Determinants of foreign ownership: Evidence from Vietnam listed firms

Cao Thi Hong Vinh[1], Nguyen Dam Khanh Linh & Vu Kim Dung

Abstract: Research regarding the determinants of foreign ownership in Vietnamese listed firms seems to be more important as (i) foreign capital has made a great contribution to Vietnam and (ii) the country becomes more open for foreign investors with the issuance of Governmental Decree No. 60/2015 (permitting a higher rate of foreign ownership in domestic listed firms). Despite this fact, in our perception, there have been no comprehensive studies about these determinants. To bridge the gap, we study a sample for a period of 2013-2015 with 700 listed firms on two stock exchanges of HNX and HOSE of Vietnam with the application of Instrumental Variable methodology. Our findings show clear evidence about the significant impact of different determinants on foreign ownership percentage in Vietnamese listed firms. *Firms with higher profitability, larger size, longer time to be listed on stock exchanges, less debt-equity ratio, less price volatility, but high return-volatility will be more attractive to foreign owners.* Moreover, we also discover 10 attractive industries and other 5 unattractive ones for foreign investors during the period of 2013-2015.

Key-words: Foreign ownership, Listed firms, Stock exchange, Vietnam
Date of receipt: 2nd Mar.2017; Date of revision: 7th Jun.2017; Date of approval: 20th Jun.2017

1. Introduction

In the context that Vietnam has transformed from a centrally planned economy to a market economy for only 20 years since a remarkable reform in 1986 known as Doi Moi, the ownership of foreign investors has played a significant role not only to Vietnamese firms' performance but also the economic development of the country. As a result, finding the ways to attract foreign capital into domestic companies is a concern to not only firms' owners but also policy makers.

The literature on determinants of foreign ownership in the Vietnam context is very scarce. To our best knowledge, there has been no study that investigates comprehensively the

The authors would like to express our sincere thanks to Foreign Trade University, Academic and Research Affairs Department and Stox Plus Corporation for their valuable supports, especially regarding the provision of data for our research.

[1] Foreign Trade University, Corresponding author, Email: caovinhftu@ftu.edu.vn

factors affecting foreign ownership in Vietnam's enterprises. Few papers were conducted but just about some specific determinants of foreign ownership. One of which the noticeable works is of Vo Xuan Vinh (2010) who analysed foreign ownership of Vietnamese listed firms in Vietnam stock markets during the period between 2007 and 2009 and pointed out the information asymmetry to be a factor affecting foreign ownership. Furthermore, Tsang (2005) while examining the determinants of foreign market entry mode choice in Vietnam indicated that advertising intensity, country risk of Vietnam, project investment amount, project duration, cultural distance, competitive intensity, and location of investment have significant impacts on entry mode choice of foreign investors. However, the paper mostly focused on entry mode, rather than the level of foreign ownership.

For the purpose of attributing a more systematic evidence on this area of study, this paper examines main determinants having significant impacts on foreign ownership in Vietnamese listed firms. The authors make use of the method of Instrumental variable for a panel data of 700 Vietnam listed firms from two stock exchanges (Hanoi and Ho Chi Minh) over the period of 3 years from 2013 to 2015 (the data is provided by Stoxplus Joint Stock Company). The paper affirms that firms' profitability, firm size, firm age and the type of stock exchange and high return-volatility have significantly positive effects on foreign ownership of Vietnamese listed firms. In contrast, other variables regarding capital structure and risk (measured by price volatility) seem to be not of significant interest for foreign investors. Other results also discover the industries which draw much attention of foreign investors.

The remainders of the paper are organized as follows. Section 2 looks into the literature review about the previous researches related to the determinants of foreign ownership. Section 3 describes the empirical specification. Section 4 illustrates the data. The next section shows finding results of the research and the conclusion will be given in the last section.

2. Literature Review

2.1. In the world

A number of researches on foreign ownership has identified a wide range of factors affecting the level of foreign ownership. Some typical researches which could be mentioned are of Agarwal and Ramaswami (1992); Gatignon and Anderson (1988); Gomes-Casseres (1989); Kim and Hwang (1992); Erramilli (1991); Brouthers (1995); Madhok (1998) and Anderson et al. (2001). However the primary determinants that influence foreign ownership level could be categorized into three groups: firm-specific characteristics (profitability, firm size, age, business risk and capital structure), industry-specific characteristics and country-specific characteristics (GDP, inflation, interest rate) with different points of views.

2.1.1. Firm-specific characteristics

Profitability

The effect of this factor on foreign ownership is inconsistent all over the world. Anderson et al. (2001) who studied determinants of foreign ownership in newly privatized firms in the Republic of Czech found that high profitability, measured by either return on equity or revenue per employee, has a significantly positive impact on foreign investment. In addition La Porta et al. (1997) explained why more profitable firms had a greater foreign ownership by clarifying that these firms were considered to be safer and less likely to suffer from

bankruptcy. On the contrary, according to Shleifer and Vishny (1997), companies with high profitability might not have a strong need for external funding by foreign investors. As a result, this kind of firms could have lower foreign ownership than the others.

Size

Various variables to measure firm size have been identified such as total assets or total employees. Anderson et al. (2001) concluded that the know-how and capital of foreign investors would be utilized more sufficiently in large firms rather than small firms. Larger firms with a strong financial and operational capacity were less likely to go bankrupt (according to Rajan and Zingales (1995)). However, small and medium-sized enterprises were more vulnerable to unfavorable changes such as unsuccessful investment or failure because they had only few markets. Furthermore, large enterprises could be more advantageous in terms of information accessibility as a result of their close networks. Consequently, firms with larger size attracted more investment from foreign investors. These ideas are supported by many empirical evidences such as Makino and Neupert (2000), Hennart and Larimo (1998)and Frank and Goyal (2009). However, there have been also other papers with opposing opinions such as Titman and Wessels (1988) and Nunkoo and Boateng (2010).

Age

Álvarez (2003) argued that age of firms has a negative relationship with the level of foreign ownership due to the fact that the more experienced in management and organization that firms are, the less need of support by a partner that they require. This idea was also supported by Hennart (1991), Hennart and Larimo (1998) and Brouthers and Brouthers (2001). If they have acquired substantial knowledge of the markets in a region, then they would prefer to set up by themselves as a wholly owned enterprise rather than a joint-venture.

Business risk

Frank and Goyal (2009) mentioned that firms with high volatility in earnings could be regarded in the financial markets as having poor management or problems in business lines, resulting in volatile stock prices. As a result, these firms would attracted less capital from foreign investors. In fact, volatility of earnings or cash flows is the measure of risk that a firm faces, especially business risk. Titman and Wessels (1988) confirmed in their study that "many authors have also suggested that a firm's optimal debt level is a decreasing function of the volatility of earnings". A similar argument was presented by Frank and Goyal (2009). Riskier cash flows resulting from cyclicality or seasonality of business lines will reduce the benefits of tax shields, thus, trade-off theory would support a negative relation between volatility and leverage.

Capital structure

Anderson et al. (2001)measured a firm's indebtedness using both debt/assets and bank debt/ assets. They hypothesized that foreign investors are averse to taking stakes in highly indebted firms. If these firms faced higher risks of financial distress due to higher debt, a more concentrated equity stake might be desired to provide incentives for restructuring and to guard against managerial opportunism in the event of distress. Supportive of this inference, firms in riskier industries (intra-industry ROA variance > median) also had higher equity stakes, although this relation was not consistently or highly statistically significant.

2.1.2. Industry-specific characteristics

Louri et al. (2002) indicated that of the industry variables, capital intensity was estimated to affect negatively the majority and positively the minority ownership choice. That means in industries with high capital requirements, multinational firms preferred to share ownership and hence reduced financial strain and risk. The same rationale seemed to hold in highly concentrated industries where multinational firms preferred minority ownership in an effort to reduce the risks involved in oligopolistic markets. On the contrary, resource intensity positively affects full ownership as multinational companies preferred not to share ownership probably due to the potential agency problems. R&D intensity affected negatively the minority option, but its effect was statistically weak. Similar findings in relation to technological intensity were obtained, for instance, by Stopford and Wells Jr (1972), Kogut and Singh (1988), Gatignon and Anderson (1988) and Molero (1998).

2.1.3. Country-specific characteristics

In terms of macroeconomic factors that influence the level of foreign ownership, Svejnar and Smith (1984) and Franko (1989) who took the host country's institutional framework, taxation policy, investment incentives into investigation concluded that these factors could play an important role in explaining the choice of ownership from abroad. In addition, according to Álvarez (2003), GDP growth rate has a negatively significant impact on foreign ownership. A firm investing in a more dynamic host country is more likely to do so via a joint venture (JV), as the fastest method of entry that enables a unique opportunity to be immediately exploited. Hennart (1991), Gomes-Casseres (1989), Gomes-Casseres (1990) obtained similar results.

2.2. In Vietnam

In Vietnam, there have been a few studies that identify several certain determinants of foreign ownership.

2.2.1. Firm-specific characteristics

Profitability

Although the relationship between foreign ownership and profitability has been established theoretically, only few studies have examined this linkage, especially in a developing country like Vietnam. However, these studies just focused on the impact of foreign ownership rate on profitability of firms. Vo and Vo (2016) did employ the data of 161 listed firms on Ho Chi Minh Stock Exchange in 8 years period from 2007 to 2014 to investigate this linkage. The research showed that foreign ownership had a U-shaped relationship with firm profitability. However, there have been no studies that examined whether profitability of firms was the main factor which helped foreign investors to make investing decision in these firms.

Size

There have been a few studies which concerned the determinants of foreign ownership in Vietnam. The most noticeable work was conducted by Vo (2010). He investigated foreign ownership in Vietnam from 2007 to 2010 to find out the important characteristics of listed firms that attracted foreign ownership. The research's results showed that firm size had the

largest impact on foreign ownership and foreign investors in Vietnam seemed to prefer firms with larger size, high book-to-market ratio, low leverage, or low ownership concentration.

2.2.2. Country-specific characteristics

Tsang (2005) examined the factors influencing foreign ownership level and entry mode choice in Vietnam. The study indicated that advertising intensity, country risk of Vietnam, project investment amount, project duration, cultural distance, competitive intensity, and location of investment had significant impact on entry mode choice. In details, as the country risk of Vietnam increased, the foreign partners tended to acquire a minority rather than majority or 50% equity ownership level.

3. Data and empirical specification

3.1. Data

The data employed in this paper is taken from the FiinPro Platform supplied by Stoxplus corporation[2]. The study examines the determinants of foreign ownership for firms listing on the two main stock exchanges of HNX (in Hanoi) and HOSE (in Ho Chi Minh). Our used yearly data covers a wide range of industries (63), including 700 firms over a period of 3 years from 2013 to 2015 (with 1809 observations) (See Appendix 2 for details of industries).

Based on the available data, we have constructed some variables as follows:

$$\boldsymbol{yearsoflisting = 2016 - starting\ year\ of\ listing}$$

$$\boldsymbol{volatility = std(ROE)_i - weighted * std(ROE)_I}$$

In which:

$\boldsymbol{std(ROE)_i}$ denotes the standard deviation of return on equity of firm i

$\boldsymbol{weightedstd(ROE)_I}$ denotes the weighted standard deviation of return on equity of industry i

$$\boldsymbol{weightedstd(ROE)_I = \frac{Employment_i}{\sum Employment_i} * std(ROE)_i}$$

3.2. Empirical specification

Based on the above literature review about determinants of foreign ownership, we construct a model with the empirical specification as follows:

$$\boldsymbol{FO_{it} = \alpha ROE_{it} + \beta_1 employment_{it} + \beta_2 yearsoflisting_{it} + \beta_3 debtequity_{it} + \beta_4 risk_{it} + \gamma_j D_i + \epsilon_{it}}$$

where i denotes firm i, t is year t.

- $\boldsymbol{FO_{it}}$ is the percentage of foreign ownership in firm i in year t;
- $\boldsymbol{ROE_{it}}$ denotes the return on equity of firm i in year t. This variable reflects the profitability in the performance of firm i in year t;
- $\boldsymbol{Employment_{it}}$ is the number of employees of firm i in year t;

[2] StoxPlus, an associate company of Nikkei Inc. and QUICK Corporation.

❖ $Yearsoflisting_{it}$ is the number of years that firm i's securities have been listed on stock exchange (from the starting year of being listed until 2016);
❖ $Debtequity_{it}$ is the ratio of debt and equity of firm i in year t;
❖ $Risk_{it}$ is measured by either $Pricerisk_{it}$ or $Volatility_{it}$ of firm i in year t ($Pricerisk_{it}$ is the percentage of the change in the share price within year t; $Volatility_{it}$ is a constructed variable which is measured by the difference in the volatility of return of firm i and that of its industry)
❖ D_i denotes industry dummies[3]
❖ $Exchange_i$ denotes the dummy for stock exchange.

Table 1 presents the summary statistics of the main variables (See Appendix 1 for correlation among variables).

Table 1: Summary Statistics of Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
FO	1809	0.0998894	0.1338177	0	0.51
ROE	1809	0.0941625	0.1587373	-1.43	0.88
employment	1809	1094.06	2787.212	6	29192
yearsoflis~g	1809	7.516307	2.416271	0	16
debtequity	1809	0.7853897	1.0654	-0.03[4]	8.32
pricerisk	1809	0.330984	0.694736	-0.8	14.37
volatility	1809	-0.0016231	0.0791979	-0.204773	0.7711725

4. Results and analysis

With the above mentioned empirical specifications, we run regressions using the methodology of Instrumental Variables which helps to deal with the problem of endogeneity. This issue is originated from the causality between foreign ownership and profitability of firms. To control for this, we use the instrument of lag 1 year of ROE (Lroe) (The tests for the suitability of this instrument are mentioned in the below section). The correlation among variables, especially lag 1 year variables is shown in Appendix 1.

4.1. Baseline results

The findings for main variables are presented in Table 2 with relatively consistent results, which are important for our conclusion.

Table 2: Baseline results for determinants of foreign ownership

	Foreign ownership					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
ROE	0.247***	0.244***	0.320***	0.228***	0.225***	0.304***
	(0.0539)	(0.0530)	(0.0661)	(0.0520)	(0.0511)	(0.0638)
Employment	1.02e-05***	1.02e-05***	9.73e-06***	8.29e-06***	8.32e-06***	7.75e-06***
	(1.55e-06)	(1.54e-06)	(1.60e-06)	(1.51e-06)	(1.50e-06)	(1.57e-06)
Yearsoflisting	0.0110***	0.0108***	0.0114***	0.0101***	0.00998***	0.0105***
	(0.00160)	(0.00158)	(0.00164)	(0.00154)	(0.00153)	(0.00159)
Debtequity	-0.0177***	-0.0183***	-0.0179***	-0.0186***	-0.0191***	-0.0187***

[3] The list of industry is clarified in Appendix 2
[4] The negative value of debt-equity ratio is for the case of Mineral Ferrous Metalergy KSK in 2015

	(0.00384)	(0.00379)	(0.00392)	(0.00370)	(0.00365)	(0.00378)
Pricerisk		-0.0203***			-0.0187***	
		(0.00538)			(0.00519)	
Volatility			0.133**			0.139**
			(0.0562)			(0.0542)
_Iexchange_2				0.0670***	0.0666***	0.0677***
				(0.00770)	(0.00764)	(0.00787)
Constant	0.0155	0.0438	-0.00967	-0.0273	-0.000795	-0.0540
	(0.0388)	(0.0377)	(0.0415)	(0.0378)	(0.0367)	(0.0404)
Observations	1,184	1,184	1,184	1,184	1,184	1,184
Regression	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Industrydum	**Yes**	Yes	Yes	Yes	Yes	Yes
Exchangedum	No	No	No	Yes	Yes	Yes

*(Dependent variable is percentage of foreign ownership of firm i at year t. Two stage least square is applied. Instrument is the variable of one-year lag of ROE. ***/**/* present significant level of t-statistics at 1%/5%/10% level. _Iexchange_2 shows the value of the coefficient of the dummy Exchange variable as the stock exchange of HOSE is considered)*

For **ROE**, a proxy for the profitability of firms, the results obtained from Table 2 indicate a statistically significant impact of this variable on foreign ownership. This means foreign investors do care about the return on equity that firms could achieve. The significant impacts are highly consistent for all columns without and with controlling for the dummy of stock exchange (Columns 1-3 vs. 4-6).

For **firm size** (proxied by **number of employees** – the variable of **employment**), there is a strongly positive relationship between the number of employees in the companies and the percentage of foreign possessing in ownership structure as its significant coefficients at the confidence level of 99%. This finding which is paralleled with previous studies indicates that foreign investors would prefer choosing a bigger firm size in terms of employment rather than a smaller one possibly because of a better managerial capacity and being able to utilize investors' capital and expertise more efficiently and effectively. It is also advantageous to Vietnamese big firms to have diverse investment portfolios as getting less risks of vulnerability toward market fluctuations.

Adding to employment, to further proxy for firm size, we also examine the **market capitalization (mkc)** as a measurement for size of firms but for 2015 only due to the availability of data. (See Appendix 5). It can be seen that market capitalization has a noteworthy impact on the increase of foreign ownership in Vietnamese listed companies as the statistically significant coefficient of the variable of mkc is at the level of 1% (see Table 4). To make clear further about the real impact of market capitalization on foreign ownership, we included the **square of market capitalization (mkcsqt)** to see if the inverted U-shaped effect of market capitalization on foreign ownership [5]exist or not. The results support that existence (at the significant level of 1%), but the magnitude is very small, hence, we could ignore these in our further analysis.

[5] It means that the ownership proportion of foreign investors will increase as the growth of market capitalization of Vietnamese firms until it reaches the peak and then decreases for the case of larger-market-capitalization firms.

For **years of fisting variable**, its positive signs and statistically significant coefficients show that a more experienced company will receive a higher level of foreign ownership. It is reasonable due to the fact that years of fisting often reflect a firm's experience or knowledge of market as well as its potential and reputation in the industry.

For **Debtequity** as a proxy for firms' capital structure, the significantly negative coefficients present that the higher ratio of debt to equity, the less attractive firms are for foreign investors. This finding makes sense as investors could consider firms with higher ratio of debt to equity to be riskier. The concern of risk is also supported by the coefficients for **Pricerisk.** It could be seen that as stock prices of firms fluctuate more, foreign investors are less interested in those shares. However, for the variable of **Volatility** (measuring the volatility level of ROE of firms in comparison with that of their sectors), what we have found is the opposite impact of this variable on the percentage of foreign ownership. This finding could be explained in the way that despite implying the risks, higher **Volatility of Return** could be a good signal for risk-loving investors, who have good expectations of those shares in the future.

Moreover, the choice of **stock exchange (**the variable of **exchange)** has a substantial impact on the enhancing of ownership proportion from aboard (See table…). The positive sign of the exchange dummy variable indicates that firms who are listed on HOSE attract greater foreign ownership than those on HNX exchange. In fact, although HNX exchange possess the number of shares approximately as twice as that of HOSE, the volume and value of transactions exchanged through HNX are smaller in comparison to the big volume of market capitalization of only over 300 enterprises in the HOSE.

Regarding the reasonability of the instrument – lag 1 year of ROE (Lroe):

To assure our above results which are found on the base of applying the Instrumental Variable method, the first stage of the regression in Table 2, Column (4) is reported in Appendix 3. The results for regressions of other columns are quite similar and consistent. What we found in this first stage proves for the significantly positive correlation between ROE and its lag of 1 year.

Moreover, we also did different tests for checking the suitability of the instrument. Results for tests are shown in Appendix 4. For all tests for the first stage (Sanderson-Windneijer multivariate F test, Stock-Yogo weak ID F test critical values for single endogenous regressor, Underidentification test based on Anderson LM statistic, Weak identification test based on Cragg-Donald Wald F statistic, Stock-Yogo weak ID test critical values, Weak-instrument-robust inference) and the second stage (Underidentification test based on Anderson LM statistic, Weak identification test based on Cragg-Donald Wald F statistic and Sargan statistic for overidentification test of all instruments), the evidences we obtained prove for the instrument of Lroe as a strong instrument, meaning that our findings are critical.

4.2. Results for different industries

Overall, among 63 industries surveyed, we have found from Table 3 is that foreign investors are interested in 10 industries, which are Clothing & Accessories, Consumer Electronics, Electronic Office Equipment, Medical Equipment, Oil Equipment and Services,

Pharmaceuticals, Property & Casualty Insurance, Recreational Services and Software. All of these industries are among growing ones of Vietnam, hence, becoming attractive for investors.

Table 3: Industries having positive effects on foreign ownership

	Foreign ownership			
	(1)	**(2)**	**(3)**	**(4)**
ROE	0.247***	0.244***	0.228***	0.225***
	(0.0539)	(0.0530)	(0.0520)	(0.0511)
employment	1.02e-05***	1.02e-05***	8.29e-06***	8.32e-06***
	(1.55e-06)	(1.54e-06)	(1.51e-06)	(1.50e-06)
yearsoflisting	0.0110***	0.0108***	0.0101***	0.00998***
	(0.00160)	(0.00158)	(0.00154)	(0.00153)
debtequity	-0.0177***	-0.0183***	-0.0186***	-0.0191***
	(0.00384)	(0.00379)	(0.00370)	(0.00365)
Pricerisk		-0.0203***		-0.0187***
		(0.00538)		(0.00519)
_Iexchange_2			0.0670***	0.0666***
			(0.00770)	(0.00764)
_Iindustry_9	0.0992**	0.0791*	0.120***	0.101**
	(0.0466)	(0.0462)	(0.0450)	(0.0446)
_Iindustry_15	0.126*	0.104	0.178***	0.157**
	(0.0686)	(0.0677)	(0.0664)	(0.0657)
_Iindustry_23	0.323***	0.304***	0.311***	0.294***
	(0.0898)	(0.0890)	(0.0866)	(0.0859)
_Iindustry_39	0.337***	0.303***	0.319***	0.288***
	(0.0901)	(0.0893)	(0.0869)	(0.0862)
_Iindustry_41	0.0459	0.0197	0.0909*	0.0664
	(0.0521)	(0.0517)	(0.0505)	(0.0502)
_Iindustry_44	0.0587	0.0354	0.0769**	0.0553
	(0.0406)	(0.0402)	(0.0392)	(0.0388)
_Iindustry_45	0.121**	0.104**	0.134***	0.118**
	(0.0513)	(0.0506)	(0.0495)	(0.0488)
_Iindustry_49	0.111*	0.0898	0.111*	0.0910
	(0.0627)	(0.0621)	(0.0604)	(0.0600)
_Iindustry_50	0.192**	0.169*	0.246***	0.225***
	(0.0900)	(0.0891)	(0.0870)	(0.0862)
_Iindustry_52	0.115**	0.0919*	0.145***	0.124**
	(0.0554)	(0.0546)	(0.0536)	(0.0528)
Observations	1,184	1,184	1,184	1,184
Industrydum	Yes	Yes	Yes	Yes
Exchangedum	No	No	Yes	Yes

9	Clothing & Accessories L4	41	Oil Equipment & Services L4
15	Consumer Electronics L4	44	Pharmaceuticals L4
23	Electronic Office Equipment L4	45	Property & Casualty Insurance L4
39	Medical Equipment L4	49	Recreational Services L4

50 Reinsurance L4 52 Software

*(Dependent variable is percentage of foreign ownership of firm i at year t. Two stage least square is applied. Instrument is the variable of one-year lag of ROE. ***/**/* present significant level of t-statistics at 1%/5%/10% level, Iexchange_2 shows the value of the coefficient of the dummy Exchange variable as the stock exchange of HOSE is considered)*

Different from 10 above industries, which seem to get more attention of foreign investors, there are 5 industries, which attract less foreign capital, which are Broadline Retailers, Diversified Industrials, Paper, Real Estate and Trucking (See Table 4). This is explainable especially for Real Estate which experienced a period of slowing down from 2013 to 2015.

Table 4: Industries having negative effects on foreign ownership

	Foreign ownership			
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
Roe	0.247***	0.244***	0.228***	0.225***
	(0.0539)	(0.0530)	(0.0520)	(0.0511)
Employment	1.02e-05***	1.02e-05***	8.29e-06***	8.32e-06***
	(1.55e-06)	(1.54e-06)	(1.51e-06)	(1.50e-06)
Yearsoflisting	0.0110***	0.0108***	0.0101***	0.00998***
	(0.00160)	(0.00158)	(0.00154)	(0.00153)
Debtequity	-0.0177***	-0.0183***	-0.0186***	-0.0191***
	(0.00384)	(0.00379)	(0.00370)	(0.00365)
Pricerisk		-0.0203***		-0.0187***
		(0.00538)		(0.00519)
_Iexchange_2			0.0670***	0.0666***
			(0.00770)	(0.00764)
_Iindustry_5	-0.0905	-0.112**	-0.0962*	-0.116**
	(0.0563)	(0.0557)	(0.0543)	(0.0538)
_Iindustry_19	-0.130*	-0.138**	-0.110*	-0.118*
	(0.0678)	(0.0672)	(0.0654)	(0.0649)
_Iindustry_42	-0.0991**	-0.117**	-0.0976**	-0.114**
	(0.0505)	(0.0501)	(0.0487)	(0.0483)
_Iindustry_48	-0.170*	-0.167*	-0.113	-0.110
	(0.0905)	(0.0896)	(0.0875)	(0.0867)
_Iindustry_62	-0.0737*	-0.0893**	-0.0429	-0.0576
	(0.0404)	(0.0400)	(0.0392)	(0.0388)
Observations	1,184	1,184	1,184	1,184
R-squared	0.243	0.256	0.296	0.307
Profitability	ROE	ROE	ROE	ROE
Obs	All	All	All	All
Regression	2SLS	2SLS	2SLS	2SLS
Industrydum	Yes	Yes	Yes	Yes
Exchangedum	No	No	Yes	Yes

5 Broadline Retailers L4

19 Diversified Industrials L4

42 Paper L4

48	Real Estate Services L4
62	Trucking

(Dependent variable is percentage of foreign ownership of firm i at year t. Two stage least square is applied. Instrument is the variable of one-year lag of roe. ***/**/* present significant level of t-statistics at 1%/5%/10% level, Iexchange_2 shows the value of the coefficient of the dummy Exchange variable as the stock exchange of HOSE is considered.)

ROBUSTNESS CHECK

To affirm further about what has been discovered to be important factors of foreign ownership, we used another proxy for the profitability of firms, which is ROA (return on asset). According to Table 5, we could see that the results still show a consistent trend with the similar statistical significance of coefficients for our variables. In comparison with what has been achieved for ROE, the coefficients for ROA still express the same positive impact on foreign ownership, affirming the importance of profitability of firms to foreign investors. However, the magnitudes of coefficients for ROA are higher than those for ROE. This implies that foreign investors do care more about the return-asset ratio, which show the ability of making returns of firms. Nevertheless, for our baseline, the results for ROE are included due to the fact that the real returns for investors are based on ROE rather than ROA.

Table 5: Results for determinants of foreign ownership with the ROA as the proxy for profitability of firms

	Foreign ownership					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
ROA	0.600***	0.582***	0.615***	0.532***	0.516***	0.551***
	(0.0832)	(0.0810)	(0.0843)	(0.0812)	(0.0792)	(0.0822)
Employment	1.04e-05***	1.04e-05***	1.04e-05***	8.68e-06***	8.73e-06***	8.65e-06***
	(1.48e-06)	(1.47e-06)	(1.48e-06)	(1.45e-06)	(1.44e-06)	(1.45e-06)
Yearsoflisting	0.0110***	0.0109***	0.0111***	0.0102***	0.0101***	0.0103***
	(0.00156)	(0.00155)	(0.00156)	(0.00151)	(0.00150)	(0.00152)
Debtequity	-0.0125***	-0.0132***	-0.0127***	-0.0141***	-0.0148***	-0.0143***
	(0.00387)	(0.00382)	(0.00388)	(0.00375)	(0.00371)	(0.00377)
Pricerisk		-0.0164***			-0.0149***	
		(0.00466)			(0.00452)	
Volatility			0.0347			0.0416
			(0.0451)			(0.0437)
_Iexchange_2				0.0611***	0.0610***	0.0612***
				(0.00762)	(0.00757)	(0.00763)
Constant	0.0122	0.0366	0.00902	-0.0237	-0.00147	-0.0275
	(0.0365)	(0.0363)	(0.0367)	(0.0356)	(0.0354)	(0.0358)
Observations	1,184	1,184	1,184	1,184	1,184	1,184
Industrydum	Yes	Yes	Yes	Yes	Yes	Yes
Exchangedum	No	No	No	Yes	Yes	Yes

(Dependent variable is percentage of foreign ownership of firm i at year t. Two stage least square is applied. Instrument is the variable of one-year lag of ROA. ***/**/* present significant level of t-statistics at 1%/5%/10% level.)

Moreover, to deal with the possible causality for all included independent variables with our dependent one, we did apply the Generalized Methods of Moment (GMM). From Table 6, we could affirm the consistency of the effects of factors of foreign ownership in Vietnamese listed firms.

Table 6: Results for determinants of foreign ownership applying Generalized Methods of Moment (GMM)

Fo	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
ROE	.1024343	.0176935	5.79	0.000	.0677556	.137113
employment	.0000117	1.53e-06	7.66	0.000	8.72e-06	.0000147
yearsoflisting	.0104562	.0013149	7.95	0.000	.007879	.0130333
debtequity	-.0259443	.0021461	-12.09	0.000	-.0301506	-.0217381
pricerisk	-.0063014	.0038677	-1.63	0.103	-.0138819	.0012791

5. CCONCLUSIONS

The study investigates factors that influence foreign ownership of listed firms in Vietnam on HNX and HOSE exchanges by employing Instrumental Variable method for a panel data of 700 companies over the 3-year period from 2013 to 2015. Our findings support the significant impact of main variables as proxies for the Profitability (ROE or ROA), Firm size (Employment or Market structure), Firm age (Years of listing), Capital Structure (Debt to equity ratio) and Risk. We could see that firms with higher profitability, larger size, longer time to be listed on stock exchanges, less debt-equity ratio, less price volatility, but high return-volatility will be more attractive to foreign owners. We also find out the significant effect for firms having their shares listed on HOSE.

From these findings, Vietnamese firms could understand clearly about what plays significant role to attract foreign investment on the stock exchanges, then setting a good strategy for raising long-term capital from foreign investors. It's quite difficult to recommend firms to adjust something like profitability, price volatility and return volatility, but they could think about future expansion and reduce the debt-equlity ratio. Moreover, firms, especially the ones preparing for the listing shares on stock exchange, may consider the HOSE exchange at first.

Moreover, our research also discovers the evidences for 10 industries (Clothing & Accessories, Consumer Electronics, Electronic Office Equipment, Medical Equipment, Oil Equipment and Services, Pharmaceuticals, Property & Casualty Insurance, Recreational Services and Software) which are of foreign investors' interest. On the contrary, five other industries (Broadline Retailers, Diversified Industrials, Paper, Real Estate and Trucking) are not the ones attracting foreign investors during the period of 2013-2015. Therefore, firms could clearly see the attention of foreign investors within their sectors, hence, could make better decisions in selecting the sectors for operation as they are considerating the diversification into various sectors.

For further study, we suggest that more investigations should be given to individual industries to identify their specific characteristics affecting the level of foreign ownership in Vietnamese firms, then providing specific recommendations for each industry in attracting holdings of foreign investors which could greatly benefit companies when doing business in different fields.

References

1. AGARWAL, S. & RAMASWAMI, S. N. 1992. Choice of foreign market entry mode: Impact of ownership, location and internalization factors. *Journal of International business studies***,** 1-27.
2. ÁLVAREZ, M. 2003. *Wholly-owned subsidiaries versus joint ventures: The determinant factors in the Catalan multinational manufacturing case*, Institut d'Economia de Barcelona.
3. ANDERSON, C. W., JANDIK, T. & MAKHIJA, A. K. 2001. Determinants of foreign ownership in newly privatized companies in transition economies. *Financial Review,* 36**,** 161-176.
4. BROUTHERS, K. D. 1995. The influence of international risk on entry mode strategy in the computer software industry. *MIR: Management International Review***,** 7-28.
5. BROUTHERS, K. D. & BROUTHERS, L. E. 2001. Explaining the national cultural distance paradox. *Journal of International Business Studies,* 32**,** 177-189.
6. ERRAMILLI, M. K. 1991. The experience factor in foreign market entry behavior of service firms. *Journal of international business studies,* 22**,** 479-501.
7. FRANK, M. Z. & GOYAL, V. K. 2009. Capital structure decisions: which factors are reliably important? *Financial management,* 38**,** 1-37.
8. FRANKO, L. G. 1989. Global corporate competition: Who's winning, who's losing, and the R&D factor as one reason why. *Strategic Management Journal,* 10**,** 449-474.
9. GATIGNON, H. & ANDERSON, E. 1988. The multinational corporation's degree of control over foreign subsidiaries: An empirical test of a transaction cost explanation. *Journal of Law, Economics, & Organization,* 4**,** 305-336.
10. GOMES-CASSERES, B. 1989. Ownership structures of foreign subsidiaries: Theory and evidence. *Journal of Economic Behavior & Organization,* 11**,** 1-25.
11. GOMES-CASSERES, B. 1990. Firm ownership preferences and host government restrictions: An integrated approach. *Journal of international business studies,* 21**,** 1-22.
12. HENNART, J.-F. 1991. The transaction costs theory of joint ventures: An empirical study of Japanese subsidiaries in the United States. *Management science,* 37**,** 483-497.

13. HENNART, J.-F. & LARIMO, J. 1998. The impact of culture on the strategy of multinational enterprises: does national origin affect ownership decisions? *Journal of International Business Studies,* 29**,** 515-538.

14. KIM, W. C. & HWANG, P. 1992. Global strategy and multinationals' entry mode choice. *Journal of international business studies***,** 29-53.

15. KOGUT, B. & SINGH, H. 1988. The effect of national culture on the choice of entry mode. *Journal of international business studies,* 19**,** 411-432.

16. LA PORTA, R., LOPEZ-DE-SILANES, F., SHLEIFER, A. & VISHNY, R. W. 1997. Legal determinants of external finance. *Journal of finance***,** 1131-1150.

17. LOURI, H., LOUFIR, R. & PAPANASTASSIOU, M. 2002. Foreign investment and ownership structure: an empirical analysis. *Empirica,* 29**,** 31-45.

18. MADHOK, A. 1998. The nature of multinational firm boundaries: Transaction costs, firm capabilities and foreign market entry mode. *International Business Review,* 7**,** 259-290.

19. MAKINO, S. & NEUPERT, K. E. 2000. National culture, transaction costs, and the choice between joint venture and wholly owned subsidiary. *Journal of International Business Studies,* 31**,** 705-713.

20. MOLERO, J. 1998. Patterns of internationalization of Spanish innovatory firms. *Research Policy,* 27**,** 541-558.

21. NUNKOO, P. K. & BOATENG, A. 2010. The empirical determinants of target capital structure and adjustment to long-run target: evidence from Canadian firms. *Applied Economics Letters,* 17**,** 983-990.

22. RAJAN, R. G. & ZINGALES, L. 1995. What do we know about capital structure? Some evidence from international data. *The journal of Finance,* 50**,** 1421-1460.

23. SHLEIFER, A. & VISHNY, R. W. 1997. A survey of corporate governance. *The journal of finance,* 52**,** 737-783.

24. STOPFORD, J. M. & WELLS JR, L. T. 1972. Managing the multinational enterprise: Organization of the firm and ownership of the subsidiary.

25. SVEJNAR, J. & SMITH, S. C. 1984. The economics of joint ventures in less developed countries. *The Quarterly Journal of Economics,* 99**,** 149-167.

26. TITMAN, S. & WESSELS, R. 1988. The determinants of capital structure choice. *The Journal of finance,* 43**,** 1-19.

27. TSANG, E. W. 2005. Influences on foreign ownership level and entry mode choice in Vietnam. *International Business Review,* 14**,** 441-463.

28. VO, T. T. V. & VO, H. D. 2016. THE IMPACT OF FOREIGN OWNERSHIP ON PROFITABILITY OF VIETNAMESE FIRMS LISTED ON HO CHI MINH STOCK EXCHANGE.

29. VO, X. V. 2010. Foreign ownership in Vietnam stock markets-an empirical analysis.

APPENDIX

Appendix 1: Correlation among variables

	fo	roe	Lroe	employ~t	yearso~g	debteq~y	pricer~k	risk
Fo	1							
Roe	0.146	1						
Lroe	0.2047	**0.4866**	1					
employment	0.2515	0.0771	0.1163	1				
yearsoflis~g	0.1916	0.0211	0.0545	0.0964	1			
debtequity	-0.2042	-0.1346	-0.129	0.0903	0.0122	1		
pricerisk	-0.0486	0.2717	-0.0042	-0.0363	-0.0174	-0.0442	1	
Risk	-0.0438	-0.1968	-0.4005	0.0089	-0.0272	0.1516	0.1098	1

Appendix 2: Number of firms by industries

	Industrial sector (ICB) Level: 4	Freq.	Percent	Cum.
1	Automobiles L4	18	1	1
2	Banks L4	25	1.38	2.38
3	Biotechnology L4	3	0.17	2.54
4	Brewers L4	9	0.5	3.04
5	Broadline Retailers L4	11	0.61	3.65
6	Building Materials & Fixtures L4	141	7.79	11.44
7	Business Support Services L4	24	1.33	12.77
8	Business Training & Employment Agencies	9	0.5	13.27
9	Clothing & Accessories L4	21	1.16	14.43
10	Coal L4	24	1.33	15.75
11	Commercial Vehicles & Trucks L4	3	0.17	15.92
12	Commodity Chemicals L4	36	1.99	17.91
13	Computer Hardware L4	12	0.66	18.57
14	Computer Services L4	9	0.5	19.07
15	Consumer Electronics L4	6	0.33	19.4
16	Containers & Packaging L4	39	2.16	21.56
17	Conventional Electricity L4	48	2.65	24.21
18	Distillers & Vintners L4	6	0.33	24.54
19	Diversified Industrials L4	6	0.33	24.88
20	Durable Household Products L4	3	0.17	25.04
21	Electrical Components & Equipment L4	23	1.27	26.31
22	Electronic Equipment L4	14	0.77	27.09
23	Electronic Office Equipment L4	3	0.17	27.25
24	Farming & Fishing L4	63	3.48	30.74
25	Food Products L4	58	3.21	33.94
26	Food Retailers & Wholesalers L4	3	0.17	34.11
27	Forestry L4	9	0.5	34.6
28	Furnishings L4	12	0.66	35.27
29	Gas Distribution L4	33	1.82	37.09
30	General Mining L4	50	2.76	39.86
31	Heavy Construction L4	297	16.42	56.27
32	Hotels L4	9	0.5	56.77
33	Industrial Machinery L4	39	2.16	58.93
34	Industrial Suppliers L4	9	0.5	59.43
35	Internet L4	3	0.17	59.59
36	Investment Services L4	54	2.99	62.58
37	Life Insurance L4	3	0.17	62.74
38	Marine Transportation L4	27	1.49	64.23
39	Medical Equipment L4	3	0.17	64.4
40	Medical Supplies L4	3	0.17	64.57

41	Oil Equipment & Services L4	14	0.77	65.34
42	Paper L4	15	0.83	66.17
43	Personal Products L4	18	1	67.16
44	Pharmaceuticals L4	45	2.49	69.65
45	Property & Casualty Insurance L4	15	0.83	70.48
46	Publishing L4	69	3.81	74.3
47	Real Estate Holding & Development L4	172	9.51	83.8
48	Real Estate Services L4	3	0.17	83.97
49	Recreational Services L4	8	0.44	84.41
50	Reinsurance L4	3	0.17	84.58
51	Soft Drinks L4	6	0.33	84.91
52	Software L4	12	0.66	85.57
53	Specialty Chemicals L4	31	1.71	87.29
54	Specialty Finance L4	5	0.28	87.56
55	Specialty Retailers L4	12	0.66	88.23
56	Steel L4	53	2.93	91.16
57	Telecommunications Equipment L4	24	1.33	92.48
58	Tires L4	12	0.66	93.15
59	Tobacco L4	9	0.5	93.64
60	Transportation Services L4	31	1.71	95.36
61	Travel & Tourism L4	33	1.82	97.18
62	Trucking L4	45	2.49	99.67
63	Water L4	6	0.33	100

Appendix 3: Results for the first stage of the regression with Lroe as the instrument

roe	**Coef.**	**Std. Err.**	**t**	**P>t**	**[95% Conf. Interval]**	
Lroe	0.4377181	0.0279014	15.69	0	0.3829731	0.4924631
employment	3.45E-06	1.81E-06	1.9	0.057	-1.06E-07	7.01E-06
yearsoflisting	-0.0017562	0.0018866	-0.93	0.352	-0.005458	0.0019456
debtequity	-0.0121608	0.0043799	-2.78	0.006	-0.0207546	-0.0035669
Iexchange_2	-0.0043759	0.0094558	-0.46	0.644	-0.0229291	0.0141772

(dummies for industries are controlled for)

Appendix 4: Tests for the suitability of the instrument

a. Tests for the first stage

F test of excluded instruments:
F(1, 1116) = 246.12
Prob > F = 0.0000
Sanderson-Windmeijer multivariate F test of excluded instruments:
F(1, 1116) = 246.12
Prob > F = 0.0000

Summary results for first-stage regressions

				(Underid)		**(Weak id)**
Variable	F (1, 1116)	P-val	SW	Chi-sq (1) P-val	SW	F(1, 1116)
roe	246.12	0		261.11 0.0000		246.12

Stock-Yogo weak ID F test critical values for single endogenous regressor:

10% maximal IV size	16.38
15% maximal IV size	8.96
20% maximal IV size	6.66
25% maximal IV size	5.53

Source: Stock-Yogo (2005). Reproduced by permission.
NB: Critical values are for Sanderson-Windmeijer F statistic.

Underidentification test

Ho: matrix of reduced form coefficients has rank=K1-1 (underidentified)
Ha: matrix has rank=K1 (identified)
Anderson canon. corr. LM statistic Chi-sq(1)=213.93 P-val=0.0000

Weak identification test

Ho: equation is weakly identified
Cragg-Donald Wald F statistic 246.12

Stock-Yogo weak ID test critical values for K1=1 and L1=1:

10% maximal IV size	16.38
15% maximal IV size	8.96
20% maximal IV size	6.66
25% maximal IV size	5.53

Source: Stock-Yogo (2005). Reproduced by permission.

Weak-instrument-robust inference

Tests of joint significance of endogenous regressors B1 in main equation
Ho: B1=0 and orthogonality conditions are valid

Anderson-Rubin Wald test	F(1,1116)=	19.08	P-val=0.0000	
Anderson-Rubin Wald test	Chi-sq(1)=	20.24	P-val=0.0000	
Stock-Wright LM S statistic	Chi-sq(1)=	19.90	P-val=0.0000	
Number of observations		N =		1184
Number of regressors		K =		68
Number of endogenous regressors		K1 =		1
Number of instruments		L =		68
Number of excluded instruments		L1 =		1

b. Tests for second stage

Underidentification test (Anderson canon. corr. LM statistic):
213.932
Chi-sq(1) P-val = 0.0000

Weak identification test (Cragg-Donald Wald F statistic):
Stock-Yogo weak ID test critical values: 10% maximal IV size
15% maximal IV size
20% maximal IV size
25% maximal IV size
Source: Stock-Yogo (2005). Reproduced by permission.

Sargan statistic (overidentification test of all instruments): 0.000
(equation exactly identified)

Appendix 5: Results for determinants of foreign ownership with controlling for market capitalization (MKC)

	Foreign ownership					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
ROE	0.0811**			0.0718**		
	(0.0343)			(0.0341)		
ROA		0.290***			0.281***	
		(0.0743)			(0.0736)	
EPS			1.14e-05***			1.05e-05***
			(2.19e-06)			(2.19e-06)
Mkc	1.71e-06***	1.54e-06***	1.61e-06***	6.55e-06***	6.43e-06***	5.80e-06***
	(5.07e-07)	(5.05e-07)	(4.97e-07)	(1.50e-06)	(1.48e-06)	(1.48e-06)
mkcsqt				-0***	-0***	-0***
				(0)	(0)	(0)
yearsoflisting	0.00974***	0.00999***	0.00981***	0.00958***	0.00985***	0.00967***
	(0.00204)	(0.00202)	(0.00200)	(0.00202)	(0.00200)	(0.00198)
debtequity	-0.0199***	-0.0159***	-0.0169***	-0.0199***	-0.0159***	-0.0171***
	(0.00544)	(0.00554)	(0.00537)	(0.00538)	(0.00548)	(0.00533)
pricerisk	-0.00364	-0.00627	-0.0113	-0.00346	-0.00649	-0.0107
	(0.00846)	(0.00832)	(0.00837)	(0.00838)	(0.00824)	(0.00831)
_Iexchange_2	0.0697***	0.0671***	0.0645***	0.0628***	0.0603***	0.0590***
	(0.0111)	(0.0110)	(0.0109)	(0.0111)	(0.0111)	(0.0110)
Observations	619	619	619	619	619	619
R-squared	0.316	0.328	0.341	0.330	0.342	0.352
Profitability	ROE	ROA	EPS	ROE	ROA	EPS
Obs	All	All	All	All	All	All
Regression	OLS	OLS	OLS	OLS	OLS	OLS
Industrydum	Yes	Yes	Yes	Yes	Yes	Yes
Exchangedum	Yes	Yes	Yes	Yes	Yes	Yes