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Foreign investor trading and stock market stability: Evidence from VN30

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Abstract: This paper aims to investigate the extent to which foreign investors' net trading value impacts on the stability of the Vietnamese stock market. By using the vector error correction model (VECM) approach, and a time series of 30 stocks listed on the VN30 which are collected from Fiinpro over the period from February 2012 to September 2022, the research provides evidence of the positive impact of foreigners' net trading value on the stability of the Vietnamese stock market, with a positive impact on stock market liquidity and a negative influence on stock market volatility in the short-term. However, there is no evidence of a long-term relationship between foreigners' net trading value and the volatility or liquidity of the Vietnamese stock market. In addition, the research proposes several implications for policy makers which could enable them to make appropriate adjustments to regulations on foreign investor trading, in order to ensure the stability of the Vietnamese stock market in the future, as well as for both individual and institutional investors who can use foreign investor trading as a sign of the stock market stability to make decisions.

Keywords: Foreign investors, herding behavior, market volatility, market liquidity, market stability.

1. Introduction

In Vietnam, the first Stock Market officially opened on July 20, 2000. On April 2, 2001, at the 102nd trading session, the Vietnamese Stock Market recorded the first foreign investor's participation. However, only when businesses started listing extensively on the Ho Chi Minh City Stock Exchange did the Vietnamese Stock Market become more familiar to foreign investors. In order to attract foreign investment inflows into the market, the Government of Vietnam has pushed to increase the percentage of foreign ownership in the Vietnamese Stock

Market in accordance with Vietnam's commitment to integration, as well as to align with international practices. As a result, in the following period, the number of trading accounts of foreign investors as a share of overall traded value grew steadily at an average of 15% per year, which was larger than the general growth of the market. Despite the context of a global financial market still experiencing many strong fluctuations due to the negative impact of the COVID-19 epidemic, the Vietnamese Stock Market remains an attractive destination for foreign investors.

In theory, foreign investors from developed markets show an increasing interest in emerging markets in respect of their prospects for rapid economic growth, financial deregulation, and the benefits of international diversification. They are believed to behave differently and to have strong impacts on host stock markets. Therefore, it is important for policymakers and researchers to understand the nature of those flows and their impact. In Vietnam, many scholars have turned their minds to this topic; for instance, the impacts of foreign ownership on firm performance (Phung et al., 2013; Vo, 2014; Nguyen et al., 2020) and on the capital structure of firms (Phung et al., 2013). In particular, Vo (2015, 2016, 2017) has paid much attention to this area, notably in respect of his work looking into the relationship between foreign investors and different aspects related to stock market liquidity (Vo, 2016) and volatility (Vo, 2015), corporate risk-taking (Vo, 2016), and price informativeness (Vo, 2017). His studies are the inspiration for this research paper which sets out to investigate the interaction between foreigners' trading and stock market stability which plays an important role in securing sustained and stable economic growth in terms of both theoretical and practical aspects (Xie et al., 2022). However, this study has some key differences from his studies. Firstly, this paper will focus on foreign investors' trading calculated by net foreign flows, instead of foreign ownership. Secondly, we will use a time series instead of panel data, including stock market indices, total trading market values and foreigners' net trading values, which are collected from Fiinpro. The third difference is regarding research methods; instead

of the regression approach, the vector error correction model (VECM) is used in this paper, since this method allows the authors to determine the number of lags as well as the long-run and short-run relationships between foreigners' trading and stock market stability.

This paper makes two major contributions. Firstly, it adds to the literature on the role of foreign investors for the stability of the stock market through its impact on stock market volatility and liquidity in Vietnam. As a result, and secondly, this is a useful reference for policy makers to help them make appropriate policy amendments that ensure the stability of the Vietnamese stock market.

2. Literature review

According to Zhou et al. (2022), the stability of the financial market covers not only the stability of the banking system but also that of other markets, like stock and bond markets, because of their important roles for the national capital market (Zhou et al., 2022). There are many studies discussing the stabilizing effects of stock or bond markets with different influencing factors such as national industrial policy (Xie et al., 2022), foreign bank entry deregulation (Lin et al., 2022), sentiment traders (Gardini et al., 2022), foreign participation (Ho, 2022) or the COVID-19 pandemic (Abudy & Shust, 2022). These authors approach the concept of "stability of the financial market" through different indicators, such as daily trading volume and daily number of transactions (Abudy & Shust, 2022), the yield spread (Ho, 2022; Conterius et al., 2023), mispricing (Gardini et al., 2022), stock price volatility (Ho, 2022; Gardini et al., 2022; Conterius, 2023), and liquidity (Abudy & Shust, 2022).

In terms of international flows, as foreign investors are perceived to have a large impact on host markets by means of positive feedback, the interaction between foreign investors' trading and stock market volatility and liquidity has been a key focus of many studies. According to Coval and Moskowitz (1999), this topic is particularly important for emerging economies as their financial markets are generally less liquid and

therefore more volatile than the financial markets of advanced economies (Ho, 2022).

In theory, investor trading behavior or investment behavior is defined as how investors judge, predict, analyze, and review the procedures for decision making, which includes factors such as investment psychology, information gathering, defining and understanding research and analysis (Slovic, 1972; Alfredo & Vicente, 2010). According to the perspective of information asymmetry, there is strong evidence of the impact of international portfolio flows on stock markets through the behavioral psychology of investors (Froot et al., 2001). To be precise, Kim and Pantzalis (2003) point out that information asymmetry increases the herd behavior of investors from many countries and industries where foreign investors have trouble in obtaining stock returns. Similarly, when analyzing strategies of foreign investors from 38 emerging and developed countries who invest in U.S. equity markets, to investigate their behaviors, Lin and Swanson (2008) find that herding behavior occurs because the impact of foreign investors is felt most strongly when they create massive capital flows.

Nofsinger and Sias (1999) define feedback trading as a special case of herding. Positive feedback traders buy stocks in a rising market and sell stocks in a falling market, while negative feedback traders adhere to a "buy low, sell high" investment strategy. Using data of different interval frequencies, such as daily data like Froot et al. (2001), weekly data like Kamesaka et al. (2003), and monthly data like Onishchenko and Ülkü (2019), the finding of positive feedback trading by foreigners seems to be a ubiquitous result. Kamesaka et al. (2003) find positive feedback trading for both domestic and foreign investors in Japan, although they find significant differences in performance outcomes for foreign institutional investors versus local individual investors. Similarly, Richards (2005) investigates foreign trade in six Asian emerging equity markets and finds that foreign investors employ positive feedback trading in relation to domestic equity returns and global equity returns. However, Porrasa and Ülküb (2015) arrive at two different results. Positive feedback trading, an alleged symptom of information

disadvantage, is visible in individual stocks, whereas negative feedback trading is observed at the market-wide level. Besides this, Onishchenko and Ülkü (2019) find that foreign investors are a heterogeneous group dominated by sophisticated investors who are able to rationally adjust their trading style in line with the market's prevailing characteristics.

Concerning the impact of foreign investors on market volatility, Ho (2022) shows that in some emerging Asian countries, a high proportion of foreign investors is associated with a reduction in domestic government bond yields only during tranquil periods and the opposite effect can be seen in times of market distress. Conterius et al. (2023), by using a pooled mean group (PMG) approach and panel data from 38 developed and developing countries from 2004 to 2018, show that this effect is positive but only in the short run. In respect of the stock market, Huang and Huang (2020) found that there is a positive relationship among listed Chinese firms, especially in those with high levels of information asymmetry or efficient internal control. However, as demanding investors on information disclosure, foreign investors require firms to release all related information from time to time, contributing to good operations on the market and the stability of the Chinese stock market.

As regards liquidity, many papers focus on the impact of foreign ownership on firms' stock liquidity (Jiang et al., 2011). In line with this topic, Vo (2016) uses dataset ranges from 2006 to 2012 of non-financial firms listed on the Ho Chi Minh exchange to examine the relationship between levels of foreign ownership in a firm and the liquidity of the firm's stock on the Vietnamese stock market. As a result, the author finds that increased foreign investment in firms is not associated with higher liquidity. Recently, Li et al. (2022) continue to confirm the positive role of international capital flows in emerging stock markets when showing that higher foreign ownership contributes to a reduction in liquidity uncertainty for Chinese firm stocks, thanks to good governance practices brought about by foreign investors.

3. Methodology

3.1. Research design and data collection

The research aims to examine if foreigners' trading positively contributes to the stability of the Vietnamese stock market, by investigating its impacts on the volatility and liquidity of the stock market in Vietnam. In this research, VN30 is used as the Vietnamese stock market index since the VN30 represents more than 70% of Vietnam's capital market. Due to regulations governing the price fluctuation range of the stock exchange in Vietnam, the research calculates stock market volatility over a period of a week. There are accordingly 449 weeks in total over a period from February 2012 to 30th September 2022. In other words, 449 x 3 observations are introduced into the research.

In terms of the stock market volatility, there are different indicators used to measure, such as market index (Reen & Râzli, 2016), and standard deviation or variance of return rate (Schwert, 1990; Poon & Granger, 2019). However, based on the availability of data, this research uses the standard deviation. The formula is described as below:

$$VOL_t = \sqrt{\frac{\sum_1^n (r_{VN30,i} - \bar{r}_{VN30,t})^2}{n-1}}$$

While: VOL_t: The volatility of the stock market on week t; $r_{VN30,i}$: VN30 return on day i of week t; $\bar{r}_{VN30,t}$: The average value of VN30 return during a week t; n: Number of trading days during a week t.

The liquidity of the stock market is is measured by the turnover ratios (LIQ_t) as Amihud (2002) mentioned. The higher LIQ_t is, the better the stock market liquidity.

$$LIQ_t = \frac{1}{N} \sum_{i=1}^N \frac{\frac{ATV_{i,t}}{OS_{i,t}}}{N}$$

While: LIQ_t: Liquidity of VN30 on week t; N: Number of individual stocks in VN30 (N = 30); $TV_{i,t}$: Average number of share i traded during week t (Stock i belongs to VN30); $OS_{i,t}$: Outstanding share i on week t (Stock i belongs to VN30).

In terms of foreigners' net trading value, this research defines it as the difference between foreigners' weekly purchase value and weekly sale value, divided by total weekly trading value.

$$FNV_t = \frac{FPV_t - FSV_t}{TTV_t}$$

While: FNV_t: Foreigners' net weekly trading value (for VN30); FPV_t: Foreigners' purchase value on week t (for VN30); FSV_t: Foreigners' sale value on week t (for VN30); TTV_t: Total trading value on week t (for VN30).

3.2. Methods of data analysis

As mentioned in the introduction, VECM is used to examine how foreigners' net trading value impacts on the volatility and liquidity of the stock market in Vietnam. There are four main steps as follows:

Step 1: Perform Unit Root Test to test for stationarity. At the first stage, FNV_t, VOL_t, and LIQ_t are introduced to test stationarity through an Augmented Dickey-Fuller test. There are three hypotheses to be examined, including:

- H1: FNV_t has unit root (meaning series is non-stationary).
- H2: VOL_t has unit root (meaning series is non-stationary).
- H3: LIQ_t has unit root (meaning series is non-stationary).

Step 2: Determine and select optimal number of lags through different information criteria, such as the Akaike information criterion (AIC) or the Schwarz information criterion (SC).

Step 3: Cointegration test. The next step is a Johansen cointegration test with two criteria of maximal eigenvalue test and trace test. If the Trace and Max Eigenvalue statistic value is more than 5% of critical value, the fourth step of the Vector Error Correction Model (VECM) is executed. By contrast, if FNV_t and VOL_t, FNV_t and $ILLIQ_t$ do not have a cointegration with each other, the research will perform a Granger causality test to consider the short-term causal relationship between FNV_t and VOL_t, FNV_t and $ILLIQ_t$.

Step 4: Vector error correction model (VECM) or Granger causality test. At the fourth stage, an e$

$$VOL_t = \beta_0 + \sum_{i=1}^n \beta_i VOL_{t-i} + \sum_{i=0}^n \delta_i FNV_{t-i} + \omega \mu_{t-1} + v_t$$

$$LIQ_t = \beta_0 + \sum_{i=}^{n} \beta_i LIQ_{t-i} + \sum_{t=0}^{n} \delta_i FNV_{t-i} + \omega\mu_{t-1} + v_t$$

Cointegration equation (long-run model):

$$\mu_{t-1} = ETC_{t-1} = VOL_{t-1} - \beta_0 - \beta_1 FNV_{t-i}$$

$$\mu_{t-1} = ETC_{t-1} = LIQ_{t-1} - \beta_0 - \beta_1 FNV_{t-i}$$

While: VOL_t: The volatility of the stock market on month t; LIQ_t: Liquidity of VN30 in month t; FNV_t: Foreigners' net monthly trading value (for VN30); μ_{t-1}: The lagged value of the error correction term; v_t: A white noise error term.

The first two equations describe both the short-run and long-run dynamics between FNV_t and VOL_t, FNV_t and LIQ_t while the last two only focus on long-run relationships. FNV_t and VOL_t, FNV_t and LIQ_t experience a long-run relationship when the coefficient of the cointegration equation is between -1 and 0 at the statistical significance of 5%.

The entire process concludes after running a stability test of the VECM model with the inverse roots of the characteristic AR polynomial test as well as the CUSUM test. Besides this, the study verifies the autocorrelation of residuals through VEC residual serial correlation LM tests on EViews software.

In terms of the Granger causality test, it is only examined when FNV_t and VOL_t, FNV_t and LIQ_t do not have a cointegration with each other, allowing consideration of the short-term causal relationship between FNV_t and VOL_t, FNV_t and LIQ_t.

4. Empirical results

4.1. Data description

Table 1 shows Descriptive statistics for VOL, LIQ, and FNV over a period from February 2012 to September 2022. It can obviously be seen that FNV reaches the highest level of volatility with a standard deviation of 6.79%, compared to 0.74% of VOL and 0.23% of LIQ. To be precise, the minimum value of FNV is -23.35%, compared to its maximum value of 43.18%. Meanwhile, VOL fluctuates from a minimum value of -4.38% to a maximum value of 4.18%, compared to a minimum value of 0.04% and a maximum value of 1.64% for LIQ. In other words, the volatility of FNV is always greater than VOL and LIQ. Moreover, VOL has greater volatility than LIQ.

Table 1: Descriptive statistics for VOL, LIQ, and FNV from February 2012 to September 2022

	Min	Max	Mean	Standard deviation
VOL	-4.38	4.18	0.91	0.74
LIQ	0.04	1.64	0.37	0.23
FNV	-23.35	43.18	-0.34	6.79

Source: Authors' calculated ratios based on data collected from Fiingroup.

Table 2: Augmented Dickey-Fuller test statistic

Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*
VOL		-6.099764	0.0000
LIQ		-17.40131	0.0000
FNV		-15.96757	0.0000
Test critical values	1% level	-3.443863	
	5% level	-2.867392	
	10% level	-2.569950	

Source: Results calculated from EViews Software.

4.2. The results of estimating vector error correction model (VECM)

Through an Augmented Dickey-Fuller test, Table 2 indicates that VOL_t, LIQ_t and FNV_t have t-statistics bigger than the absolute value of criteria value τ on the Mackinnon table. In other words, all series of FNV_t, VOL_t, and LIQ_t are non-stationary from February 2012 to September

2022, which means that all three hypotheses (including H1, H2, and H3) are accepted.

Table 3 shows optimal lags between VOL and FNV, and LIQ and FNV according to AIC and SC criteria. It can obviously be seen that two pairs have the same optimal lags of 4 over the period from February 2012 to September 2022.

Regarding cointegration, the Trace and Max-Eigenvalue tests indicate that there is a cointegration at the 5% significance level between VOL and FNV, and LIQ and FNV if the probability is smaller than 0.05. It can therefore be seen that both the Trace test and Max-eigenvalue test indicate 2 cointegrating equations at the 0.05 level for series VOL and FNV, and LIQ and FNV (Table 4 and Table 5). This means that VOL and FNV, and LIQ and FNV are strictly cointegrated together.

The results of VECM for VOL and FNV, LIQ and FNV are presented in Table 6. To be precise, FNV at the time t-1 has a negative impact on VOL at the time t (with beta of -0.001404), while FNV at the time t-1 has a positive impact on LIQ at the time t (with beta of 0.000954). Moreover, the absolute value of the former beta is bigger than the latter one, which means that FNV impacts VOL more significantly than LIQ.

Table 7 gives information about the coefficients of ETC between VOL and FNV

(-0.006885), and LIQ and FNV (-0.000606) over the period from February 2012 to September 2022 which are between -1 and 0. Their probabilities, being 0.7202 and 0.7705, are bigger than the statistical significance of 5%. This means that there is no long-run relationship between VOL and FNV, and LIQ and FNV.

In terms of the short-run relationship between VOL and FNV, the results of the Wald Test in Table 8 show that probabilities of F-statistic and Chi-square are 0.5387 and 0.5381, which are bigger than 0.05. This means that there is evidence of a short-run relationship between VOL and FNV. Similarly, figures for LIQ and FNV are 0.8604 and 0.8606, meaning that LIQ and FNV also have a short-run relationship.

As regards to the stability of VECM, the authors' use of CUSUM tests and the data shown in Figure 1 show that movement of the cumulative sum of recursive residuals is always between the two critical lines of 5%, showing coefficient stability in VECM models.

Table 3: Optimal lags between VOL and FNV, and LIQ and FNV according to different criteria

	LR	FPE	AIC	SC	HQ
VOL and FNV	4	4	4	1	4
LIQ and FNV	4	4	4	2	4

Source: Results calculated from EViews Software.

Table 4: Trace test and Max-eigenvalue test for series VOL and FNV

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.118598	85.90129	15.49471	0.0000
At most 1 *	0.063003	29.21870	3.841466	0.0000
The trace test indicates 2 cointegrating equations at the 0.05 level.				
*Denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values.				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.118598	56.68259	14.26460	0.0000
At most 1 *	0.063003	29.21870	3.841466	0.0000
The Max-eigenvalue test indicates 2 cointegrating equations at the 0.05 level.				
*Denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values.				

Source: Results calculated from EViews Software.

Table 5: Trace test and Max-eigenvalue test for series LIQ and FNV

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.112290	59.35956	15.49471	0.0000
At most 1 *	0.013008	5.878903	3.841466	0.0153
The trace test indicates 2 cointegrating equations at the 0.05 level.				
*Denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values.				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.112290	53.48066	14.26460	0.0000
At most 1 *	0.013008	5.878903	3.841466	0.0153
The Max-eigenvalue test indicates 2 cointegrating equations at the 0.05 level.				
*Denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values.				

Source: Results calculated from EViews Software.

Table 6: Estimated VECM and cointegrating equation (long-run model)

Pairs	Estimated VECM	Cointegrating equation (long-run model)
VOL and FNV	$VOL_t = -0.006885 \times ETC_{t-1}$ $- 0.616912 \times VOL_{t-1} - 0.532265 \times VOL_{t-2}$ $- 0.420872 \times VOL_{t-3} - 0.148436 \times VOL_{t-4}$ $- 0.001404 \times FNV_{t-1} + 0.004791 \times FNV_{t-2}$ $- 0.002597 \times FNV_{t-3} + 0.000289 \times FNV_{t-4} - 9.52$	$\mu_{t-1} = ETC_{t-1} =$ $VOL_{t-1} -$ $0.409235\, FNV_{t-1} -$ 0.007565
	Estimated equation: D(VOL) = C(1)*(VOL(-1) + 0.40923518683*FNV(-1) - 0.00756506215835) + C(2)*D(VOL(-1)) + C(3)*D(VOL(-2)) + C(4)*D(VOL(-3)) + C(5)*D(VOL(-4)) + C(6)*D(FNV(-1)) + C(7)*D(FNV(-2)) + C(8)*D(FNV(-3)) + C(9)*D(FNV(-4)) + C(10)	
LIQ and FNV	$LIQ_t = -0.000606 \times ETC_{t-1}$ $- 0.333026 \times LIQ_{t-1} - 0.231858 \times LIQ_{t-2}$ $- 0.151535 \times LIQ_{t-3} + 0.057354 \times LIQ_{t-4}$ $+ 0.000954 \times FNV_{t-1} + 0.001146 \times FNV_{t-2}$ $+ 0.000976 \times FNV_{t-3} + 0.000281 \times FNV_{t-4} + 2.87$	$\mu_{t-1} = ETC_{t-1} =$ $LIQ_{t-1} -$ $0.602540\, FNV_{t-1} - -$ 0.001481
	Estimated equation: D(LIQ) = C(1)*(LIQ(-1) + 0.602540410879*FNV(-1) - 0.00148074186556) + C(2)*D(LIQ(-1)) + C(3)*D(LIQ(-2)) + C(4)*D(LIQ(-3)) + C(5)*D(LIQ(-4)) + C(6)*D(FNV(-1)) + C(7)*D(FNV(-2)) + C(8)*D(FNV(-3)) + C(9)*D(FNV(-4)) + C(10)	

Source: Results calculated from EViews Software.

Table 7: Coefficient of ETC between VOL and FNV, and LIQ and FNV

	Coefficient	Prob.
VOL and FNV	-0.006885	0.7202
LIQ and FNV	-0.000606	0.7705

Source: Results calculated from EViews Software

Table 8: Wald Test

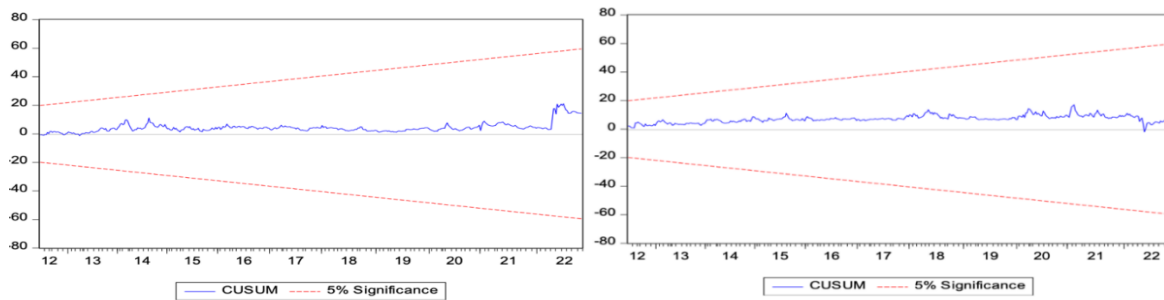| Test statistic	VOL and FNV		LIQ and FNV	
	Value	Prob.	Value	Prob.
F-statistic	0.779832	0.5387	0.326111	0.8604
Chi-square	3.119327	0.5381	1.304442	0.8606

Source: Results calculated from EViews Software.

Figure 1: CUSUM test for VOL and FNV, LIQ and FNV
Source: Results calculated from EViews Software.

5. Discussion

The research results show evidence of the positive impact of foreign investor trading on the stability of the Vietnamese stock market in the short-run but not in the long-run. In the short-term, foreigners' net trading value has a negative impact on the volatility of the stock market and a positive impact on the liquidity of the stock market. This result fully supports the theory of information asymmetry, in respect of the important role of international portfolio flow into host markets that show evidence of positive feedback trading or herding behavior of investors on the domestic stock market. It is also similar to findings of Kamesaka et al. (2003) on the Japanese stock market, those of Richards (2005) on six Asian emerging equity markets, those of Lin and Swanson (2008) on 38 emerging and developed countries who invested in U.S. equity markets, and those of Porrasa and Ülküb (2015) on the Madrid Stock Exchange.

To be precise, the research shows that in Vietnam, the more foreign investors buy, the less the stock index fluctuates. This result is completely consistent with that of Onishchenko and Ülkü (2019) in Korea. It also accords with the findings of Ho (2022) and Conterius et al. (2023) but does not support the results of Onishchenko and Ülkü (2019) about the negative impact of foreign investors' transactions on stock index volatility.

By contrast, there is a positive impact of foreigners' net trading value on the liquidity of the stock market in Vietnam. For many years, it has been believed that foreign investors usually have large investment capital, good knowledge, information advantage and experience as well as good performance in investments (Iwátubo & Watkins, 2021), while the Vietnamese stock market is considered to be a market of individual investors (more than 90%) who follow herd behavior. Many domestic individuals accordingly participate in the market while taking on high levels of risk and with short-term vision. For instance, information spreading through the media has instilled much greater confidence among Vietnamese investors in foreigners' trading behaviors.

However, Vietnamese investors' psychology and behavior may have been significantly affected by foreigners' net trading value in the short-term, but not in the long-term. This finding can be explained by the trading behaviors of both domestic and foreign investors on the Vietnamese stock market.

Firstly, individual investors in Vietnam revealed many limitations in investment psychology, leading to detrimental behaviors such as loss aversion and herding. Moreover, their financial capacity is much limited, and they do not have strict discipline of investing. Therefore, they are often unnerved by short-term

fluctuations of the stock market, leading to them preferring to hold stocks in the short-term and thus causing faster capital turnover (Dang, 2022). In terms of psychological factors, Vietnamese retail investors are not only influenced by international investment flows but also by other factors such as fluctuations in the market indices, or political and economic events. In addition, it is believed that the portfolios of foreign investors do not always outperform benchmark portfolios. For instance, Badhani and Kumar (2020) explain that in India, the foreign institutional investors do not have superior market timing skills (Badhani & Kumar, 2020). Moreover, Dang (2022) indicates that over the last 20 years or more, domestic retail investors have improved their investment performance and skills significantly and are now much less amateur. Therefore, there is no evidence of a long run relationship between international investment flows and market stability.

Secondly, most international investors tend to follow long term buy-and-hold strategies (Vo, 2016). According to the report of Bao Viet Securities (BSC) published in 2022, foreign investors in Vietnam can be divided into four groups, including: (i) Long-term investors; (ii) European investors; (iii) Index funds; and (iv) Participatory notes (P-notes) investors. So, it can be seen that except for P-notes investors, all three investor groups focus on long-term investment strategies, leading to the fact that increased foreign investment in firms is not associated with higher liquidity or volatility of the stock market.

6. Conclusion

The study has confirmed the positive impact of foreign investors' trading behavior on the stability of the Vietnamese stock market by providing evidence on the short-run relationship between foreign investors' trading behavior and index volatility and liquidity of the Vietnamese stock market. From the perspective of policy makers, foreign investors have played a crucial role in the development of the Vietnamese stock market. Their active participation, experience, and large investment capital have contributed to enhance stock liquidity, making the Vietnamese stock market more attractive to different kinds of investors. Moreover, due to the fact that

competition with foreign partners has created pressure for domestic investors to improve their knowledge, attitude, skills and performance regarding investments, those investors have had to become more mature in terms of their investment decisions. These above-mentioned effects contribute to the stability of the Vietnamese stock market. Therefore, more measures are needed to encourage foreign investors to engage in the Vietnamese stock market. In 2021, the Ministry of Finance issued Circular 51/2021/TT-BTC, providing specific regulations on the obligations of foreign investors in investment activities on the stock market as well as the obligations of securities companies and investment funds, branches of foreign funds in Vietnam, as well as organizations with foreign investors holding more than 50% of charter capital. By taking effect on August 16, 2021, this circular is expected to make transactions of foreign investors more transparent and contribute to protection for domestic investors.

However, in the long-term, there is no evidence of an impact of foreigners' trading on the volatility and liquidity of the stock market in Vietnam, which means that changes occurring on the Vietnamese stock market are quite independent from the buying or selling activities of foreign investors. Therefore, it is suggested that domestic retail investors improve their financial literacy and attitude toward investments, setting and following investment principles in order to control their emotions and to be aware of psychological pitfalls when investing in the Vietnamese stock market. These factors in combination will lead to an increase in their investment performance.

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