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Research Article

Impact of foreign ownership on stock return volatility of financial firms in Vietnam

Trinh Viet Pham Le[1], Hang Thi Ngo[2, *]

[1] Banking Academy of Vietnam, Vega Holidays Joint Stock Company, Vietnam

[2] Banking Academy of Vietnam, Hanoi, Vietnam, ORCID: 0000-0001-5744-5367

* Corresponding author: Hang Thi Ngo, ngohang@hvnh.edu.vn

ABSTRACT

The paper investigates the impact of foreign ownership on the stock return volatility of financial firms in Vietnam. Applying panel regression models on a year-end research sample of 23 banks and financial firms listed on stock exchanges in Vietnam from 2017 to 2022, the study assures the negative relationship between foreign ownership and the stock return volatility, implying that increasing foreign ownership reduces the volatility of stock returns of financial firms. Our study's novelty is reflected in following aspects. First, our study, examining about the foreign ownership's impact on stock returns' volatility in emerging stock market conditions, will enrich this research field by contributing additional empirical evidence to the field through a concrete and well-designed research. Additonally, our research findings not only provide useful information about the volatility of those influential shares in mentioned industries coupled with its determinants but also support investors and policymakers in making investment decisions informedly as well as reviewing suitable regulations for investors and capitals from foreign countries, which is a critical aspect in helping Vietnam's stock market to expand more steadily and sustainably.

Keywords: foreign ownership; stock return; volatility; financial firms; Vietnam

1. Introduction

Vietnam is a thriving country with a growing economy. The economic progress has always been accompanied by the development of the banking system, financial institutions, and stock market. The capital market structure in Vietnam might be more balanced and efficient as a result of the participation of banks and financial enterprises, as well as the stock market, which promotes the growth of the Vietnamese economy.

When it comes to the stock market, the first stock exchange in Vietnam was founded in Ho Chi Minh City in 2000, with only four listed businesses. Since then, Vietnam's stock market has grown strongly in scale with a significant increase in the number of company listings, enhancing the diversity of market products. Besides, new investment vehicles and products have been introduced to the market and the investors over last 20 years,

including: derivaties, investment funds (open-ended funds, exchange traded funds, real estate investment trusts, voluntary pension funds, …) to provide more investment options to both domestic and foreign investors, supporting the investment attraction and inflows facilitating economic growth.

The development of stock market has also been contributed party by the flow of foreign capital into Vietnam, promoting the development of domestic enterprises. As a result, foreign ownership has steadily become an unavoidable trend in the period of worldwide economic integration, and it has become an important component in diversifying the structure of ownership in many listed firms. However, foreign ownership in developing economies can have both positive and negative effects. There are many positive effects such as enhancing access to regional and worldwide markets for indigenous firms, improving corporate governance thanks to technological transferring and management experiences, reducing the danger of listed firms defaulting. Besides, the negative side of the foreign capital lies in the transmission of shocks from the world economy to the domestic economy, the vulnerability of the domestic economy when the fluctuations in the international market occur, the risk of depletion of foreign exchange reserves and currency devaluation of developing countries during the financial crisis.

The rate of foreign ownership has long been a big concern for the Vietnamese government to devise sensible regulations assisting enterprises in an era of economic integration, particularly in the banking and finance industries, which are restricted sectors. For securities firms, there is no limitation in foreign ownership, however, this regulation might lead to the risks for the economy. For the insurance companies, according to Decree 155/2020/ND-CP Law on Securities and Law on Insurance Business No. 08/2022/QH15, the maximum foreign ownership ratio of insurance enterprises is 100%. However, before these new regulations and laws were issued, confusion about the maximum rate of foreign ownership among insurance businesses had been remained for a long time due to the lack of guidance in these regulations for this industry. About commercial banks, the total share ownership of foreign investors must not exceed 30% of the charter capital (Article 7, Decree 01/2014/ND-CP). However, that foreign investors of banks have recently reached the ownership ceiling in the context of increased capital demand for banks indicates that it is time for the government and policymakers to consider loosening foreign investor's room in this specific sector regulation.

When it comes to banking and finance's stocks, the stocks are closely related to the performance of the financial market as well as the economy because these stocks belong to commercial banks or security companies with the top market capitalization and liquidity in Vietnam's stock market. As a result, the volatility of thesestocks would strongly affect the entire stock market as well as the market sustainability. This raises a concern to identify factors affecting the volatility of those influential stocks. Foreign ownership has been considered as one of the factors impacting stock return volatility recently stated by many authors[1-12]. Combining with Vietnam's regulations on restricted foreign ownership ratio in banking and financial companies, this has generated the question of whether these regulations have negatively impacted on volatility of banking and financial stocks' return and how foreign ownership would impact on these stocks.

The relationship between foreign ownership and volatility of stock returns has been studied recently by many researchers all over the world [1-12]. However, given that the findings are still ambiguous, they appear to be debatable. Different conclusions were reached as a result of the various study scope, research methods and regulations of different countries. However, to my best knowledge, there are very few studies concentrating solely on the banking and finance field that most research papers are mainly concerned about the foreign ownership's impact on stock returns' volatility across multiple industries, especially in Vietnam, which definitely leaves a considerable research gap to tap into.

Therefore, my study, examining about the foreign ownership's impact on banking and financial stock returns' volatility in emerging stock market conditions, will supplement empirical evidence on this topic and contribute a concrete and well-designed research to this research field. Moreover, my research findings will help to provide useful information about the volatility of those influential shares in the banking and finance industries coupled with its determinants to investors make investment decisions informedly and to policy makers in regulating and assuring the sustainable investment environment of the domestic stock market. Furthermore, the study will support policymakers in reviewing suitable regulations for investors and capitals from foreign countries, which is a critical aspect in helping Vietnam's stock market to expand more steadily and sustainably.

Aiming to those contributions, our study attempts to shed light on the following question: How do foreign ownership impact the return volatility of banking and finance stocks in Vietnam?

Other than the introduction, the rest of our paper is structured with other four sections. Of which, the literature review is presented to highlight the research gap and contributions of the research, which is followed by the research methodology and data collection. Next, the discussion of the research findings is elaborated with in-depth analysis, and the final section is spared for the concluding remarks.

2. Literature review

The relationship between foreign ownership and the volatility of stock returns appears to be controversial, as the findings are still unclear.

On the one hand, the impact of foreign ownership on return volatility of financial stocks has been explored to be positive[1,2,9,10]. One of the reasons for this state was that portfolio adjustments by large foreign institutional investors were likely to result in significant price fluctuations[1].

Moreover, Chen et al.[2] the greater the foreign ownership was, the higher the stock return volatility was, due to the strengthening impact of liquidity. The empirical results showed that share ownership by foreign institutions (both financial and non-financial) increased firm-level stock return volatility, even after controlling for a complete ownership structure, firm size, turnover, and leverage, and correcting for potential endogeneity problems. However, the results also showed that foreign individual shareholdings reduce volatility. The empirical results also showed that share ownership by foreign institutions increases firm-level stock return

volatility due to poor governance practice and inadequate regulation in China.

Rather than proxying foreign investor participation by financial liberalization measures, Chen et al.[10] dealt with the actual involvement of foreign investors by employing foreign equity purchase and sale data to search for a relationship between foreign equity trading and average total volatility for Turkish stocks from January 1997 to June 2006. The study found that average total volatility is positively related to foreign investors' net equity flow, even after controlling for market-wide price impacts, market development, liquidity and persistence in volatility. The study also found that net equity flows showed their effect on average total volatility through local and idiosyncratic volatilities.

On the other hand, foreign ownership had a negative correlation to return volatility such a result from many prior studies. There were several reasons to explain this opinion.

Firstly, attracting foreign investors would lead to widen shareholder base, hence greater risk-sharing and lower volatility of stock returns. As the number of investors grew, the accuracy of the information available about the stock increased, which in turn lowered the risks between investors and the volatility of stock returns[12]. Moreover, foreign investors could be more financially sophisticated and therefore contribute to more efficient gathering and processing of information.

Second, foreign investors are primarily institutional investors from developed nations, and they serve as superior monitors. Chiang and Chan[3] has also given an evidence that large foreign investors or foreign institutional investors may act as monitors and provide developing market businesses with instruments and incentives to strengthen corporate governance. As a result, the corporate governance and transparency quality of invested corporations tend to improve, resulting in decreased volatility. Similarly, Vo[11] observed that foreign shareholders get better quality information. According to Li et al.[4], international investors might increase the quality of information in local stock markets, offer stronger corporate control and reporting requirements, and improve corporate governance environments.

Regarding the prior literature on Vietnamese firms, there are a limited number of studies on the nexus between foreign ownership and the price volatility of financial firms in Vietnam. To our best knowledge, all existing literature on Vietnamese firms conclude that an increasing foreign ownership status induces a negative impact on stock return volatility[6,8,11], implying that the market seems to be more stable with the active participation of foreign investors.

Specifically, Vo[11] investigating the case of an developing ecnomy by using a detailed panel data set of firms listed on stock exchange for the period from 2006 to 2012 showed that firm ownership by foreign investors decreased firm stock price volatility in the Vietnam stock market. The research results support the fact that foreign investors in Vietnam are considered to be long-term investors with the buy and hold investment strategy. In addition, the finding from the paper also suggested that foreign investors in Vietnam were beneficial to the economy not only for their contribution to the invested firms but also for the stabilizing effect benefits in macroeconomic perspectives.

Similarly, Pham et al.[6], using panel data included 81 companies listed on the Ho Chi Minh Stock Exchange (HSX) in the period 2009 – 2015, proved that rising foreign ownership ratio reduced the volatility of stock returns, playing an important role in stabilizing the market.

To et al.[8] also concluded a negative influence of foreign ownership on stock return volatility by using a sample of 160 non-financial companies listed in the Vietnam stock markets in the period 2008-2017. However, the stabilizing impact of foreign ownership on stock return volatility became weaker in large firms since the coefficient of the interaction term between firm size and foreign ownership turned out to be significantly positive.

In conclusion, the different findings are due to the study scope, variables used with research methods and regulations of different countries. There are very few studies concentrating solely on the banking and finance field that most research papers are mainly concerned about the foreign ownership's impact on stock returns' volatility across multiple industries, especially in Vietnam, which definitely leaves a considerable research gap to tap into.

Aiming at closing the above research gap, our study's novelty is reflected in following aspects. First, our study, examining about the foreign ownership's impact on stock returns' volatility in emerging stock market conditions, will enrich this research field by contributing additional empirical evidence to the field through a concrete and well-designed research. Additonally, our research findings provide useful information about the volatility of those influential shares in the banking and finance industries coupled with its determinants to investors make investment decisions informedly and to policy makers in regulating and assuring the sustainable investment environment of the domestic stock market. Furthermore, the study will support policymakers in reviewing suitable regulations for investors and capitals from foreign countries, which is a critical aspect in helping Vietnam's stock market to expand more steadily and sustainably.

3. Data and methodology

3.1. Research methodology

Following previous Chen et al.[2], Chiang and Chan[3], Naufa et al[5], Pham et al.[6], and Vo[11], the model of this study, which studies about the impact of foreign ownership on banking and financial stock returns' volatility, is built as follows:

$$VOL_{i,t} = \beta_0 + \beta_1 FO_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 PB_{i,t} + \beta_4 LEV_{i,t} + \beta_5 TURNOVER_{i,t} + \varepsilon_{i,t}$$

where: β: the constant; i, t: company i in the year t, ε: the error term

To address the research question "How do foreign ownership impact the return volatility of banking and finance stocks in Vietnam?", this study applies quantitative research models for panal data, including Pooled Ordinary Least Squares Model (Pooled OLS), Fixed Effects Model (FEM), and Random Effects Model (REM).

The Pooled OLS regression model is one sort of model with constant coefficients, relating to intercepts and slopes. This approach may be used by researchers to pool all of the data and run an ordinary least squares

regression model.

FEM are types of statistical models frequently used in many studies. In FEM method, independent variables' values or levels are assumed to be constant while there would be only the dependent variable fluctuates in accordance with these of independent variables.

REM are statistical models in which some parameters (effects) of the model's systematic components change randomly. Statistical models usually depict observed variable change as systematic and unsystematic components.

For this study model, only one of the above methods is reliable, hence special tests will be conducted to identify the most meaningful results. The F-test is used for deciding between OLS and FEM, while the Hausman test is employed for choosing between FEM and REM. In detail, F Test will be proceeded with following hypotheses:

H0: There is no difference between the subjects or times (suggesting pooled OLS model)

H1: There is a difference between different objects or times (suggesting FEM model)

Then, if the null hypothesis above is rejected, in order to choose the most suitable model between FEM and REM models, the study will be based on the P-value of Hausman test to choose with hypothetical:

H0: There is no correlation between the explanatory variables and the random components (Suggesting REM)

H1: There is a correlation between the explanatory variables and the random elements (Suggesting FEM)

Simultaneously, regression tests would be implemented to improve both the reliability and the relevance of the study results. Common regression issues would include autocorrelation, heteroskedasticity, and multicollinearity:

Autocorrelation test: Autocorrelation results in the t-statistics with the regression coefficients to be constantly large, biased estimators' variances, disproving the T and F tests and causing the erroneous conclusions of the model. Some popular tests are used to identify model defects, such as VIF (variance inflation factor) used to test for multicollinearity.

Heteroskedasticity test: Heteroskedasticity happens when the error variance in a regression model is not consistent across data. The distribution of probabilities for both T and F statistics employed in the model ceases to follow the Student Fisher distribution as a result of this issue. Therefore, the ranges of confidence for the coefficients of regression are no further trustworthy. To find heteroskedasticity, the Breusch-Pagan test would be used in a linear regression model. It assumes that the error components have a normal distribution and determines whether the variance of a regression's errors is affected by the values of the independent variables.

Multicollinearity test: Multicollinearity between the independent variables in a multiple regression model is a situation in which two or more independent variables are strongly linearly correlated. In this situation,

variables that are strongly linearly correlated do not provide any new information, and it is impossible to determine the separate effect of each independent variable on the dependent variable.

Variable Description

Price Volatility (VOL): Based on the prior studies of Chiang and Chan[3], Naufa et al[5], Pham et al.[6], To et al.[8], and Vo[11], the dependent variable in this study represents the volatility of stock returns (VOL), calculated as the standard deviation of the daily stock returns as follows:

$$VOL = \sqrt{\frac{1}{n-1}\sum_{t=1}^{n}(R_i - \bar{R})^2}$$

Where: VOL is volatility of stock return, R_i is the stock return and $\bar{R}$ is the average stock returns. R_i would be calculated as follows: $R_i = \frac{P_i - P_{i-1}}{P_{i-1}}$ where P_i is the stock price.

Foreign ownership (FO): is determined by the proportion of shares held by foreign investors to total outstanding shares in a specific enterprise. In this research, the data related to the number of shares held by foreign investors and the number of outstanding shares of each company is collected from annual reports of firms. It has been proved in the previous studies that there is a potential linkage between the degree of foreign ownership and the decrease the volatility of firm stock returns in Vietnamese stock market from 2006 to 2012[11]. This was similar with the findings of other studies employed in Vietnam[6,8]. Similarly, international studies in other markets such as Indonesia[12], Taiwan[3] had the same conclusions. As a result, these findings could show the role of foreign investors in monitoring and controlling the activities of invested enterprises, which could help the stock market operate more stably.

Firm size (SIZE): is calculated by the natural logarithm of total assets of a listed firm at the end of the fiscal year. In this research, the data of firm size would be collected in financial website fiintrade.vn. When it comes to firm size, Bae et al.[1], Li et al.[4], Chiang and Chan[3] found that there was a negative relationship between the listed enterprises' size and the volatility of stock returns. They claimed that large firms would be better able to manage risks and make the operations of companies more transparent, hence facilitating the public to access information of firms easier, resulting in less stock returns' volatility.

Leverage (LEV): is calculated as total long-term liabilities divided by total equity at the end of the financial year. Leverage ratio is also one of the important factors affecting the profitability of securities[4].

Price-to-Book ratio (PB): is determined by dividing the current share price from the book value per share at the end of the fiscal year. The price-to-book ratio and the volatility of stock returns are positively correlated[6,11], which is generated from the fact that as stock prices rise, trading volume typically rises as well, making the price more volatile.

Turnover (TURNOVER): is calculated by dividing the annual average of daily share volume by the total

number of shares outstanding in a year. This variable could stand for market growth expectation of stock. Stock turnover could be considered as one of the important factors affecting the volatility of stock returns due to the evidence showing that turnover increased then stock return volatility increased and vice versa[3,11]. This could be explained from the fact that stock turnover could present for the liquidity of securities. As turnover increases, the amount of market trading for that security also increases and can increase volatility in the stock's return.

Table 1. Summary of variables and expected relationship with return volatility.

Variable	Code	Expected Sign	References
Independent Variable			
Foreign Ownership	FO	(-)	Vo[11], Wang[12], Pham et al.[6], To et al.[8]
Control Variables			
Firm size	SIZE	(-)	Vo[11], Chiang and Chan[3]
Leverage	LEV	(+)	Vo[11]
Price to Book Ratio	PB	(+)	Vo[11], Thanatawee[7]
Stock Turnover	TURNOVER	(+)	Vo[11], Chiang and Chan[3], Thanatawee[7]

Source: Authors' Compilation.

3.2. Data

Financial firms being studied within this research include banks, financial companies, securities firms, insurance companies. The research sample consists of 138 observations from 23 financial firms listed on the Ho Chi Minh and Hanoi Stock Exchanges, during a 6-year time frame, from 2017 to 2022. This year-end secondary database is gathered from the annual reports and audited financial statements of corporations and the website Fiintrade.vn, which is a professional website dedicated to gathering and presenting financial data of listed companies in Vietnam's stock exchanges.

4. Research findings and discussion

4.1. Descriptive statistics

The table shows a general view of both dependent and independent variables for 138 samples of banks and financial firms.

The volatility of stock returns (VOL) in 6 years recorded an average of 0.0256. The maximum is about 0.0692, and the minimum is 0.0111. This volatility is increasing strongly in the period of 2017 – 2022 due to many events happened continuously as mentioned, impacting on the stock market.

The average of foreign ownership (FO) is 0.228 with its standard deviation equals 0.121. The highest value hits a peak of 0.57 or 57% of ownership belongs to foreign investors. This result is generated from the fact of SSI Securities Corporation working in a specific industry allowed to have the foreign ownership ratio up to 100%. However, the lowest value of this variable is only 0.0034 or 0.34% of ownership belongs to foreign investors, showing that a few companies almost do not attract foreign investment.

Table 2. Descriptive statistics.

VARIABLES	N	Mean	SD	MIN	MAX
VOL	138	0.0256	0.0081	0.0111	0.0692
FO	138	0.228	0.121	0.00340	0.570
SIZE	138	17.53	2.289	14.29	21.47
PB	138	0.0166	0.0087	0.00376	0.0479
LEV	138	0.840	1.338	0.0000	6.953
TURNOVER	138	0.00316	0.0038	0.00003	0.0169

Source: Authors' compilation

The size of firms (SIZE) is from 14.29 to 21.47, with a mean of 17.53, which is higher compared to other industries because of nature business of banks and financial enterprises.

In terms of price to book value ratio (PB), the variable records an average of 0.0166, while the minimum is 0.00376 and the maximum is 0.0479.

About leverage (LEV), the medium leverage is 0.84. The maximum of it is 6.953 which could be higher than other industries, while the minimum is 0.000. The high value of leverage could come from the fact of banks, which could be considered as highly leveraged institutions that are in the business of facilitating leverage for others. On the other hand, the minimum value is 0.000 showing that there are some companies that do not have long term debts.

The mean and standard deviation of stock turnover (TURNOVER) is 0.00316 and 0.00383, respectively. The maximum value is about 0.0169, whereas the minimum is 0.000039.

4.2. Research results

4.2.1. Correlation matrix and multicollinearity test

Table 3. Correlation matrix.

Variables	VOL	FO	SIZE	PB	LEV	TURNOVER
VOL	1.000					
FO	-0.2406	1.000				
SIZE	-0.1860	-0.1128	1.000			
PB	-0.0720	-0.0010	0.3742	1.000		
LEV	-0.1792	-0.0696	0.6681	0.2837	1.000	
TURNOVER	0.4291	-0.0887	0.0351	0.1140	-0.1971	1.000

Source: Authors' compilation

The table demonstrates the Pearson correlation for the variables. The VOL standing for volatility of stock returns is negatively correlated with FO, SIZE, PB, LEV, except TURNOVER. All of the variable's coefficients are below 0.8, so there is no multi-collinearity. This is a supportive sign to conduct regression analysis with

Pool OLS, FEM, and REM.

At the same time, the variance inflation factor (VIF method) would be used to detect the severity of multicollinearity (the VIF value is greater than 3). There is multicollinearity detected (**Table 4**).

Table 4. Multicollinearity test.

Variable	VIF	1/VIF
SIZE	2.02	0.4946
LEV	2.00	0.5010
PB	1.19	0.8409
TURNOVER	1.13	0.8878
FO	1.02	0.9766
MEAN VIF	1.47	

Source: Authors' compilation

4.2.2. Model selection

Table 5. Model specifications.

VARIABLES	(1) Pooled OLS	(2) Fixed Effects (FEM)	(3) Random Effects (REM)
FO	-0.0152***	-0.00901	-0.0149***
	(0.00502)	(0.0101)	(0.00527)
SIZE	-0.000934**	0.00703***	-0.000903**
	(0.000372)	(0.00223)	(0.000391)
LEV	0.000491	0.000282	0.000479
	(0.000633)	(0.000826)	(0.000646)
PB	-0.0436	-0.0499	-0.0466
	(0.0751)	(0.108)	(0.0770)
TURNOVER	0.933***	0.505	0.946***
	(0.166)	(0.317)	(0.171)
Constant	0.0428***	-0.0965**	0.0422***
	(0.00616)	(0.0385)	(0.00649)
Observations	138	138	138
R-squared	0.281	0.260	

Note: Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Source: Authors' estimations

Table 6. Results of F-Test and Hausmand test.

	Test	Statistical Value	P-value	Selection
Pooled OLS and FEM	F-Test	F(22,110) = 1.60	Prob>F = 0.0597	OLS
FEM and REM	Hausman	Chi2(5) = 15.13	Prob>chi2= 0.0098	FEM

Source: Authors' estimations.

As the above table, the results show that with the F test, the p-value = 0.0597 > 0.05, thus rejecting the hypothesis H1, which implies that choosing the OLS model is more suitable than the FEM model.

At the same time, I further test for the results of Hausman test show that p-value = 0.0098 < 0.05, so hypothesis H0 is rejected, suggesting the more appropriate model between REM and FEM is FEM which has been already rejected in the previous test. This result further confirms the fitness of the pooled OLS model over the FEM.

In conclusion, the pooled OLS would be the most suitable model for this study and the results of the pooled OLS will be used for further analysis in following sections.

Based on the above model selection test results, the author continues to check if the model has flaws and make corrections.

Table 7. Autocorrelation test & Heteroskedasticity test.

Wooldridge test for autocorrelation	White's test for Homoskedasticity
H0: No first-order autocorrelation	H0: homoskedasticity
H1: There is series correlation	H1: unrestricted heteroskedasticity
F(1,22) = 0.106; Prob > F = 0.7482	chi2(20) = 16.69; Prob > chi2 = 0.6731

Source: Authors' estimations

These results (**Table 7**) show no evidence of autocorrelation and heterosedasticity, confirming the validility and reliability of estimations provided by pooled OLS specification coupled with any analysis drawn from this model's results.

In general, after finishing the model and ascertaining the impact of foreign ownership on the return volatility of banking and finance stocks listed in HOSE and HNX in Vietnam from the year of 2017 to 2022, the author found a statistically and significantly negative correlation between the foreign ownership and stock returns' volatility which is consistent with the findings from previous literature including Li et al.[4], Wang[12], Vo[11], Chiang and Chan[3], Pham et al.[6], Naufa et al.[5], Thanatawee[7], To et al.[8].

Regression results show that the p-value is less than the significance level of 5% and the regression coefficient representing the foreign ownership variable has a negative sign, which indicates that the correlation between volatility of stock returns and foreign ownership is statistically and significantly inverse.

Specifically, with the condition that other regressors do not change, if the foreign ownership increases by 1 unit, the volatility of stock returns would decrease by 0.01518 unit. The higher the foreign ownership, the lower the returns' volatility of stocks in banking and financial sector.

This could be true because the majority of foreign investors owning shares in the banks and financial

companies are institutions or their strategic investors whose goals are long-term gains. As a results, stocks owned by them might not be traded frequently, contributing partly in lowering the volatility of stock returns.

Moreover, according to Wang[12], foreign investors, especially institutional investors, could be more financially sophisticated and therefore, contribute to more efficient gathering and processing of information, resulting in the accuracy of the information available about the stock increased, which in turn lowered volatility of stock returns. According to Li et al.[4], foreign investors might increase the quality of information in local stock markets, offer stronger corporate control and reporting requirements, and improve corporate governance environments. Similarly, Vo[11] found that foreign investors receive higher-quality information. He also discovered that foreign investors in Vietnam boost the economy not only by contributing to the invested enterprises, but also by providing a stabilizing influence in macroeconomic aspects.

As for control variables, the size of banks and financial firms also have the negative influence on the dependent variable while stock turnover impacts positively. Besides, leverage and price to book ratio have no significance with the dependent variable, conflicted with most authors in previous studies with the data samples of nonfinancial firms such as Vo[11], Chiang and Chan[3], Pham et al.[6], Naufa et al.[5], Thanatawee[7], To et al.[8]. In detail:

Firm Size and volatility of stock returns. Research results have shown that the enterprise size has a negative impact on volatility of stock returns, which is similar to the research results of Vo[11], Chiang and Chan[3], Pham et al.[6], Naufa et al.[5], To et al.[8]. Specifically, when the size increases by 1%, the volatility of stock returns decreases by approximately 0.00093%.

Turnover and volatility of stock returns. The study indicates that the correlation between volatility of stock returns and stock turnover is statistically and significantly positive. Specifically, with the condition that other regressors do not change, if the stock turnover increases by 1 unit, the volatility of stock returns would increase by 0.933 unit. The higher the stock turnover, the higher the returns' volatility of stocks in banking and financial sector.

This is seen as logical and may be explained by the supply and demand law, which determines the traded volume and price of shares. According to the law of supply and demand, when demand exceeds supply, the price rises, and vice versa. In the stock market, the traded volume of a stock, which could be considered as a liquidity indicator, can reflect its demand and supply. Stock demand and supply can be influenced by macroeconomic and microeconomic variables such as interest rates, market dynamics, economic policy, and corporate outcomes. When the information related occurs, it will have an impact on investors' stock investment decisions, resulting in a change in traded volume and stock prices. Stock with frequent traded volume may have higher volatility in price. This result is consistent with Chiang and Chan[3], Pham et al.[6], Naufa et al.[5], Thanatawee[7], To et al.[8], Vo[11], and Wang[12]

5. Conclusion

In this article, the authors analyze the impact of foreign ownership on the volatility of stock returns of 23 banks and financial firms listed on HNX and HOSE in the 2017-2022 period. Based on the regression results of the Pool OLS model, the study shows that increasing foreign ownership reduces the volatility of stock returns of banks and financial companies in which they invest, which is consistent with prior literature (Li et al.[4], Wang[12], Vo[11], Chiang and Chan[3], Pham et al.[6], Naufa et al.[5], Thanatawee[7], To et al.[8]).

Besides the foreign ownership factor, the study also finds that other factors have an impact on the volatility of stock returns. Those are the factors of company size (SIZE) which also impacts negatively, and stock turnover (TURNOVER), which impacts positively.

From the above results, the study provides some information for investors, administrators and policy makers to consider to help Vietnam's stock market grow larger and more stable. In detail:

Firstly, there should be policies to gradually increase foreign ownership ratio for banks, which are currently limited to 30% of total foreign ownership. The above research results show that the more shares foreign investors own, the more stable the stock returns of banks with securities and insurance companies. Foreign ownership brings many benefits to banks and financial firms, because foreign investors not only provide capital, but also help banks and financial companies access modern technology, management experiences into operating activities, and improve competitiveness. Currently, many banks have nearly reached the maximum ownership room for foreign investors. Moreover, in the context of the increasing capital needs of banks to meet Basel II and Basel III standards and the increasing need to improve governance capacity, technology and market access, it is necessary to loosen the limit on the percentage of shares owned by foreign investors. In addition, it is possible to flexibly apply the policy on the rate of foreign ownership in commercial banks that Vietnam may consider opening a separate ownership room for special foreign investors such as European investors, according to the roadmap committed in the EVFTA.

Second, the state regulatory agency in charge of the stock market needs to develop scenarios to warn of the risk of financial crisis and to take countermeasures to minimize the negative impacts of foreign investment inflows. Although foreign ownership brings many benefits to businesses in general and banks with financial companies in particular, foreign ownership can still bring negative aspects. If there is a risk of the world or regional economic crisis occurring, Vietnamese economy will have to face with financial shocks and hence, foreign investors can may withdraw from the market at any time.

Third, it is necessary to improve the legal basis related to the organizations, management of operation and risk in accordance with international practices on the inspection and supervision of banks, securities and insurance companies. Moreover, it is also important to improve information transparency, build a healthy competitive environment, meet the requirements of international integration and world commitments such as World Trade Organization (WTO) that Vietnam has joined. In addition, the State Bank should strengthen its role and cooperate closely with the Ministry of Finance in synchronously supervising the three areas of banking - insurance - securities to ensure the safety of the financial - monetary system as well as preventing foreign investors from acquiring, holding and controlling domestic credit institutions.

Fourth, improve the legal framework, develop a transparent and sustainable stock market to attract foreign investors. The negative relationship between foreign ownership and volatility of stock returns reflects the importance of foreign investors' participation, which will help to make the stock market more stable. Therefore, in order to attract more foreign investors to participate in Vietnam's stock market, it is necessary to improve the transparency of the stock market to develop more and more sustainably.

Transparency partly comes from the requirements of the management agency, the provisions of the law. There should be a supervisory institution so that stock market participants can be assured of fairness. The Government needs to review the Law on Securities and the Law on Enterprises to amend the regulations on the conditions for the issuance of corporate bonds and the conditions for professional securities investors. It is necessary to establish a new agency or assign a specialized agency that has sufficient size and authority to supervise bond issuers, as well as the performance of obligations of the issuer to promptly issue warnings and rectify misconduct. This transparency which guarantees for sustainable development in the long run will also help increase the rank of Vietnam's stock market into the emerging market group, attracting more domestic and foreign investors.

Fifth, it is necessary to have timely guidance and support regulations to remove difficulties for businesses

in performing law. Besides, banks and financial companies need to coordinate with government agencies in work related to macroeconomics stability and financial market transparency. In addition, banks and financial companies also need to improve their competitiveness to attract more foreign investors.

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Conflict of interest

The authors declare no conflict of interest.

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