listed is used to calculate the coefficient beta. During the year, if the firm shifts from one market to another one, I will use the index of the market where the firm is listed at the year end.

MarketToBook: The ratio is defined as the market price of a share divided by its book value at year-end.

CurrentRatio: I use this as a proxy for short-term financial distress. It is calculated as current assets divided by current liabilities at year-end, and measures the ability of the firm to meet its short-term payment requirements. In the sample the mean of CurrentRatio is 235 percent.

Leverage: This is a measure of long-term financial distress. It is defined as the ratio of total debt to total common equity at year-end. The mean of Leverage in the sample is 104 percent. The cost of capital in Vietnam is generally considered high. Thus, foreign investors would invest less in firms with high leverage ratios.

Log(IPOAge) is the logarithm of the number of year since the firm's IPO. In Vietnam where information asymmetry is high, information about a firm is much more available after the firm is listed. Therefore, the time horizon from the IPO of a firm is important to foreign investors. I expect the longer the firm has been listed, the more well-known it will be to foreign investors.

TurnOverRate: This rate is a measure of the market liquidity of the firm's shares. It is defined as the total shares traded over a year divided by the total shares of the firm at year end.

GovernmentOwn: This variable measures the effect of ownership of the government on the investment of foreign investors. It is defined as the proportion of shares held by the government at each firm at year end.

DummyListedHN: equal to 1 if the firm is listed on the Hanoi stock exchange, equal to zero if the firm is listed on the Hochiminh stock exchange. In Vietnam, at the same time, a firm is only listed on an exchange. The listing requirement of the two exchanges is almost the same. The major difference between the two exchanges is the regulation about firm size.

DummyForeignAudit: equal to 1 if the firm is audited by one of four big international audit firms operating in Vietnam including KPMG, Ernst and Young, Deloitte, and PricewaterhouseCoopers.

Return: The return of each stock is calculated using stock daily unadjusted price.

Volatility: this is the standard deviation of daily stock price, reflecting the individual risk of each stock.

Table 6 presents the correlations among variables. The sample shows the negative relationship between foreign ownership percentage and TurnOverRate, government ownership percentage, beta, volatility, dividend yield, Leverage and DummyListedHN. On the other hand, foreign ownership is positively associated with firm size, firm age, and the DummyForeignAudit. The simple correlations are consistent with all my hypotheses.

Table 6 also shows that TurnOverRate has a negative correlation with firm size, volatility and government ownership, implying that smaller firms, firms with lower government ownership, and firms that are more volatile trade more often. However, firms that are listed longer on the exchange trade more frequently than firms listed shorter on the exchange. The government ownership percentage is positively correlated with volatility implying that high government ownership stocks are more volatile.

Table 6: Correlation matrix

Variables are defined in Appendix 1. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

		a	b	c	d	e	f	g	h	i	j	k	l	m	n
a	ForeignOwn	1													
b	TurnOverRate	-0.03	1												
c	GovernmentOwn	-0.15***	-0.14***	1											
d	DummyForeignAudit	0.28***	-0.01	0.06***	1										
e	MarketToBook	0.11***	-0.11***	0.05**	0.06***	1									
f	Beta	-0.01	0.25***	-0.08***	0.16***	-0.05**	1								
g	Return	0.01	0.15***	0.07***	-0.01	0.27***	-0.11***	1							
h	Volatility	-0.13***	-0.12***	0.11***	-0.12***	0.29***	0.18***	0.10***	1						
i	CurrentRatio	0.002	0.04*	-0.06***	-0.03*	-0.01	0.04	-0.003	-0.02	1					
j	DividendYield	-0.12***	0.02	0.10***	-0.04*	-0.28***	-0.07***	-0.28***	-0.23***	-0.05**	1				
k	Leverage	-0.12***	-0.02	0.07***	0.01	0.04*	0.07***	-0.06***	0.03	-0.15***	0.06***	1			
l	DummyListedHN	-0.36***	0.02	0.11***	-0.18***	-0.04**	-0.01	0.03*	0.32***	0.02	0.08***	0.06***	1		
m	Size	0.46***	-0.04**	0.01	0.47***	0.36***	0.24***	0.19***	-0.10***	0.01	-0.27***	-0.04**	-0.49***	1	
n	Log(IPOAge)	0.21***	0.11***	0.01	0.02	-0.26***	-0.05**	0.07***	-0.37***	0.01	0.27***	-0.03	-0.06**	-0.06***	1

CHAPTER 5: RESULTS

5. 1. Foreign Ownership Percentage and Firm Size

Kang and Stulz (1997) and Dahlquist and Robertsson (2001) find a strong positive relationship between foreign ownership and firm sizes in Japanese and Swedish markets. The hypothesis predicts a position association between foreign ownership and firm size in the market of Vietnam.

Table 7: Foreign ownership percentage and firm size

Panel A: Value weighted average of foreign ownership percentage by firm size quintiles

Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
2007	3.56	5.52	10.73	15.98	23.96	22.08	234
2008	2.23	5.01	6.52	13.24	23.71	21.98	318
2009	2.36	3.23	5.58	8.68	21.37	19.52	435
2010	2.12	2.5	6.65	7.05	20.33	18.48	624
2011	2.3	2.3	5.38	7.53	20.93	19.54	683
2012	3.38	2.91	5.59	7.16	21.12	20.06	702

Panel B: Equally weighted average of foreign ownership percentage by firm size quintiles

Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
2007	2.9	5.47	10.22	16.22	23.49	11.66	234
2008	2.14	4.84	6.1	13.95	21.65	9.73	318
2009	2.45	3.18	5.01	9.02	18.19	7.57	435
2010	2.06	2.64	6.29	7.15	16.11	6.85	624
2011	2.28	2.3	5.08	7.22	16.13	6.6	683
2012	3.53	2.94	5.55	7.11	18.65	7.56	702

Table 7 presents foreign ownership percentage in each firm size quintile. The equally weighted average is calculated by taking the percentage of shares owned by foreigners for each firm and then averaging this percentage across firms. The value weighted average is the total share value owned by foreigners in all firms divided by the market value of the total market.

The table ranks the firms based on their market capitalization at each year end from 2007 to 2012. Firms are sorted into quintiles with the quintile 1 having the lowest and the quintile 5 with the highest market capitalization. Panel A shows the weighted average percentage of foreign ownership, and panel B indicates the equally weighted average percentage of foreign ownership in each quintile. The average columns show the average percentage of foreign ownership in each year of the whole market. The last columns present the number of firms using in calculation.

Table 7 shows that foreign ownership percentage and firm size have a strong positive relationship. In every year data, foreign ownership percentage of large firms is much higher than that of small firms. The dissertation classifies firms into five quintiles. The foreign ownership percentage is markedly greater for the largest quintile firms, compared to other quintiles. The size of the firm represents how well the firm is known by foreign investors. A lot of previous studies show that the larger size the firm, the more well-known of the firm to foreign investors and thus, the higher foreign ownership percentage. For 2012, the foreign ownership of the smallest quintile is 3.38 percent, while the foreign ownership of the largest quintile is 21.12 percent. The evidence in panel A also indicates that out of 5 quintiles, every year, only firms sorted into the largest quintile

have a percentage of foreign ownership that is higher than the average percentage of foreign ownership.

The data clearly shows the preference of foreign investors to large firms. The average firm sizes are large in 2007 and 2008 while smaller after 2008 because of the decrease in the market index. The aggregate market value of stocks has severely declined since 2008. In addition, the evidence shows that during the crisis periods (2008-2011), that size can proxy for risk (the smaller the size, the higher risk), the holding of foreign investors in small firms declined drastically during crisis periods.

The results are consistent with the findings of existing literatures including Kang and Stulz (1997) and Dahlquist and Robertsson (2001). The hypothesis is verified.

5.2. Foreign Ownership Percentage and Government Ownership

Table 8: Foreign ownership percentage and state-owned enterprises

Year	Value weighted foreign ownership		Equally weighted foreign ownership		Average firm size		N
	SOEs	Non SOEs	SOEs	Non SOEs	SOEs	Non SOEs	
2007	12.55	27.14	5.49	16.12	1,788	2,429	234
2008	15.69	25.39	5.65	11.9	696	679	318
2009	14.3	23.11	4.72	9.05	1,661	1,262	435
2010	10.86	22.57	4.62	7.74	1,471	1,093	624
2011	9.92	24.37	4.23	7.66	910	733	683
2012	13.17	24.5	5.02	8.55	1,543	946	702

Table 8 shows the average foreign ownership in State-Owned Enterprises (SOEs) and non-SOEs for a period from 2007 to 2012. The first two columns present the value weighted average of foreign ownership (in percent) in SOEs and non-SOEs, respectively. SOEs are listed firms in which the government is holding at least 50 percent of their outstanding shares. The next two columns show the equally weighted average of foreign ownership (in percent) in SOEs and non-SOEs, respectively. The fifth and sixth columns are the average market capitalization of SOEs and non-SOEs, in VND thousand. The last column is the number of firms used for calculation.

Table 8 provides a summary of foreign ownership for SOEs and non-SOEs. SOEs are listed firms in which the government holds at least 50 percent of firms' outstanding shares. Firms where the holding of the government is less than 50 percent of outstanding shares are non-SOEs. The first two columns of the table present the value-weighted average of foreign ownership for SOEs and non-SOEs. The third and fourth columns of the table show the equally weighted average of foreign ownership. The equally weighted average is calculated by taking the percentage of shares owned by foreign investors in each firm, and then averaging this percentage across firms. The value weighted average is computed as the ratio of the total market value of all shares held by foreign investors divided by the total market capitalization of all firms.

Table 8 shows the consistency of inverse relationship between government ownership and foreign ownership. In all years from 2007 to 2012, foreign ownership in non-SOEs is much higher than that in SOEs, verifying my hypothesis. Particularly, the value weighted average of foreign ownership in 2007 is 27.14 percent in non-SOEs while the corresponding value is 12.55 percent in SOEs. In addition, the value weighted average

of foreign ownership is higher than the equally weighted average of foreign ownership. This implies the strong preference of foreign investors in holding shares of large size firms, since the market capitalization of each firm is used as the weight.

Table 8 shows the foreign ownership is higher calculated using firm market capitalization as the weight than equally weighted value. In the previous section, table 7 shows the strong preference of foreign investors for large size firms. Table 8 indicates that in almost all of the years, the average firm size of SOEs is larger than the average firm size of non-SOEs. In 2012 the average firm size of SOEs is more than one and half times of average firm size of non-SOEs. The evidence indicates that even with larger size firms on average, SOEs still attract less foreign investment than non-SOEs which have smaller firm size on average.

Due to the controlling of the government in SOEs, with the government ownership of at least 50 percent of firm's shares, foreign ownership in SOEs is a proxy for a highly ownership concentration. The evidence in table 8 is also consistent with Dalhquist and Robertsson (2001) arguing that foreign investors want to avoid ownership concentration.

To analyze in more detail, I rank the government ownership by quintiles, similarly to what I rank with the firm size. The results in Table 9 show that, foreign ownership is highest in the 4th quintile for 2011 with an average of government ownership is 46 percent, and lowest in the 1st quintile with an average of government ownership of 0 percent.

Table 9 ranks the firms based on their percentage of government ownership at each year end from 2007 to 2012. The percentage of government ownership is the ratio of the number of common stocks held by the government divided by the total common

stocks outstanding of the firm. Firms are sorted into quintiles with the quintile 1 having the lowest and the quintile 5 with the highest government ownership. Panel A shows the weighted average percentage of foreign ownership, and panel B indicates the equally weighted average percentage of foreign ownership in each quintile. The average columns show the average percentage of foreign ownership in each year of the whole market. The last columns present the number of firms using in calculation.

Table 9: Foreign ownership percentage and government ownership percentage, quintile analysis

Panel A: Value weighted average of foreign ownership percentage by government ownership percentage quintiles

Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
2007	24.36	29.59	30.51	13.62	10.85	22.08	234
2008	22.44	26.37	22.86	30.11	13.65	21.98	318
2009	19.96	26.42	22.63	24.18	14.38	19.52	435
2010	19.24	30.79	14.63	28.32	10.00	18.48	624
2011	17.95	38.35	23.12	34.7	9.01	19.58	683
2012	17.65	38.95	24.4	36.54	12.78	20.06	702

Panel B: Equally weighted average of foreign ownership percentage by government ownership percentage quintiles

Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
2007	19.86	16.18	11.56	4.88	6.05	11.67	234
2008	13.85	13.16	9.64	6.11	5.75	9.74	318
2009	9.3	9.29	9.22	5.13	4.86	7.57	435
2010	7.53	11.68	6.98	6.23	4.28	6.85	624
2011	7.6	10.79	7.02	6.08	3.67	6.68	683
2012	8.79	11.74	8.04	6.45	4.63	7.55	702

Table 9 indicates that when computing the value weighted foreign ownership using market capitalization as the weight, foreign ownership is lowest in the 5th quintile, higher in the second, third and fourth quintiles. When calculating average foreign ownership as equally weighted value, the results look more different, higher government ownership, lower foreign investment. One possible caveat with the quintile analysis of foreign ownership is that there are a lot of firms having the same government ownership percentage. Therefore, the number of observations in some quintiles is far different from each other.

Existing literatures agree that SOEs are less efficient than non-SOEs. The management in SOEs is communist member and selected by governmental agencies. The benchmark of being selected is not a management talent, but a political issue. The wages and any compensation to the management in SOEs are regulated by the government, mostly based on the rank of the firm that is managed by the management and the ages and/or wage levels of the management. The wage level of a manager depends on his age (experience) and the position he is holding. If two firms are classified in the same rank, the CEOs of the two firms are paid quite similarly if they have the same experience. The firm's performance is also a factor to determine the wages of the management, but this is only important in extreme circumstances, for instance, if the firm performs really badly. The information disclosure in SOEs is limited, the management has incentive to not declare their high wages and salary relative to overall income of state officials, and/or bad performance.

5.3. Foreign Ownership Percentage and Audit Firms

The four audit firms running business in the market of Vietnam include KPMG, PricewaterhouseCoopers, Deloitte, and Ernst and Young. These audit firms usually charge a higher audit fee than do domestic audit firms. However, those audit firms are well-known in the international audit service market. Some implications can be derived from this matter. First, in an emerging market such as Vietnam, the information disclosure standards are widely considered lower than those in a developed country. Most of foreign investors in Vietnam come from countries that are higher developed than Vietnam.

The reputation of audit firms can imply the availability of transparency of the listed firms. Those audit firms have high reputation, so they are more likely to propose more reliable audit opinions. Second, due to those audit firms' high reputation, auditors' opinions may not be influenced by the management of audited firms. In addition, audit fees of those audit agencies are much higher than the other audits.

Thus, firms where the internal control system is pretty good are more likely to hire these reputable audit firms. It can be implied that firms with a strong internal control system have a more transparency in information disclosure. Financial statements audited by them are written in both local language and English that foreign investors can easily examine. The evidence in table 10 indicates that foreign ownership is much higher in firms audited by a foreign audit firm than that in firms audited by a domestic audit agency.

Table 10 shows the average foreign ownership in firms audited by a domestic audit firm and by a foreign audit firm for a period from 2007 to 2012. The first two columns of panel A present the value weighted average of foreign ownership (in percent) in firms audited by a domestic audit agency and by a foreign audit agency, respectively.

The next two columns show the equally weighted average of foreign ownership (in percent) in firms audited by a domestic audit firm and a foreign audit firm, respectively. The last three columns are the number of firms used for calculation. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively. Panel B presents foreign ownership by firm size quintiles.

Table 10: Foreign ownership percentage and audit companies

Panel A: Foreign ownership percentage in firms listed on the Hanoi exchange and the Hochiminh exchange by year

Year	Foreign ownership average			Number of observations		
	Domestic Audit	Foreign Audit	Difference	Domestic Audit	Foreign Audit	Total
2007	10.53	16.72	6.19	191	43	234
2008	8.63	15.04	6.41	263	55	318
2009	6.15	13.42	7.27**	350	85	435
2010	5.18	13.96	8.78***	506	119	624
2011	4.98	13.65	8.67***	549	134	683
2012	5.41	15.79	10.38***	557	145	702

Panel B: Foreign ownership percentage in firms audited by foreign audits and domestic audits by firm size quintiles

Firm size quintiles	Value weighted foreign ownership		Equally weighted foreign ownership		N
	Domestic Audit	Foreign Audit	Domestic Audit	Foreign Audit	
Quintile 1	2.69	0.49	2.62	0.54	600
Quintile 2	3.59	2.30	3.17	3.13	599
Quintile 3	6.54	10.13	5.40	9.43	598
Quintile 4	9.73	10.15	8.69	9.48	599
Quintile 5	17.77	22.25	16.35	19.93	600

The table summarizes the average percentage of foreign ownership in firms audited by a foreign audit company and in firms audited by a domestic audit company. The equally weighted average is calculated by taking the percentage of shares owned by foreign investors in each firm, and then averaging this percentage across firms. The value weighted average is computed as the ratio of the total market value of all shares held by foreign investors divided by the total market capitalization of all firms.

For each category, the weighted foreign ownership is higher than the equally foreign ownership. This implies that foreign investors bias large size firms. In 2012, the weighted average holding in foreign investors in firms audited by foreign audits is 21.51 percent, while the corresponding measure is 11.42 percent in firms audited by domestic audits. Similarly, the equally foreign ownership is 15.79 percent in firms audited by foreign audits and 5.41 percent (about a little more than one third) in firms audited by local audits. The differences between the foreign ownership average of firms audited by a foreign audit company and that of firms audited by a local audit company are statistically significant for years from 2009 to 2012.

5.4. Foreign Ownership Percentage and the Stock Exchange on Which the Firm is Listed

In the previous section, the evidence shows the preference of foreign investors for Hochiminh city and provinces around it, called region 5. Hochiminh city is the largest economic center in Vietnam and is considered the most active economic area of the country. In this section, I compare the foreign ownership of firms listed on the Hochiminh exchange with that of firms listed on the Hanoi exchange.

Table 11: Foreign ownership percentage and the stock exchange on which the firm is listed

Year	Foreign ownership average			Number of observations		
	Listed Hanoi	Listed HCM	Difference	Listed Hanoi	Listed HCM	Total
2007	4.03	17.88	13.85***	105	129	234
2008	3.57	15.83	12.26***	158	160	318
2009	3.42	13.11	9.69***	249	186	435
2010	3.51	11.35	7.84***	358	266	624
2011	3.68	10.60	6.92***	387	296	683
2012	4.68	11.23	6.55***	394	308	702

Table 11 shows the average foreign ownership in firms listed on the Hanoi exchange and Hochiminh exchange for a period from 2007 to 2012. The first three columns show the equally weighted average of foreign ownership (in percent) in firms listed on the Hanoi exchange and the Hochiminh exchange, and the mean difference, respectively. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively. The last three columns are the number of firms used for calculation.

Table 11 shows that the foreign ownership in firms listed on the Hochiminh stock exchange is consistently higher than foreign ownership in firms listed on the Hanoi stock exchange. The Hochiminh exchange was established in 2000 while the Hanoi stock exchange was launched in 2005. The foreign ownership of firms listed on the Hochiminh exchange is consistently greater than that of firms listed on the Hanoi exchange.

The evidence shows the consistency with the hypothesis that the size requirement for firms listed on the Hochiminh exchange is larger than that for firms listed on Hanoi exchange. And also, the requirement of minimum number of share concentration that is different between the two exchanges. All of the mean differences in the Panel A are statistically significant. In further analysis in the next section, I will control for the size effect.

5.5. Regression Results

In this section, I present the regression results of the empirical model. Foreign ownership is regressed on several attributes of firms during the period from 2007 to 2012. The last column of table 12 presents the regression results using the pool of all variables of all years. The results show that foreign investors are not fond of investing in firms with high systematic risk (beta), high leverage, high volatility, high dividend yield, listed on Hanoi stock exchange, especially high government ownership and high turnover rate. The results are consistent with Dahlquist and Robertsson (2001) and other literature finding that foreign investors invest more in large size firms. Surprisingly, firms audited by foreign audit agencies have lower foreign ownership than firms audited by local audit agencies. But the result on this variable is not robust. The regression results are not consistent with previous quintile analysis of foreign audit variable.

Table 12: The effect of firm characteristics on foreign ownership percentage

	2007	2008	2009	2010	2011	2012	Pooled
TurnOverRate	-0.0195***	-0.145	-0.0643**	-0.1074*	-0.117	0.000012	0.000017
	[0.008]	[0.113]	[0.031]	[0.096]	[0.366]	[0.834]	[0.73]
DummyForeignAudit	-0.289	-0.3722**	-0.018	-0.066	0.235	0.4879***	0.212**
	[0.195]	[0.037]	[0.925]	[0.736]	[0.21]	[0.005]	[0.015]
MarketToBook	0.007	0.338	0.1871**	-0.049	-0.076	-0.2824**	-0.016
	[0.784]	[0.17]	[0.011]	[0.737]	[0.554]	[0.048]	[0.671]
Beta	-0.510	0.118	-0.180	-0.6037*	-0.4207*	-0.3995**	-0.424***
	[0.328]	[0.857]	[0.724]	[0.061]	[0.063]	[0.048]	[0]
CurrentRatio	0.019	-0.049	-0.028	-0.0703*	-0.009	-0.0368*	-0.030**
	[0.564]	[0.171]	[0.513]	[0.087]	[0.791]	[0.084]	[0.021]

Table 12: (continued)

DummyListedHanoi	-0.182	-0.251	-0.4259*	-0.035	-0.270	0.056	-0.190*
	[0.566]	[0.505]	[0.056]	[0.892]	[0.237]	[0.742]	[0.071]
Size	0.4907***	0.3847***	0.3673***	0.3286***	0.4212***	0.3984***	0.388***
	[0]	[0]	[0]	[0]	[0]	[0]	[0]
Log(IPOAge)	0.4951***	0.5680***	0.7507***	0.7011***	0.7604***	0.5174***	0.792***
	[0]	[0]	[0]	[0]	[0]	[0.002]	[0]
Volatility	-15.584	-40.541	-41.3543**	-59.4659*	12.474	-49.6001*	-26.516***
	[0.257]	[0.122]	[0.041]	[0.052]	[0.464]	[0.074]	[0.001]
Return	-0.225	-0.190	0.148	-0.6529***	-0.170	-0.139	-0.206***
	[0.389]	[0.386]	[0.37]	[0.010]	[0.274]	[0.523]	[0.002]
Leverage	0.168	-0.131	-0.1716**	-0.136	-0.074	-0.358***	-0.137***
	[0.268]	[0.13]	[0.044]	[0.175]	[0.317]	[0]	[0.002]

Table 12: (continued)

DividendYield	8.002	-0.358	-0.360	-4.294**	-2.673***	-0.940	-1.153**
	[0.363]	[0.82]	[0.909]	[0.025]	[0.006]	[0.273]	[0.037]
GovernmentOwn	-1.9133***	-2.107***	-1.117***	-1.197***	-0.938***	-1.296***	-1.284***
	[0]	[0]	[0.003]	[0]	[0.002]	[0]	[0]
_Cons	-10.269***	-7.972***	-8.448***	-6.763***	-10.759***	-8.715***	-9.504***
	[0]	[0]	[0]	[0.001]	[0]	[0]	[0]
No observations	119	190	264	325	466	439	1083
Pseudo Log likelihood	-32.5	-42.91	-50.06	-61.02	-81.69	-90.08	-359.28

All variables are as defined in Appendix A. The dependent variable is ForeignOwn. Numbers in parentheses represent the p-values for a t-test that the average t-statistic is zero. The generalized linear model (GLM) with a logit link and the binomial family is used to estimate the model. The robust option is included in the GLM model to obtain robust standard errors. The year dummies and industry-specific dummies are included in the pooled regression for robustness. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

The coefficients of government ownership, horizon time the firm listed until each year end, and market capitalization are all statistically significant at zero percent, and support the maintained hypotheses: foreign investors invest more in firms having less government ownership, large size firms, and firms having been listed for longer time so the information about the firms is more available and more transparent. The evidence shows that leverage has negative influence on foreign holding, but only significant in 1 year. The coefficients of firms audited by foreign audit agencies and current ratio are not significant and swift the signs in some years.

The result is consistent with the prediction about dividend. Dividend was not taxed before 2010, but taxed since January 1st 2010. The coefficient has been only negative and robust at 5 percent and 1 percent since 2010. This implies that the tax policy on dividend affects the holding of foreign investors. When investors have to pay tax on dividends, they hold less.

Turnover rate, surprisingly has a consistently negative relationship with foreign ownership suggesting that firms having relative high volume traded have low foreign ownership at year end. This evidence is different from findings of Kang and Stulz (1997)

and Dahlquist and Robertsson (2001) who find a strong positive relationship between foreign ownership and turnover rate. A possible explanation is the results of Amihud and Mendelson (1980). Their study formalizes the important link between market microstructure and asset pricing and shows that, in equilibrium, illiquid assets would be held by investors with longer investment horizons. Another possible explanation is the findings of Blanco (2013). He concludes that investment into frontier markets aims to obtain long-term profits from current account surpluses arising from the exploitation of natural resources. Vietnam is classified as a frontier market.

5.6. Panel Regression

In this section, I use panel data to perform a regression of the dependent variable on several explanatory variables. Since foreign ownership ranges from 0 to 49 percent, I use Kang and Stulz (1997) dependent variable to examine the whole market as well as each market separately. This method focuses on the deviation of the portfolio held by foreign investors from the market portfolio. The dependent variable is the difference between the foreign ownership in each firm at a year end and the equally-weighted average of foreign ownership for that year. Thus, the dependent variable, $y_{i,t}$, measures how the foreign ownership percentage in a firm differs from what it would be if foreign investors had acquired the same fraction of each firm.

Table 13 presents the regression results using the panel data for the period from 2007 to 2012. All variables are as defined in Appendix A. Numbers in parentheses represent the p-values for a t-test that the average t-statistic is zero. The fixed effect

models are used as the Hausman test results reject the Null. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

Table 13: Exchange effect analysis

	Model 1 Overal market	Model 2 Hanoi Exchange	Model 3 HCM Exchange
TurnOverRate	0.0001	0.0002	0.0001
	[0.806]	[0.466]	[0.825]
DummyForeignAudit	0.0045	0.0188**	0.0017
	[0.616]	[0.033]	[0.893]
MarketToBook	-0.0021	-0.0012	-0.0011
	[0.085]	[0.147]	[0.729]
Beta	-0.0139***	-0.0127***	-0.0117
	[0.009]	[0.003]	[0.231]
CurrentRatio	0.0005	-0.0004	0.0036*
	[0.426]	[0.271]	[0.091]
DummyListedHanoi	0.0104		
	[0.387]		
Size	0.0379***	0.0154***	0.0560***
	[0]	[0]	[0]
Log(IPOAge)	0.0324***	0.0170***	0.0523***
	[0]	[0]	[0]
Volatility	-0.0027	-0.0087***	0.0046
	[0.371]	[0]	[0.366]
Return	-0.0002***	0.00005**	-0.0003***
	[0]	[0.014]	[0]
Leverage	0.000012	0.000009	0.000024
	[0.43]	[0.39]	[0.415]
DividendYield	-0.0002	-0.0002	-0.0006
	[0.494]	[0.453]	[0.182]
GovernmentOwn	-0.0007**	-0.0006***	-0.0009
	[0.034]	[0]	[0.151]
_cons	-0.7069***	-0.2752***	-1.0841***
	[0]	[0]	[0]
No observations	1803	883	920
R-squared	0.3679	0.1737	0.3667

Model 1 reflects the regression results of the overall market while model 2 presents the results for the Hanoi stock exchange, and model 3 shows the results for the Hochiminh stock exchange. The results presented in Table 6 are fixed effects if the Hausman test indicates that the fixed effect and random effect are significantly different.

The evidence from model 1 reveals that foreign investors show a preference for large firms, firms with lower return[16], lower beta, lower government ownership, and firms that are listed longer on the stock exchange. Firm size and firm age continue to be strongly positively significant at zero percent for all models. The coefficient of the variable government ownership is negative and significant at 5 percent in Model 1, while it is consistently significant at zero percent in Table 12.

It is interesting that the government ownership coefficient is significant for the Hanoi stock exchange, but no longer significant for the Hochiminh stock exchange, while still remains the negative sign for both exchanges. The evidence implies that foreign investors discriminate between the two exchanges in term of government ownership percentage.

In particular, models 2 and 3 show that foreign investors hold disproportionately more shares of firms audited by a prestigious foreign audit company and firms with lower systematic risk, but the result is pronounced only for the Hanoi exchange. While the coefficient of Volatility is negatively significant at 1 percent level for the Hanoi exchange, it is positive and insignificant for the Hochiminh exchange. Average firm size of the

[16] DeBondt and Thaler (1985) propose the overreaction effect and the strategy involved buying loser and selling winner portfolios. They define stocks as winners or losers based on their total returns over the previous 3 to 5 years and find that the loser portfolios outperformed the market, while the winner portfolios underperformed the market. The evidence in Table 12 shows that foreign investors invest more in firms with lower past returns, implying a trend of buying and holding the losers.

Hochiminh exchange is larger than the average firm size of the Hanoi exchange. Firms listed on the Hanoi exchange have higher price volatility than firms listed on the Hochiminh exchange. Foreign investors prefer firms with lower volatility on the Hanoi exchange.

The coefficient of CurrentRatio is positively significant for the Hochiminh exchange, while negative and insignificant for the Hanoi exchange. One possible reason for the negative relationship in the Hanoi exchange but the positive relationship in the Hochiminh exchange is the differences of financial position of firms listed on those markets. High levels of CurrentRatio imply low short-term distress risk.

Firms listed on the Hochiminh exchange have strong financial positions, so foreign investors hold more in firms with higher CurrentRatio. Firms listed on the Hanoi exchange face higher levels of short-term distress. Foreign investors prefer holding stakes in firms with higher CurrentRatio, hence the negative coefficient for the Hanoi exchange, where the firms are on average weak. Interestingly, the magnitude of the coefficient of Turnover rate is relatively small and almost the same in the three models, in which the coefficient is equal around 0.01 to 0.02 percent.

The panel data regression results provide some implications. First, besides information asymmetry, financial condition of the firms is of concern when foreign investors allocate their portfolios. Second, government ownership, a proxy for political risk, systematic risk and individual firm risk factors have less influence on foreign investors in a more developed exchange. In this sample, the government ownership variable is negatively significant for the Hanoi exchange, while insignificant for the Hochiminh exchange. On the Hochiminh exchange volatility does not adversely affect

foreign ownership stakes. Third, firm size and firm age have a strong influence on foreign investors' wealth allocation. The larger the firm or the longer the firm has been listed, the higher is the foreign ownership percentage.

5.7. Foreign Ownership Percentage and Turnover Rate

Kang and Stulz (1996) among other studies have found a positively significant relationship between foreign ownership and turnover rate in developed countries. Turnover rate is the ratio between total shares traded during the year and the total shares outstanding at the end of each year. This attribute can have a role as a proxy for market liquidity. The more frequently the share is traded, the higher foreign ownership the stock has.

Table 14 summarizes the foreign ownership in several turnover rate quintiles. The firms in each year are sorted by their turnover rate into five quintiles with quintile 1 having smallest and quintile 5 having largest turnover rate. Panel A shows that foreign holdings percentage in the largest turnover rate quintile are consistently lower than average foreign ownership percentage every year. In addition, foreign ownership percentage for the 5th turnover rate quintile is smaller than that for the first and second turnover rate quintiles in most years.

Foreign ownership is 7.24 percent for the 5th quintile. The corresponding value is 14.11 percent for the first quintile and 15.24 percent for the second quintile in 2007. The evidence shows that foreign ownership percentage is relatively high for the first and second turnover rate quintiles. The findings contradict results from existing studies, based

on developed markets that find the turnover rate is positively associated with foreign ownership percentage.

Panel B of the table summarizes foreign ownership percentage for the five turnover rate quintiles excluding the effect of firm size. Firms are first sorted by market capitalization into five quintiles, with the first quintile having lowest market capitalization while the 5th quintile having highest market capitalization. The firms in each firm size quintile are then sorted by turnover rate.

Table 14: Turnover rate and foreign ownership percentage

Panel A: Yearly average of foreign ownership by turnover rate quintiles

Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
2007	14.11	15.24	13.42	12.21	7.24	12.45	212
2008	12.49	10.50	9.19	10.13	7.03	9.87	307
2009	6.41	9.06	7.94	7.40	7.13	7.59	434
2010	10.77	8.47	6.60	4.41	4.00	6.85	624
2011	8.97	8.22	5.68	4.58	5.99	6.69	682
2012	7.41	8.70	7.20	7.78	6.72	7.56	701

Panel B: Equally weighted average of foreign ownership by turnover rate quintiles controlling for firm size effects

Firm size quintiles	Turnover Rate quintiles						
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average	N
Quintile1	1.93	2.52	2.25	2.46	3.68	2.57	592
Quintile2	2.26	3.08	3.14	4.47	3.01	3.19	593
Quintile3	8.49	5.37	5.03	5.76	5.45	6.02	590
Quintile4	11.00	9.05	7.28	10.40	6.87	8.92	594
Quintile5	17.55	18.12	17.92	19.92	18.22	18.35	591

The results show that for the smaller firms, foreign owners prefer market liquidity in the stocks that they own. However, for the largest firm size quintile, turnover rate is not positively correlated with foreign ownership percentage. However, for the third and fourth firm size quintiles, foreign ownership percentage of the smallest turnover rate quintile is much higher than that of the largest turnover rate quintile.

5.8. Size Bias Examination

Kang and Stulz (1997) analyze the size bias using export rate and turnover rate of Japan market. In this dissertation, the export data of each firm is not available; I use the dummy variables indicating if the firm is listed in Hanoi exchange, if the firm is audited by an international audit agency, and government ownership for my analysis. The methodology is as follow: for each year during period of 2007-2012, the firms are divided into size quintiles, quintile 1 is the smallest quintile, and quintile 5 is the largest quintile. Then, each size quintile is divided into five quintiles based on government ownership, or into 2 groups one listed in Hanoi exchange and the other listed in Hochiminh exchange, and one audited by local audit firms and the other audited by an international audit firm.

5.8.1. Size and The Exchange on Which the Firm is Listed

This subsection tries to explain the effect of the exchange on which the firm is listed on the firm's foreign ownership, excluding the effect of firm size.

Table 15 provides evidence of foreigners' preference for firms listed on the Hochiminh exchange after controlling for firm size effects. The table shows that, foreign holdings in firms listed on the Hochiminh exchange are consistently higher than those in firms listed on the Hanoi exchange. In particular, the foreign ownership percentage is

almost doubled for firms listed on the Hochiminh exchange for every firm size quintile. For example, for the largest firm size quintile, foreign ownership is 20.07 percent for the Hochiminh exchange, and 11.46 percent for the Hanoi exchange. The smallest firm size quintile result is even more pronounced with foreign ownership for the Hochiminh exchange of 5.92 percent and foreign ownership for the Hanoi exchange of 2.40 percent.

Table 15: Foreign ownership and the exchange on which the firm is listed

Firm size quintiles	Value weighted foreign ownership percentage		Equally weighted foreign ownership percentage		N
	Hanoi	Hochiminh	Hanoi	Hochiminh	
Quintile 1	2.17	7.78	2.4	5.92	600
Quintile 2	2.19	6.36	2.28	5.66	599
Quintile 3	5.29	8.81	4.94	7.07	598
Quintile 4	4.34	12.41	4.98	10.76	599
Quintile 5	17.36	22.28	11.46	20.07	600

There are two possible reasons. First, because foreign investors do not like the ownership concentration. Each exchange has different requirement of ownership concentration: in Hochiminh exchange, at least 20 percent of the firm's total voting shares are held by at least 100 shareholders, while for firms listed on Hanoi exchange, the counterpart is 15 percent. Second, Hochiminh city is more attractive to originally Vietnamese foreign investors who are more familiar with Hochiminh than with Hanoi.

5.8.2. Size and the Government Ownership Percentage

This subsection tries to explain the effect of the government ownership in a firm on the firm's foreign ownership, excluding the effect of firm size. I analyze both the value

weighted average government ownership and the equally weighted government ownership. The calculation of equally weighted and value weighted average government ownership is similar to the calculation in the previous sections.

Table 16: Foreign ownership percentage and government ownership percentage excluding firm size effects.

Panel A: Value weighted average of foreign ownership percentage by government ownership percentage quintiles

Firm size quintiles	Government ownership percentage quintiles					
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	N
Quintile 1	3.3	3.08	3.49	1.82	1.75	600
Quintile 2	2.86	5.55	5.76	2.44	1.31	599
Quintile 3	11.51	9.63	5.47	4.55	1.96	598
Quintile 4	11.13	18.21	12.31	8.38	3.6	599
Quintile 5	20.63	33.09	32.68	32.27	12.47	600

Panel B: Equally weighted average of foreign ownership percentage by government ownership percentage quintiles

Firm size quintiles	Government ownership percentage quintiles					
	Quintile1	Quintile2	Quintile3	Quintile4	Quintile5	N
Quintile 1	3.36	2.88	2.59	1.81	2.32	600
Quintile 2	3.14	4.48	5.14	2.1	1.37	599
Quintile 3	9.26	7.15	5.41	4.21	2.00	598
Quintile 4	10.95	14.85	10.44	7.18	3.06	599
Quintile 5	15.94	31.88	26.82	19.66	10.94	600

Table 16 shows that, controlling for size, foreign investors invest less in firms with relatively high government ownership. For most of firm size quintiles, the foreign ownership percentage is lowest in the firms with the highest government ownership quintile. In each firm size quintile, the foreign ownership percentage appears higher in the 2nd and 3rd government ownership quintiles, but lower in the 4th and 5th government ownership quintiles. The first government ownership quintiles in every firm size quintile have zero percent of government ownership. Although the foreign ownership percentage in those quintiles is higher than the foreign ownership in the 4th and 5th government ownership quintiles, it is lower than the foreign ownership percentage in the 2nd and 3rd government ownership quintiles where the government ownership ranges between 1 percent and 40 percent. This implies that foreign ownership is highest if the government ownership in the firm is from 1 percent to 40 percent, it is lower in firms without government ownership, but lowest in firms having a government ownership of 50 percent or more (the 5th government ownership quintiles), controlling firm size effects.

5.8.3. Firm Size and Audit Agencies

Table 17: Foreign ownership and audit services excluding firm size effects.

Firm size quintiles	Value weighted foreign ownership percentage		Equally weighted foreign ownership percentage		N
	Domestic Audit	Foreign Audit	Domestic Audit	Foreign Audit	
Quintile 1	2.69	0.49	2.62	0.54	600
Quintile 2	3.59	2.3	3.17	3.13	599
Quintile 3	6.54	10.13	5.4	9.43	598
Quintile 4	9.73	10.15	8.69	9.48	599
Quintile 5	17.77	22.25	16.35	19.93	600

Table 17 provides the summary of the audit agency effects on the foreign ownership in each firm size quintile firms. The evidence shows the preference of foreign investors in firms audited by an international audit agency in large size firms. Firms sorted in the 5th quintile have largest market capitalization while firms sorted in the first quintile have lowest market capitalization. In each firm size quintile, firms are then sorted into two categories, firms audited by a domestic audit company and firms audited by an international audit company including KPMG, Deloitte, PricewaterhouseCoopers, and Ernst and Young.

In the first firm size quintile, the value weighted average of foreign ownership percentage in a firm audited by a domestic audit company is 2.69 while the corresponding percentage in a firm audited by an international audit firm is 0.49. In the 2nd firm size quintile, the corresponding percentages are 3.59 and 2.30. However, from the 3rd firm size quintile, the foreign ownership percentage in firms audited by an international audit company exceeds the foreign ownership percentage in firms audited by a domestic audit company.

In the 5th firm size quintile, foreign ownership percentage in firms audited by an international audit company is 22.25 percent while the foreign ownership percentage in firms audited by a domestic company is 17.77 percent. The evidence implies that for small firms, the attribute of an audit company does not influence the preference of foreign investors; however, in large size firms, foreign investors are more likely to invest in firms audited by an international audit company.

5.9. Firm Location Effects

The geography of Vietnam is long but narrow. The area of Vietnam is around 128,066 square miles, while the distance from Hanoi (in the north) to Hochiminh (in the south) is 712 miles. Because of historical and geographic effects[17], I classify the area of Vietnam into two sub areas, Hanoi area and Hochiminh area. The Hanoi area is the area from Danang northward, the Hochiminh area is the area from Danang southward. The Hanoi area is exactly the same as the north region, and the Hochiminh area is exactly the same as the south region in the previous sections.

The data of 2012 show that 500 out of 702 listed firms are listed in their location areas, i.e., firms located in the Hanoi area are listed on the Hanoi stock exchange while firms located in the Hochiminh area are listed on the Hochiminh stock exchange. The evidence supports Degryse and Ongena (2005) findings.

[17] Appendix H shows the geography of Vietnam that is long and narrow.

Table 18: Foreign ownership percentage and firm's location

Year	Equally-weighted ownership percentage		Value-weighted ownership percentage		Average firm size		Number of firms	
	Hanoi area	HCM area	Hanoi area	HCM area	Hanoi area	HCM area	Hanoi area	HCM area
2007	6.2	15.34	13.65	26.1	1,735.11	2,446.71	94	140
2008	5.53	12.82	14.93	25.85	567.91	769.33	138	182
2009	4.63	9.87	14.69	23.35	1,381.23	1,402.88	195	242
2010	4.52	8.76	11.76	23.96	1,190.13	1,207.15	283	342
2011	4.42	8.49	11.85	25.65	762.27	801.53	308	377
2012	5.69	9.11	16.53	22.6	1,014.36	1,199.41	324	379

Table 18 implies that firms located in the Hochiminh area have relatively more foreign ownership than firms located in the Hanoi area. In all the years, the number of listed firms in the Hanoi area is lower than the number of listed firms in the Hochiminh area. The average firm size in the Hanoi area is a little smaller than that in the Hochiminh area. However, the average foreign ownership, both equally weighted values and market capitalization weighted value, is much lower in the Hanoi area than in the Hochiminh area.

Particularly, in 2007, the equally weighted foreign ownership of firms located in the Hochinh area is 15.34 percent, almost 2.5 times the correspondence of firms located in the Hanoi area. The evidence indicates the preference of foreign investors in firms located in the Hochiminh area, the economic center of Vietnam and more familiar with capitalism than the Hanoi area.

The evidence of table 18 supports previous results suggesting that foreign investors hold more proportionate in firms listed on the Hochiminh stock exchange. Most of the firms located in the Hochiminh area are listed on the Hochiminh stock exchange, and on average, the foreign ownership of firms located in the Hochiminh area is much larger than that of firms located in the Hanoi area.

CHAPTER 6: CONCLUSION

This dissertation investigates foreign investors' holdings in the frontier market of Vietnam where the stock exchanges have grown rapidly. The two exchanges have grown at different rates due to differences in geography, historical and political factors. Consequently there are differential rates of foreign ownership in firms listed on the two exchanges. Firms tend to list on the exchange closer to their headquarters.

Foreign ownership percentage for firms listed on Hochiminh exchange is impressively higher than foreign ownership percentage for firms listed on Hanoi exchange. Foreign ownership percentage is strongly negatively correlated with volatility for Hanoi exchange, while it is insignificantly positively correlated with volatility for Hochiminh exchange. Similarly, beta, domestic audit services and government ownership are negatively and significantly correlated with foreign ownership percentage for Hanoi, but insignificant for Hochiminh. This implies that the risk, including of political risk, firm risk and market risk, is more pronounced for firms located closer to the political center and with a more volatile economy. It also implies that as the information disclosure standard is lower, foreigners depend more on the opinions of more reliable auditors.

The coefficients of firm size and firm age since IPO are consistently robust. Foreign investors invest more in firms with lower government ownership. Average firm size is higher for SOEs and foreign investors strongly prefer investing in large firms. However, foreign investors strongly show their preference for investing in firms other than SOEs.

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APPENDIX A: TABLE 19: VARIABLE DEFINITIONS

ForeignOwn	The percentage of shares held by foreign owner(s) at year end
TurnOverRate	The total number of shares traded in a year, scaled by the total shares at the end of fiscal year
GovernmentOwn	The percentage of shares held by the government at year end
DummyForeignAudit	A dummy variable which equals 1 if a firm is audited by one of the four international audit firms including KPMG, Deloitte, Ernst and Young, and PricewaterhouseCoopers, and 0 otherwise
MarketToBook	Market price divided by the book value of a share at year end
Beta	The beta coefficient for the market model, estimated using daily returns
Return	The cumulative return during 52 weeks of daily stock return
Volatility	The standard deviation of a firm's return using a daily basis
CurrentRatio	Current assets scaled by current liabilities at year end
DividendYield	The dividend per share as a percentage of the share price
Leverage	Total liabilities divided by total equity
DummyListedHN	A dummy variable which equals 1 if a firm is listed on the Hanoi exchange and 0 otherwise
Size	The logarithm of total market capitalization at year end
Log(IPOAge)	The logarithm of the firm age since IPO

APPENDIX A: (CONTINUED)

FDIpercapita	The accumulated FDI at year end of each province divided by the year end population of that province.
FDIpercapita_1	The accumulated FDI at the last year end of each province divided by the last year end population of that province.
Bed	The average number of hospital beds of each province for each 1,000 people of that province. Patient bed is used for patients during their treatment at the health establishments. This excludes beds for persons on duty, and beds in the examining and waiting rooms
Doctor	The average number of medical doctors of each province for each 1,000 people of that province.
TotalDoctor	The average number of medical doctors, midwives, physician and nurses of each province for each 1,000 people of that province.
TotalStudent	The average number of primary, secondary, and high school students of each province for each 1,000 people of that province.
Budget	The yearly government budget collection from tax divided by the population of each province.
PCI[18]	The Provincial competitiveness index of each province.

[18] Appendix B describes the methodology of constructing the provincial competitiveness index.

APPENDIX B: DESCRIPTIONS OF PCI CONSTRUCTION METHODOLOGY

PCI, provincial competitiveness index, is designed to assess the ease of doing business, economic governance, and administrative reform efforts by local governments of 63 provinces and cities in Vietnam. PCI is created by the PCI Team, led by Dr. Edmund Malesky, associate Professor of Political Economy at Duke University, under the support of the Vietnam Chamber of Commerce and Industry and The United States Agency for International Development. The team collects business survey data, calculates ten sub-indices and standardizes to a 10-point scale, then calibrates the composite PCI as the weighted mean of mean of the ten sub-indices with a maximum score of 100 points.

A province that is considered to perform well on the PCI is the one that has: 1) low entry costs for business start-up; 2) easy access to land and security of business premises; 3) a transparent business environment and equitable business information; 4) minimal informal charges; 5) has limited time requirements for bureaucratic procedures and inspections; 6) limited the crowding out of private activity from policy biases toward state, foreign, or connected firms; 7) proactive and creative provincial leadership in solving problems for enterprises; 8) developed and high-quality business support services; 9) sound labor training policies; and 10) fair and effective legal procedures for dispute resolution.

APPENDIX C: TABLE 20: FOREIGN DIRECT INVESTMENT BY PARTNERS IN VIETNAM (ACCUMULATION OF PROJECTS STILL VALID AS OF 12/31/2012)

No	Investment Partners	Number of Projects	Total Registered invested capital (USD Million)
1	Japan	1,849	28,699.62
2	Taiwan	2,234	27,129.09
3	Singapore	1,119	24,875.35
4	South Korea	3,197	24,815.96
5	British Virgin Islands	510	15,386.37
6	Hong Kong	705	11,966.69
7	The United State of America	648	10,507.19
8	Malaysia	435	10,196.42
9	Cayman Islands	54	7,505.99
10	Thailand	298	6,063.69
11	Netherlands	177	5,910.08
12	Brunei	131	4,800.98
13	China	893	4,697.22
14	Canada	128	4,689.05
15	Samoa	95	3,878.70
16	France	381	3,142.72
17	United Kingdom	161	2,617.28
18	Switzerland	92	2,000.72
19	Luxembourg	24	1,501.66
20	Australia	276	1,313.23
21	Russia	86	1,056.03
22	Germany	196	1,053.70
23	British West Indies	6	987.00
24	Cyprus	12	941.02
25	Denmark	104	632.82
26	Finland	8	336.22

APPENDIX C: (CONTINUED)

27	Indonesia	34	285.12
28	Philippines	64	284.35
29	Italy	49	257.18
30	India	68	251.36
31	Slovakia	5	235.47
32	Mauritius	34	232.19
33	Bermuda	5	211.57
34	Cook Islands	3	142.00
35	Belgium	41	134.74
36	United Arab Emirates	6	134.60
37	Norway	30	113.98
38	Channel Islands	14	113.98
39	Bahamas	3	108.65
40	Poland	10	99.74
41	New Zealand	18	76.39
42	Belize	9	71.70
43	Isle of Man	2	70.00
44	Turkey	9	68.80
45	Barbados	2	68.14
46	Laos	8	66.75
47	Sweden	31	65.79
48	Czech Republic	26	63.46
49	Austria	21	60.17
50	Cambodia	12	53.62
51	Panama	9	51.02
52	Hungary	12	47.29
53	Macau	8	45.20
54	Saint Kitts and Nevis	2	39.69
55	Liechtenstein	2	35.50

APPENDIX C: (CONTINUED)

56	Israel	14	30.98
57	Bulgaria	7	29.86
58	Spain	29	29.37
59	Seychelles Republic	7	28.60
60	Ukraine	12	27.29
61	Iraq	2	27.10
62	Ecuador	1	20.86
63	Costa Rica	1	16.45
64	Kenya	1	16.00
65	Saint Vincent	1	16.00
66	Sri Lanka	9	13.94
67	Dominica	2	11.00
68	St Vincent and The Grenadines	2	9.00
69	Cuba	1	6.60
70	Island of Nevis	1	6.00
71	Ireland	8	5.91
72	Oman	1	5.00
73	Slovenia	3	3.25
74	Turks and Caicos Islands	2	3.10
75	Brazil	1	2.60
76	Nigeria	18	2.27
77	Guatemala	1	1.87
78	Pakistan	8	1.68
79	Serbia	1	1.58
80	Islands of Marshall	1	1.50
81	Romania	2	1.40
82	North Korea	5	1.20
83	Guinea Bissau	1	1.19
84	Kyrgyz Republic	1	1.10

APPENDIX C: (CONTINUED)

85	Syria	3	1.10
86	Morocco	1	1.00
87	Maurice	1	1.00
88	Lebanon	4	0.81
89	Guam	1	0.50
90	Egypt	1	0.40
91	Bangladesh	1	0.20
92	South Africa	3	0.18
93	Argentina	1	0.12
94	Uruguay	1	0.10
95	West Indies	1	0.10
96	Malta	1	0.05
97	Mexico	1	0.05
98	Estonia	1	0.05
99	Sierra Leone	1	0.04
100	Iran	1	0.01
	Total	14,522	210,521.65

APPENDIX D: TABLE 21: FOREIGN DIRECT INVESTMENT BY SECTORS IN VIETNAM (ACCUMULATION OF PROJECTS STILL VALID AS OF 12/31/2012)

Sectors	Number of projects	Total registered invested capital (USD Million)
Manufacturing and processing industry	8,072	105,938.68
Real estate business	388	49,760.50
Accommodation and food service	331	10,605.80
Construction	936	10,052.02
Production and distribution of electricity, gas, water, air conditioning	87	7,488.88
Information and Communication	828	3,941.72
Art and Entertainment	137	3,629.18
Transport, storage	350	3,492.83
Agriculture, Forestry and Fishery	493	3,263.03
Mining	78	3,182.03
Wholesale, retail and repair	902	2,898.27
Finance, Banking and Insurance	76	1,321.65
Water supply and waste treatment	28	1,234.19
Health and social support	82	1,222.21
Professional, science and technology Activities	1,336	1,101.55
Others services	121	732.91
Education and training	163	462.92
Administration and support services	114	193.29
Total	14,522	210,521.65

APPENDIX E: TABLE 22: FOREIGN DIRECT INVESTMENT BY FORMS IN VIETNAM (ACCUMULATION OF PROJECTS STILL VALID AS OF 12/31/2012)

No.	Investment form	Number of projects	Total registered-invested capital (USD Million)
1	100percentage foreign-invested capital	11,499	141,402.88
2	Venture	2,597	53,349.66
3	BTO,BOT,BT Contracts[19]	14	5,857.32
4	Business cooperation contracts	217	5,137.09
5	Stock company	194	4,676.69
6	Conglomerate company	1	98.01
	Total	14,522	210,521.65

[19] According to the Law on Investment (2005) of Vietnam, Build-transfer-operate contract (BTO) means the investment form signed by a competent State body and an investor in order to construct an infrastructure facility; and, upon completion of construction, the investor shall transfer the facility to the State of Vietnam and the government shall grant the investor the right to operate commercially such facility for a fixed duration in order to recover the invested capital and gain profits.

Build-operate-transfer contract (BOT) means the investment form signed by a competent state body and an investor in order to construct and operate commercially an infrastructure facility for a fixed duration; and, upon expiry of the duration, the investor shall, without compensation, transfer such facility to the State of Vietnam.

Build-transfer contract (BT) means the investment form signed by a competent State body and an investor in order to construct an infrastructure facility; and, upon completion of construction, the investor shall transfer the facility to the State of Vietnam and the government shall create conditions for the investor to implement another project in order to recover the invested capital and gain profits or to make a payment to the investor in accordance with an agreement in the BT contract.

APPENDIX F: TABLE 23: THE DESCRIPTIONS OF REGIONS IN VIETNAM

Region 1	The Red River Delta region comprising of the capital and 10 provinces surrounding the capital of Vietnam. By year end of 2012, the population of the region was 20.237 million and the monthly average income per capita at current prices was VND 2.304 million
Region 2	Northern midlands and mountain areas including 14 provinces. By year end of 2012, the population of the region was 11.4 million and the monthly average income per capita at current prices was VND 1.285 million
Region 3	North Central and Central coastal areas including 14 provinces in the middle of Vietnam. By year end of 2012, the population of the region was 5.38 million and the monthly average income per capita at current prices was VND 1.469 million
Region 4	Central Highlands including 5 provinces in the mountainous middle west of Vietnam. By year end of 2012, the population of the region was 19.174 million and the monthly average income per capita at current prices was VND 1.631 million
Region 5	South East including Hochiminh City and 5 provinces in the southeast of Vietnam. This is the most active area in Vietnam. By year end of 2012, the population of the region was 15.192 million and the monthly average income per capita at current prices was VND 3.241 million
Region 6	Mekong River Delta including 13 provinces in the southwest of Vietnam. By year end of 2012, the population of the region was 17.391 million and the monthly average income per capita at current prices was VND 1.785 million
South	The south half of Vietnam, including Hochiminh city and other 31 provinces. By year end of 2012, the population of the region was 46.946 million, accounting for 52.90 percent the population of Vietnam. The south comprises region 4, region 5, region 6, and the half of region 3.

APPENDIX G: TABLE 24: FOREIGN DIRECT INVESTMENT BY PROVINCES/CITIES IN VIETNAM (ACCUMULATION OF PROJECTS STILL VALID AS OF 12/31/2012)

No.	Provinces/Cities	Number of projects	Total registered-invested capital (USD million)
1	Ho Chi Minh City	4,337	32,403.22
2	Ba Ria - Vung Tau	287	26,297.96
3	Ha Noi	2,456	21,205.57
4	Dong Nai	1,101	19,945.42
5	Binh Duong	2,246	17,969.28
6	Ha Tinh	46	10,564.40
7	Hai Phong	369	7,247.77
8	Thanh Hoa	44	7,150.24
9	Phu Yen	57	6,531.20
10	Hai Duong	272	5,379.47
11	Quang Nam	79	4,984.23
12	Quang Ninh	98	4,200.34
13	Bac Ninh	294	4,158.23
14	Quang Ngai	23	3,911.57
15	Da Nang	239	3,683.96
16	Long An	464	3,520.31
17	Kien Giang	35	3,059.44
18	Oil and gas	49	2,753.69
19	Vinh Phuc	148	2,466.93
20	Hung Yen	240	2,119.41
21	Thua Thien Hue	67	1,948.30
22	Bac Giang	101	1,668.84
23	Tay Ninh	200	1,627.48
24	Nghe An	33	1,546.35
25	Binh Thuan	99	1,439.46

APPENDIX G: (CONTINUED)

26	Tien Giang	51	1,072.71
27	Khanh Hoa	89	1,033.33
28	Ninh Binh	29	956.20
29	Lao Cai	32	837.84
30	Can Tho	59	801.09
31	Ca Mau	7	780.60
32	Ninh Thuan	29	775.64
33	Binh Phuoc	102	759.32
34	Binh Dinh	53	714.87
35	Hau Giang	12	680.27
36	Ha Nam	55	508.47
37	Lam Dong	112	487.54
38	Phu Tho	79	454.90
39	Hoa Binh	30	397.16
40	Ben Tre	32	261.49
41	Nam Dinh	41	260.07
42	Thai Binh	32	251.26
43	Lang Son	30	192.50
44	Thai Nguyen	32	148.41
45	Dac Lac	5	146.37
46	Tra Vinh	31	130.26
47	An Giang	18	122.19
48	Tuyen Quang	9	120.60
49	Son La	10	116.38
50	Vinh Long	23	113.47
51	Yen Bai	19	99.98
52	Bac Lieu	17	89.18
53	Gia Lai	12	85.65
54	Kon Tum	2	71.95

APPENDIX G: (CONTINUED)

55	Quang Tri	16	67.69
56	Dong Thap	16	46.83
57	Quang Binh	5	34.78
58	Cao Bang	14	34.63
59	Soc Trang	10	30.04
60	Dac Nong	6	19.66
61	Bac Can	7	17.91
62	Ha Giang	8	13.31
63	Lai Chau	4	4.00
	Total	14,522	210,521.65

APPENDIX H: TABLE 25: STATISTIC SUMMARY OF FDI PER CAPITA AND SOME EXPLANATORY VARIABLES[20]

Variables	Obs	Mean	Std. Dev.	Min	Max
FDIpercapita	378	1,711.38	3,705.95	0.19	31,171.73
PCI	378	57.13	6.55	36.40	77.20
FDIpercapita_1	378	1,512.99	3,460.28	0.20	31,171.73
Bed	378	2.55	0.67	1.35	4.56
Doctor	378	0.57	0.17	0.25	1.57
TotalDoctor	378	2.35	0.73	1.07	5.60
TotalStudent[21]	378	149.64	66.43	5.86	263.47

[20] All variables are defined in the Appendix A.

[21] The average number of patient beds per 1,000 people, the number of doctors per 1,000 people, and number of total doctors, physician, nurses and midwives measure the availability of medical and treatment conditions. The total number of students including primary, secondary and high school students may be a good proxy for a potentially good quality labor source of the FDI firm. One may expect that foreign investors prefer investing in the locations with more availability of potential labor source and advanced medical treatment. However, some investors may take the reverse direction with a hope to earn higher returns.

APPENDIX I: TABLE 26: REGRESSION OF FDI PER CAPITA ON SOME VARIABLES[22]

	(i)	(ii)	(iii)	(iv)
FDIpercapita_1	0.49***	0.49***	0.50***	0.496***
	[0]	[0]	[0]	[0]
Bed	-462.39	-491.38		-305.97
	[0.113]	[0.089]		[0.356]
Budget	0.01	0.01		0.01
	[0.732]	[0.727]		[0.702]
Doctor	-4.77	-112.38		
	[0.996]	[0.893]		
TotalStudent	4.40***	4.37***	3.69***	4.65***
	[0.001]	[0.001]	[0.001]	[0]
PCI	-13.08		-18.44	
	[0.465]		[0.287]	
TotalDoctor				-320.34
				[0.284]
Constant	2,182.88**	1,577.82**	1,455.57	1,743.75**
	[0.044]	[0.024]	[0.137]	[0.01]
R-squared	0.82	0.82	0.81	0.81
N	378	378	378	378

[22] All variables are defined in the Appendix A. Numbers in parentheses represent the p-values for a t-test that the average t-statistic is zero. The fixed effect models are used as the Hausman test results reject the Null. The superscripts, ***, **, and * denote the 1%, 5%, and 10% levels of significance, respectively.

APPENDIX J: THE MAP OF VIETNAM