Asian Economic and Financial Review
ISSN(e): 2222-6737
ISSN(p): 2305-2147
DOI: 10.55493/5002.v15i2.5291
Vol. 15, No. 2, 196-212.

URL: www.aessweb.com

Stock market reaction to wrongdoing by business leaders: Empirical study in Vietnam

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Article History
Received: 28 August 2024
Revised: 30 December 2024
Accepted: 20 January 2025
Published: 28 January 2025

Keywords
Business leaders
Event research
Market reaction
Share price
Unusual income
Wrongdoing.

JEL Classification:
G30; G32; C31.

ABSTRACT

This article presents a comprehensive study that explores the effects of misconduct disclosure by business leaders on the stock prices of companies listed on the Vietnamese stock market. The focus of the research is on cases of corporate misconduct involving leaders who faced prosecution and detention between the years 2012 and 2022. To conduct this study, the authors meticulously gathered data from a variety of reliable media sources, such as Tuoi Tre newspaper, Tien Phong newspaper, and Urban Economic newspaper. Through this research, they identified nine business leaders whose alleged misconduct resulted in legal actions, directly linking them to a total of 24 publicly traded companies on the Vietnamese stock exchange. The findings of the study indicate a significant correlation between the disclosure of misconduct and stock price fluctuations. Specifically, the shares of the relevant companies experienced an abnormal return decrease of 4.5% on the day of the misconduct disclosure. Furthermore, when examining a broader event window ranging from five days before to five days after the announcement (denoted as [-5, +5]), the study recorded a statistically significant reduction in stock prices of 22%. These results highlight the detrimental impact that misconduct by business leaders has on investor confidence and decision-making processes. The study underscores the importance of ethical leadership in maintaining investor trust and the stability of stock markets. It serves as a reminder of how corporate governance and transparency play crucial roles in influencing market dynamics.

Contribution/ Originality: This study examines the impact of leader misconduct on the stock market, specifically focusing on serious violations such as stock price manipulation, fraud, and misappropriation of assets that have resulted in legal prosecution. Currently, there is a lack of research in Vietnam and other emerging economies that assesses the relationship between the disclosure of misleading information by leaders and stock market value. This study serves a dual purpose: first, it validates theoretical frameworks concerning the effects of misinformation disclosure on stock market value in Vietnam; second, it helps companies understand the repercussions of unethical behavior on their overall value. Ultimately, this research highlights the importance of ethical leadership in preserving investor trust and ensuring the stability of Vietnam's stock market.

1. INTRODUCTION

In a market economy, information, especially corporate information, including financial and non-financial information, plays a crucial role in business decisions. Misinformation and asymmetry can lead to mistakes in decision-making, causing significant damage to users. Recently, the Securities and Exchange Commission has decided to sanction administrative violations in securities for many enterprises, such as violations of information disclosure and financial statement violations. Additionally, the investigating police have decided to prosecute individuals accused of "manipulating the stock market" at Tri Viet Securities Joint Stock Company, Louis Holdings Joint Stock Company, Louis Capital Joint Stock Company, Louis Land Joint Stock Company, and Dr. Van Quyet of FLC Group. This has left investors bewildered and worried, which can result in overreactions and negative consequences for the economy, financial markets, and investors themselves.

Corporate violations refer to intentional acts that fail to comply with the provisions of the law. Such violations are often considered fraudulent, opportunistic, and unethical. Corporate interests drive corporate misconduct and can lead to a shift in value among interest groups in society. For instance, financial statement misconduct can have severe consequences, such as ownership change, security delisting, and a decline in the stock value. The COSO (The Committee of Sponsoring Organizations of the Treadway Commission) report (Beasley, Carcello, Hermanson, & Lapides, 2000) highlights these adverse outcomes of financial statement fraud. There have been studies using event study methods, such as Dang Ngoc, Vu Thi Thuy, and Le Van (2021); Gürkaynak, Kısacıkoğlu, and Wright (2020); Shahzad et al. (2022); Pandey and Kumari (2021); Antoniuk and Leirvik (2024) and Pandey and Kumari (2021). However, these studies have not considered the impact of leadership misconduct on stock prices.

In recent times, in Vietnam, many business leaders have been arrested in connection with stock market manipulation. These violations have greatly affected investors and the financial market. Vietnam's stock market has reacted negatively due to the adverse information about the real estate market, securities, corporate bonds, and political tensions worldwide. Experts attribute the stock market's decline to the objective reasons mentioned above and the psychological impact of information about prosecution, arrest, and detention of some individuals and wrongful leaders. Most experts believe that this psychological impact is only short-term. Investors should maintain their composure, given the positive assessment of Vietnam's stock market prospects and growth room. The government, authorities, and regulators have taken drastic actions to protect businesses and investors and support the stock market's sustainable development. We should view these actions positively for the market's health.

This study will examine whether there are violations by businesses related to the stock market and what their impact is. What is the impact of violations on stock prices? The dataset contains information on the dismissal of personnel from the board of directors and the board of companies listed on the Vietnam stock exchange between December 2012 and June 2022. Using the event research method, the study found negative changes in stock prices before the board of directors' dismissal announcement. This research indicates that unethical behavior by business leaders negatively impacts investor confidence and decision-making. The author provides recommendations for investors, businesses, and policymakers.

The paper is organized in the following sections. The next section reviews related literature and develops research hypotheses. The third section discusses the methodology and data sample used in this research. The section 4 presents and analyses the empirical results. Finally, the last section concludes the paper and provides suggestions for future research.

2. THEORETICAL BASIS AND LITERATURE REVIEWS

2.1. Theoretical Basis

Investors use information to reflect a company's potential in market analysis. The efficient market hypothesis, developed by Malkiel and Fama (1970) typically explains the influence of a financial economic event or information on stock prices in the market. However, each event has unique characteristics and implications, and investors may

react differently to each type. Therefore, separate theories can also explain the effect of a particular event on stock prices, in addition to the efficient market theory. For example, the effect of corporate disclosure events on stock prices is supported by researchers such as Carberry, Engelen, and Van Essen (2018); Kirat and Rezaee (2019); Hu (2023); and Ichev (2023).

The Efficient Market Hypothesis (EMH), developed by Malkiel and Fama (1970) is a foundational theory in modern finance that deals with the role of information in financial markets. Investors speculate on information in the form of transparent or ambiguous signals, which subsequently impacts the market. According to the EMH, the effect of information on the market is immediate, and stock prices adjust accordingly. Any abnormal profits generated on the day of disclosure confirm the efficiency of the market.

2.2. Literature Reviews

- *Study The Stock Market's Reaction to Corporate Wrongdoing*

A research study conducted by Kirat and Rezaee (2019) analyzed the impact of sanctions announcements made by the French financial regulator on the stock market between 2004 and 2017. The study found that the market reacted negatively when sanctions were published in the press. The study also showed that low penalties had little effect on market reaction. The results indicate that after the 2008 financial crisis, the market became less sensitive to news about financial misconduct and sanctions against large companies.

Hu (2023) conducted another study that analyzed the impact of corporate misconduct on the Chinese market from 2010 to 2021. This study demonstrated that publicizing a company's state ownership would weaken the market's response to misconduct reports. Furthermore, the study found that the degree of linkage of state-owned enterprises (central state-owned enterprises vs. local state-owned enterprises) undermines the positive link between state ownership and market reaction. Ichev (2023) empirically examines how reported corporate misconduct affects the stock returns of US companies. Newspapers that published reported misconduct saw a 4.1% decline in the cumulative abnormal return (CAR). People in the market will be punished if they are involved in reported corporate misconduct. This is especially true if the misconduct is at the company level and not with a specific person, if it happens in the domestic market, or if the article uses negative language. The financial penalties imposed, company size, leverage, revenue growth, and the level of cooperation with foreign partners of the company are believed to have had a significant impact on profitability during the study period. The results show that investors recognize the importance of punishing companies in financial markets when they act unethically.

A recent study conducted by Kim, Jo, Ahn, and Yi (2022) found that when investors become more aware of corporate misconduct, it has a negative impact on stock returns. The study analyzed data from 2008 to 2020 in Korea, suggesting that media coverage is crucial in raising investor awareness. Investors tend to react unfavorably to corporate misconduct events in the short term. Additionally, the study revealed that increased social awareness of corporate wrongdoing through media coverage led investors to penalize companies more severely.

- *Stock Market Reaction Studies to Corporate Misconduct of Stock Price Manipulation.*

One significant concern regarding business misconduct is the legal violations committed by business leaders and their impact on the stock market, as studied by Jory, Ngo, Wang, and Saha (2015). In Vietnam, Phuong (2021) conducted an event study examining the reactions of bank stock prices to news about their top managers. The first event involved the arrest of the Vice Chairman of Asia Commercial Bank (ACB) and the subsequent questioning of the bank's CEO by police authorities. The second event was the resignation of the Chairman of Sacombank (STB) shortly after receiving a summons from the investigating police agency. Both incidents occurred in Vietnam. The research findings indicate that unexpected events, such as the first one, caused a more pronounced reaction in the stock prices of both banks, resulting in a longer impact period compared to the second event. The first incident led to cumulative abnormal returns of –23.6% for ACB and –9.1% for STB. The second incident primarily affected STB's stock, showing no significant impact, while it did notably affect ACB, with an abnormal return rate of –4.6%.

Asymmetric information, lack of investor attention, and fear of potential losses associated with these events can explain this phenomenon.

After conducting various studies and taking into account the unique characteristics of Vietnam, we propose that there is a negative correlation between the misconduct of business leaders during legal proceedings and the value of their company's shares. This reduction in share value is evident in a decrease in the stock's abnormal profitability. We suggest that the false disclosure by corporate leaders has an adverse effect on the abnormal return of stocks.

3. RESEARCH METHODOLOGY

3.1. Research Model

To examine the stock market's response to corporate leadership misconduct, we will analyze the impact of various factors on CAR accrual abnormal return across different event books. The proposed model is as follows:

$$CAR_{it} = \beta_0 + \beta_1 Misconduct_{it} + \beta_2 Relate_{it} + \beta_3 Stock\_Exch_{it} + \beta_4 Industry_{it} + \beta_5 Covid19_{it} + \varepsilon_{it} \quad (8)$$

The following variables are used to identify different types of misconduct and their relation to the stock market:

- *Misconduct:* This is a false variable that denotes the type of misconduct. Stock market manipulation-related misconduct receives a value of 1, while other violations result in a value of 0.
- *Relate:* This is a false variable that receives a value of 1 for leaders directly managing companies listed on the stock market and 0 for leaders not listed on the stock exchange who are related to the wrongdoing.
- *Stock_Exch*: This false variable receives a value of 1 if the stock code is listed on HOSE and 0 if it is listed on the HNX exchange.
- *Industry*: This variable will receive the value 1 if a company's stock code belongs to the financial sector and 0 if it belongs to the non-financial sector.
- *Covid-19*: This variable receives a value of 1 if a leader is prosecuted for wrongdoing from December 2019 to June 2022 with the Covid-19 pandemic and 0 if they are prosecuted before December 2019.

3.2. Event Study Method

The Event study evaluates the financial impact of corporate misconduct events reported in the press. This is done by modeling the data using techniques such as those outlined in Carberry et al. (2018) and Kaplanski and Levy (2010). The analysis starts by calculating the accumulated abnormal profit (CAR) around the reported corporate misconduct events. Abnormal rates of return (ARs) are the difference between a stock's actual rate of return under consideration and its expected rate after its expectations over the entire duration of the specified event window (MacKinlay, 1997).

The steps of event research are as follows:

Step 1:

Each stock's abnormal return during the event study is calculated using formula (1).

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (1)$$

Where: $AR_{i,t}$ is the abnormal return of shares i date t; $R_{i,t}$ is the actual income of shares i on date t; $E(R_{i,t})$ is the expected return of shares i day t.

The formula (2) is used to calculate the stock's actual return (R) based on the difference in share price between days t and t-1.

$$R_{i,t} = (P_{i,t} - P_{i,t-1})/P_{i,t-1} \quad (2)$$

During days t and t-1, P i,t and P i,t-1 represent the price of shares i.

Calculating the expected return of stocks can be done using various methods, with market and capital asset pricing models (CAPM) being the most commonly used. In this study, we have chosen the market model. According to this model, the only factor that influences the return of shares on a particular day is the market return. While this model bears similarities to CAPM, it differs in that it fixes the blocking factor instead of the risk-free rate. In Vietnam, it

can be hard to find information on some parts of the CAPM model, like the company's beta coefficient, risk-free interest rates that are often the same as government bond yields, and statistics that aren't complete for time estimates. Therefore, we have opted to use the market model to calculate the expected return on stocks with the help of Formula (3).

$$E(R_{i,t}) = (\alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}) \quad (3)$$

Where: $E(R_{i,t})$ denotes the expected return of shares i on day t; $R_{m,t}$ signifies the daily return of the market portfolio for the *day t*, calculated using the formula (1); α_i $v\grave{a}$ $\beta_i \varepsilon_{i,t}$ represent the coefficient of the market model, which is the excess (or any error factor).

Step 2: Average abnormal return (AAR) and *cumulative abnormal return (CAR)* are calculated using formulas (4) and (5).

$\mathrm{AAR_t} = \frac{\sum_{i=1}^{N} AAR_t}{N}$ (4) is the average abnormal return of N shares and is calculated for each day in the event frame (t = -1 5 to t = +15).

$\mathrm{C.A.R._{t=5}} = \sum_{-5}^{+5} AAR_{i,t}$ (5) is the total cumulative average abnormal income calculated for one share in the event frame.

Step 3: Calculate *the t-stat* value for *AAR* and *CAR*.

We can use statistical theory, such as the t-test, to determine the significance of abnormal income values. If the hypothesis test shows that the abnormal return value is different from zero and significant, we can publish an audit report or explain the difference in profit before and after the audit. This can impact the stock price, which can help assess the efficiency of the stock market. We can evaluate the stock market's efficiency by analyzing the speed of stock price adjustment when there's information about the publication of audit reports or disclosure of explanations for profit differences before and after the audit is issued.

Assuming that the average AAR for a given company is independent and follows a normal distribution, the value of AAR (AARi,t) takes the form of a t-student distribution with a degree of freedom of (N-1) under the Ho hypothesis. Although the abnormal daily income value is generally non-standard, with the central limit theory, the value of abnormal return for companies will approach the standard distribution as the number of shares increases (Gurgul, Mestel, & Schleicher, 2003). The formula for calculating the t-statistic due to AAR t and CARt in the event frame is expressed by formulas (6) and (7).

$$\text{t- statistic } (\mathrm{AAR}) = \frac{\mathrm{AAR}}{SE_{(AAR_t)}} \quad (6)$$

Where: $(\mathrm{SE.}_{(AAR_t)}) = \sqrt{\frac{\sum_{t=-151}^{-11}(AAR_t - E(AAR_t))^2}{N(N-1)}}$ is the Standard Error value of AAR_t values in the estimation frame.

$$\text{t- statistic } (\mathrm{CAR_{t=5}}) = \frac{\sum_{t=-5}^{5} AAR_t}{\sqrt{11}\, SE_{(AAR_t)}} \quad (7)$$

The methodology outlined by Gujarati (1970) is employed to identify alterations in market pattern estimates. This process entails analyzing a period of 140 days that concludes five days prior to the designated event windows surrounding the event date, identified as day 0. It is important to note that the estimated event study may exhibit skewness if all published articles are treated as independent, resulting from the potential for duplicate event windows. To mitigate this concern, a selection criterion referred to as "first notification" is utilized. Based on the length of the event window (e.g., [-5, +5], [-1, +1], [0, +1], or [0, +5]), this criterion chooses articles in chronological order, starting with the first event in the dataset and leaving out all events happening in the next 2 to 5 days.To ascertain the expected return of the selected stock, the estimation bracket encompasses 140 days preceding the event frame,

calculated from date t = -151 to t = -11. This timeframe is strategically selected to yield a more precise estimate of the stock's anticipated return by diminishing the effects of short-term price fluctuations. Additionally, it serves to lessen the influence of certain disclosure activities on stock prices during the observation period (refer to Figure 1).

To estimate the impact of corporate misconduct on CAR, statistical models are used (Ichev, 2023; Wagner, Zeckhauser, & Ziegler, 2018).

For the purpose of this audit, the event date (t = 0) is designated as either the date of publication of the audit report or the date on which the notice explaining the variance in profit before and after the audit is issued. The event window spans a total of 11 days, commencing five days prior to the event (t = -5). The coefficients \(\alpha_i\) and \(\beta_i\) may be estimated using a linear regression model that relates the company's share price to the market price indices (VN-Index or HNX-Index) within the estimation period, specifically from t = -151 to t = -11.

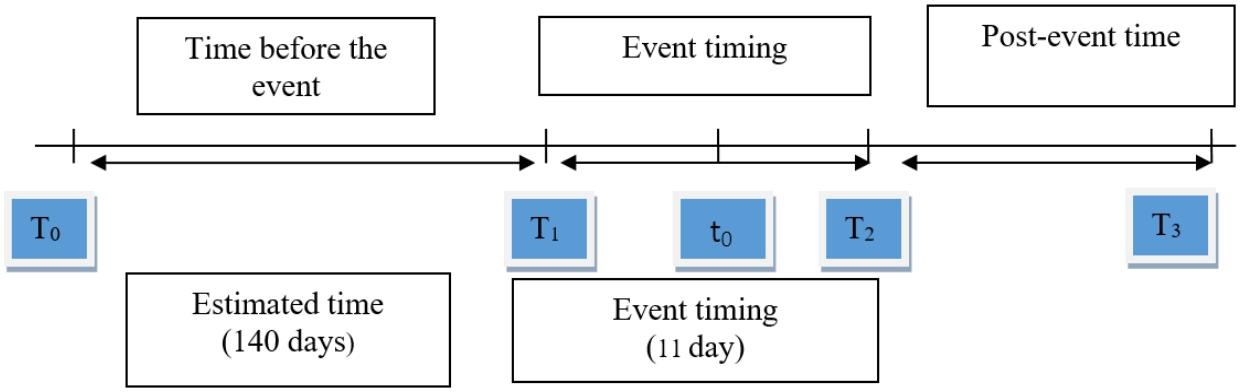

Figure 1. Event research timeframe.

3.3. Research Data

In order to conduct this study, the authors gathered information on instances of corporate misconduct involving leaders of companies listed on the Vietnamese stock market who have been prosecuted and detained between 2012 and 2022. The data was collected from various media outlets such as Tuoi Tre Newspaper, Tien Phong Newspaper, and Urban Economic Newspaper. Nine business leaders who have been prosecuted and are directly related to 24 companies listed on the Vietnamese stock market have been identified. Appendix 1 provides detailed information about the leader's full name, the event date, the relevant company securities, and the type of violation committed.

We collected data on closed stock prices of the Ho Chi Minh Stock Exchange and the Hanoi Stock Exchange for 24 companies related to 9 leaders who were prosecuted for wrongdoing. However, we only had information on 8 of the prosecuted leaders from the 22 securities involved, which is presented in Table 1 and Table 2. It is important to note that we did not collect information on the two companies' share prices.

Table 1. Collected data.

Data	Number of leaders	Number of companies
The event of leaders being prosecuted and detained from 2012-2022	9	24
No data	1	2
Research data	8	22

Table 2, which presents an overview of 22 securities codes (enterprises), relates to 8 wrongful leaders prosecuted, 12 securities codes related to market manipulation violations, and 10 are other violations such as illegal trading, deceiving customers, and fraudulent misappropriation of assets. Of the 22 securities codes related to wrongdoing, 13

are companies in the financial sector; the remaining 9 are non-financial companies. 16 securities codes are directly related to shares of wrongful leaders prosecuted. The remaining 8 securities are indirectly related[1].

Table 2. Formal study sample.

Stock exchanges	Infringing content			Industry			Related to stocks		
	Stock manipulation	Others	*Total*	Financ e	Non-finance	*Total*	Direct	Indirect	*Total*
HOSE	7	7	14	8	6	14	9	5	14
HNX	5	3	8	5	3	8	5	3	8
Total	12	10	22	13	9	22	14	8	22

4. RESULTS AND DISCUSSION

4.1. On the Day of the Event (Day=0)

Figure 2 shows the abnormal return of shares in 22 listed companies. Among them, the companies with the most significant decline in abnormal returns of shares were Louis Capital Corporation (BII, down 10.5%), CFS Trade and Import Export Investment JSC (KLF), and BOS Securities JSC (ART, down 10.3%). On the other hand, some stocks related to Mr. Trinh Van Quyet, such as FLC, HAI, and ROS, had an unusual decrease of 7.7%. However, on the day of the event, the shares of Ha Tay Pharmaceutical Joint Stock Company, with the stock code DHT, experienced an abnormal increase of 2.2% in the stock's return ratio.

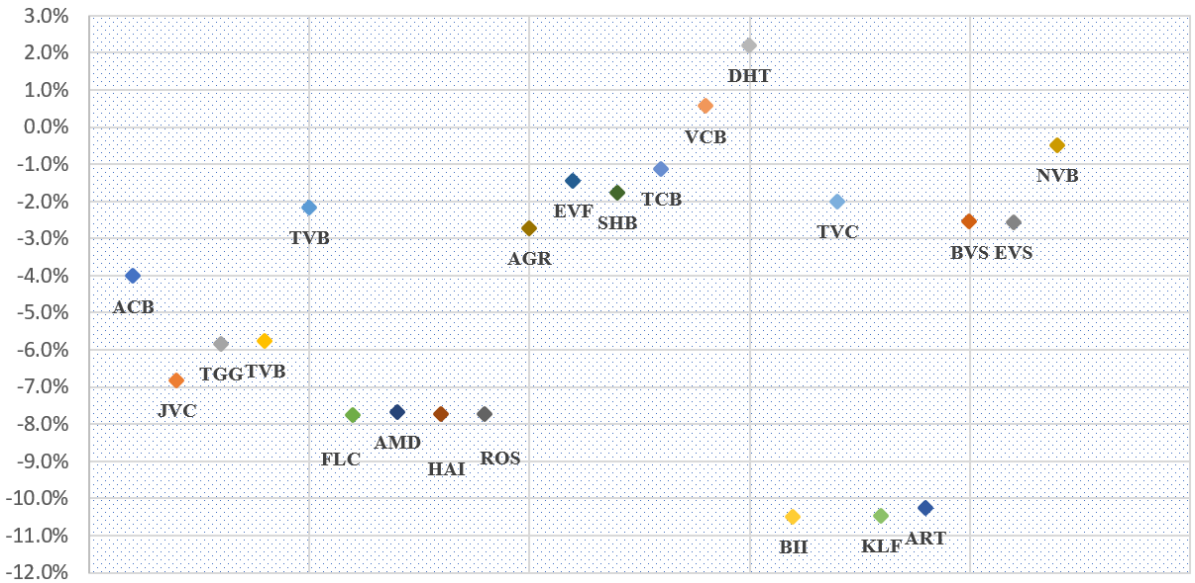

Figure 2. Abnormal income (AAR) on the day of the event under the company's ticker symbol (Day =0).

1 Do Anh Dung, prosecuted and taken into custody, is the leader of a company that has not been listed on the stock exchange. The study indirectly links the stocks to the company, as Mr. Do Anh Dung holds the position of Chairman of the Board of Directors.

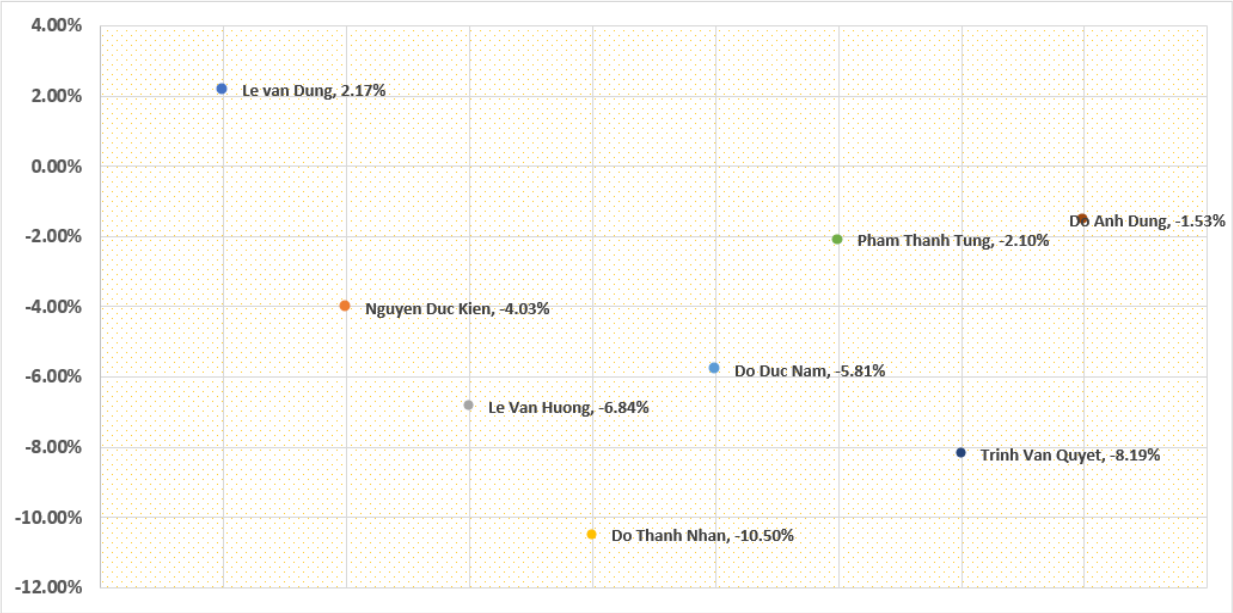

Figure 3. Abnormal income (AAR) at the date of the event according to the indicted misconduct of the companies (Day =0).

The data in Figure 3 represents the abnormal returns of stocks on the day of a particular event. It specifically relates to stocks associated with leaders who faced prosecution and custody for their wrongful actions. Out of the 8 leaders who made mistakes, the stocks associated with Mr. Do Thanh Nhan had the most significant decline, with a decrease of 10.5%. The stocks related to Mr. Trinh Van Quyet followed with a decrease of 8.19%.

On the day of the event (Day=0), the average abnormal return of stocks fell by 4.5% due to corporate misconduct (Figure 4), which is consistent with similar studies such as Ichev (2023).

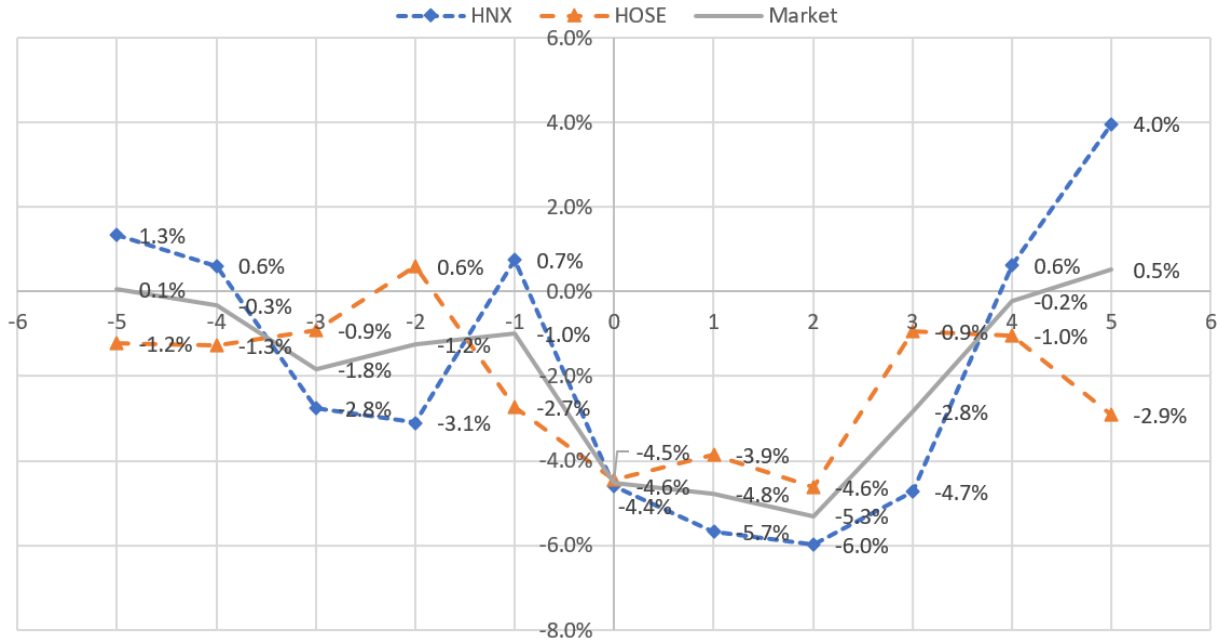

Figure 4. Abnormal income (AAR) on the day of the event by stock product and market as a whole (Day =0).

Figure 5 shows that in cases where the leadership of listed enterprises is prosecuted for misconduct in management or operation, the stocks show a sharp decline of 6.2%. On the other hand, for indirectly related events such as the prosecution of Mr. Tan Hoang Minh, the abnormal return of shares of related companies fell by 2.3%.

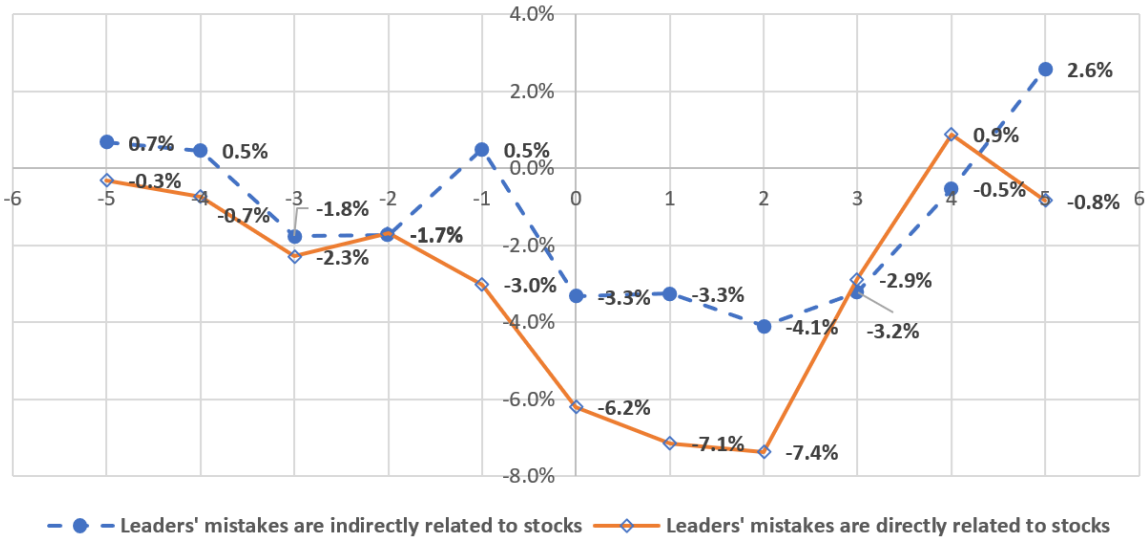

Figure 5. Abnormal income (AAR) on the day of the event as determined by company leaders (Day =0).

It is important to note that instances of misconduct by business leaders are also taken into consideration. On the day of the event (Day=0), there was a 6.3% decrease in the average income of stocks of businesses involved in stock market manipulation (as shown in Figure 6). On the other hand, for cases of other misconduct by business leaders, such as unauthorized trading, deceiving customers, and misappropriation scams, the average income of stocks decreased by 2.3%.

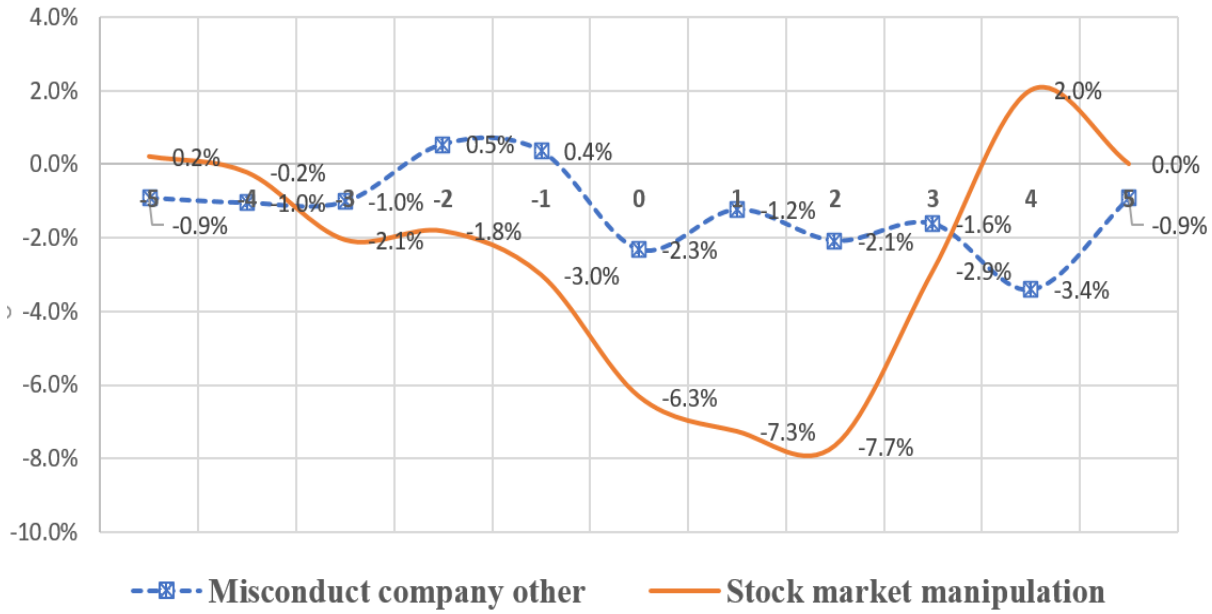

Figure 6. Abnormal return (AAR) on the day of the event according to the type of misconduct committed by company leaders (Day =0).

Table 3. Cumulative abnormal return (CAR) of the 11 days surrounding the event announcement date.

Order number	Leader	Ticker	[-5,+5]			[-1,+1]			[0,+1]			[0,+5]		
			CAR	t	Significant	CAR	t	Significant	CAR	t	Significant	CAR	t	Significant
1	Le van Dung	DHT	**-34.9%**	-3.66	**Yes**	-7.8%	-0.82	No	-6.8%	-0.71	No	-16.8%	-1.76	No
2	Nguyen Duc Kien	ACB	-24.1%	-8.14	**Yes**	-10.1%	-3.41	**Yes**	-9.8%	-3.30	**Yes**	-22.5%	-7.61	**Yes**
3	Le Van Huong	JVC	**-70.3%**	-12.85	**Yes**	-19.7%	-3.61	**Yes**	-13.9%	-2.53	**Yes**	-41.7%	-7.62	**Yes**
4	Do Thanh Nhan	BII	-48.8%	-3.70	**Yes**	-18.0%	-1.47	No	-20.7%	-1.57	No	-27.4%	-2.08	**Yes**
5	Do Duc Nam	TGG	-49.2%	-4.01	**Yes**	-18.0%	-1.47	No	-11.6%	-0.95	No	-34.6%	-2.83	**Yes**
		TVB	-43.3%	-6.18	**Yes**	-15.6%	-2.23	**Yes**	-11.7%	-1.66	**No**	-34.9%	-4.98	**Yes**
		Average	***-46.2%***	***-5.09***	***Yes***	***-16.8%***	***-1.85***	***No***	***-11.6%***	***-1.31***	***No***	***-34.8%***	***-3.91***	***Yes***
6	Pham Thanh Tung	TVC	-21.6%	-3.20	**Yes**	-2.3%	-0.18	No	-11.5%	-0.89	No	-24.2%	-1.88	No
		TVB	-20.7%	-1.61	No	-15.6%	-2.23	**Yes**	-8.1%	-1.20	**No**	-21.4%	-3.17	**Yes**
		Average	***-21.1%***	***-2.40***	***Yes***	***-9.0%***	***-1.20***	***No***	***-9.8%***	***-1.04***	***No***	***-22.8%***	***-2.53***	***Yes***
7	Trinh Van Quyet	FLC	-28.8%	-3.67	**Yes**	-20.6%	-2.63	**Yes**	-14.3%	-1.82	**No**	-19.5%	-2.49	**Yes**
		AMD	-21.9%	-2.66	**Yes**	-20.9%	-2.54	**Yes**	-14.5%	-1.76	**No**	-14.7%	-1.79	No
		ART	-14.6%	-1.45	No	3.3%	0.50	No	-16.4%	-1.62	No	-17.4%	-1.73	No
		HAI	-20.0%	-2.47	**Yes**	-20.9%	-2.58	**Yes**	-14.5%	-1.79	**No**	-13.2%	-1.63	No
		K.L.F.	-17.5%	-1.71	No	-19.0%	-1.86	No	-18.5%	-1.81	No	-17.1%	-1.67	No
		R.O.S.	-26.2%	-3.23	**Yes**	-21.0%	-2.59	**Yes**	-14.5%	-1.79	**No**	-23.8%	-2.93	**Yes**
		Average	***-21.5%***	***-2.53***	***Yes***	***-16.5%***	***-1.95***	***No***	***-15.5%***	***-1.77***	***No***	***-17.6%***	***-2.04***	***Yes***
8	Do Anh Dung	AGR	-5.8%	-0.88	No	3.3%	0.50	No	-3.2%	-0.49	No	-10.3%	-1.57	No
		BVS	-7.8%	-0.96	No	1.3%	0.16	No	-3.0%	-0.37	No	-12.3%	-1.51	No
		EVF	-2.1%	-0.54	No	-2.0%	-0.53	No	-0.9%	-0.24	No	-2.9%	-0.75	No
		EVS	-14.2%	-1.82	No	-1.4%	-0.18	No	-4.8%	-0.62	No	-14.3%	-1.83	No
		NVB	2.0%	0.25	No	1.1%	0.14	No	-0.4%	-0.06	No	-1.7%	-0.22	No
		S.H.B.	-9.7%	-1.71	No	-4.1%	-0.73	No	-1.8%	-0.32	No	-8.6%	-1.53	No
		T.C.B.	-2.8%	-0.84	No	-1.4%	-0.43	No	0.3%	0.10	No	-2.1%	-0.62	No
		VCB	-1.2%	-0.38	No	1.5%	0.47	No	2.2%	0.70	No	1.0%	0.32	No
		Average	***-5.2%***	***-0.86***	***No***	***-0.2%***	***-0.07***	***No***	***-1.5%***	***-0.16***	***No***	***-6.4%***	***-0.96***	***No***

4.2. At Different Event Doorframes

The calculation results show that the abnormal income of the prosecuted business leader event has an impact, and the degree of influence differs. For a more complete assessment of the effect of the event of misconduct by management on the abnormal return of shares, analyze according to the event windows. As shown in Table 3, the 11 days will be divided into 4 event windows: [-5;-5], [-1;-1], [0;+1], [0;+5]. The calculation of CAR cumulative abnormal income results is presented in Table 3, showing decreases at different event windows.

During the event window of [-5;-5], the cumulative abnormal return (CAR) of all stocks decreased, and this decline was statistically significant, except for the accumulated CAR abnormal income of stocks related to Mr. Do Anh Dung, which decreased by 5.2% but was not statistically significant. In the same event frame, shares related to Mr. Le Van Huong's wrongdoing experienced the highest decline in CAR accumulated abnormal income, decreasing by 70.3%, followed by shares related to Mr. Do Duc Nam, with accumulated CAR abnormal income decreasing by 46.2%.

During the event window of [0; +5], the stocks associated with Mr. Le Van Huong experienced the highest decline in accumulated CAR abnormal income, with a decrease of 41.7%. The shares associated with Mr. Do Duc Nam's wrongdoing declined 34.8%, while the lowest decline was observed in stocks associated with Mr. Do Anh Dung's wrongdoing, where CAR cumulative abnormal return only decreased by 6.4% (Figure 7).

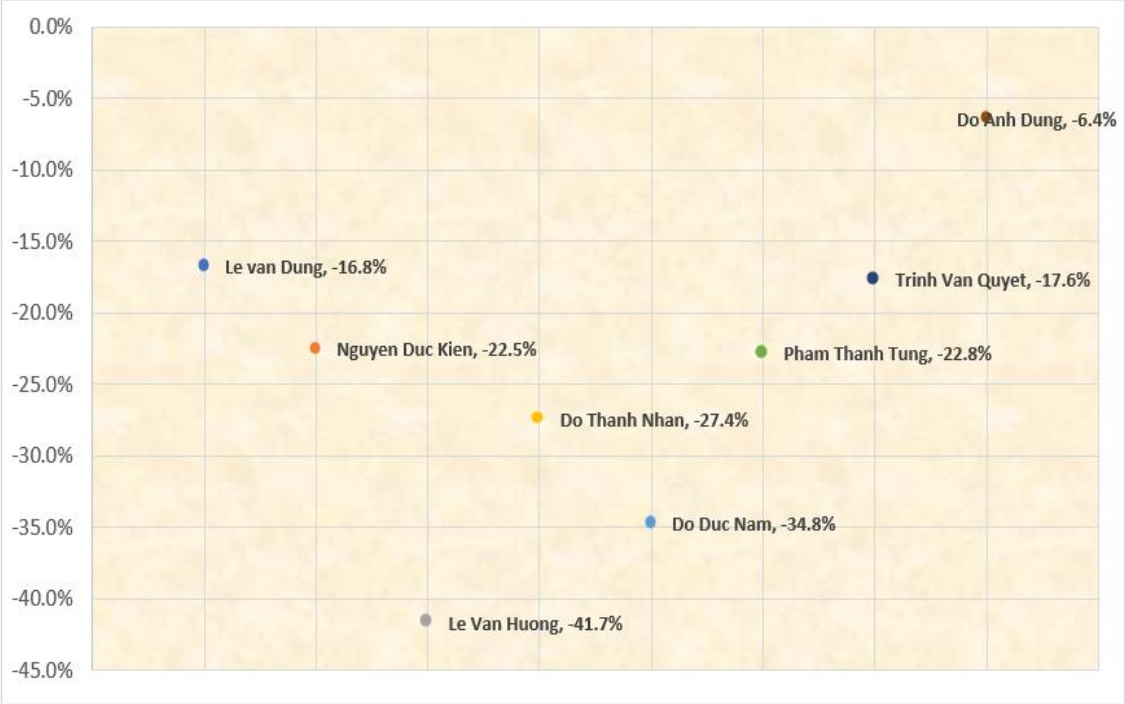

Figure 7. Accumulated abnormal return (CAR) in the event window [0.+5] according to misconduct.

As we already said, Table 4 shows the average profits from CAR and the statistical test values t for event intervals of 1:1, and Figure 8 demonstrates the CAR graph based on the event window. The results indicate that the cumulative average abnormal return from day -5 to n+5 decreased by 22% at a significant rate of 1%. This outcome aligns with the hypothesis about misconduct by business leaders, which negatively affected investors' decisions to buy and sell shares Figure 8.

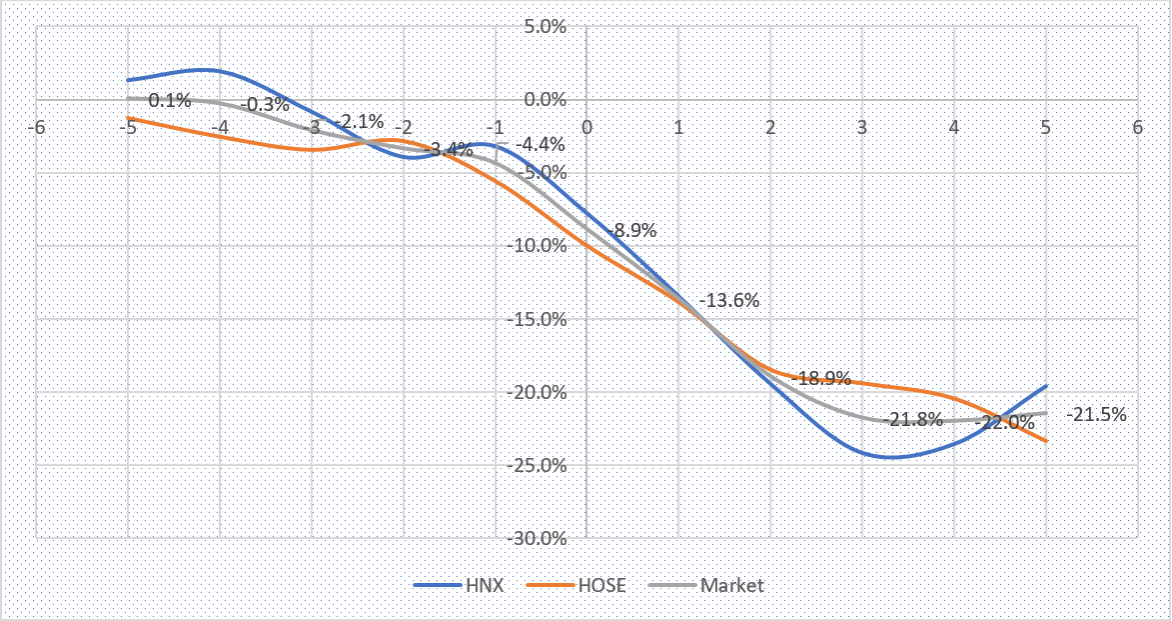

Figure 8. Cumulative abnormal income (CAR) in the event window [0.+5] by stock and market assets.

Table 4. Regression results of 11 days around the event announcement date.

Indicators	Event window			
	[-5,+5]	*[-1,+1]*	*[0,+1]*	*[0,+5]*
cons	-0.220***	-0.105***	-0.0902***	-0.173***
	[-19.12]	[-8.59]	[-9.04]	[-18.05]
N	242	66	44	132

Note: t statistics in brackets *** p<0.01.

The results in Table 4 show that the average abnormal earnings for the entire sample were statistically significant at 1% for different event windows of [-5;-5], [-1;-1], [0;+1], and [0;+5]. The CAR decreased by 22.0% throughout -5 to +1 days. Before and after the event announcement day, CAR decreased by 10.5%, and it was statistically significant at 1%. From after the event announcement date to five days later, CAR decreased by 17.3% and was also statistically significant by 1%.

Table 5. Regression results of 11 days surrounding the event announcement date according to leaders whose violations were prosecuted.

Leaders	Event window			
	[-5, +5]	*[-1, +1]*	*[0, +1]*	*[0, +5]*
Le Van Huong	-0.703***	-0.197***	-0.139***	-0.417***
	[-27.21]	[-13.74]	[-8.36]	[-19.36]
Nguyen Duc Kien	-0.241***	-0.101***	-0.0977***	-0.225***
	[-9.33]	[-7.02]	[-5.89]	[-10.46]
Pham Thanh Tung	-0.211***	-0.0352***	-0.0978***	-0.228***
	[-11.58]	[-3.46]	[-8.35]	[-14.98]
Trinh Van Quyet	-0.215***	-0.199***	-0.155***	-0.176***
	[-20.40]	[-33.89]	[-22.85]	[-20.06]
Do Anh Dung	-0.0519***	-0.00231	-0.0146**	-0.0639***
	[-5.69]	[-0.45]	[-2.50]	[-8.39]
Do Thanh Nhan	-0.488***	-0.313***	-0.207***	-0.274***
	[-18.89]	[-21.78]	[-12.51]	[-12.74]
Do Duc Nam	-0.462***	-0.168***	-0.116***	-0.348***
	[-25.30]	[-16.56]	[-9.93]	[-22.83]
N	242	66	44	132
R-sq	0.911	0.973	0.963	0.937

Note: t statistics in brackets ** p<0.05, *** p<0.01.

Table 5 looks at each event in which business leaders were prosecuted in the period before the 5 days of the announcement and before the 5 days of the announcement of the average accumulated income event. In the event door frame [-5;-5], Mr. Le Van Huong's misconduct event had CAR, down 70.3%, similar to the wrongdoing of Mr. Do Thanh Nhan, Do Duc Nam had a decrease of 48.8% and 46.2%, respectively. This proves that before the date of the indictment of the above executives, there was information related to the wrongdoing of these businesses, so the stock price fell sharply before the date of the event's announcement and continued to fall after the event's announcement. This research result agrees with those of Jory et al. (2015) and Phuong (2021).

The regression analysis on the CAR event windows [-5, +5], [-1, +1], [0, +1], and [0, +5] is shown in Table 6. This shows how the bad behavior of business leaders affected the company's CAR. The [-5, +5] window results show that different factors related to misconduct by business leaders affect CAR in varying directions. The security factor has a positive effect but only in the event door frame [0, +1]. The results of this study also agree with the research of Carberry et al. (2018); Kirat and Rezaee (2019); Hu (2023) and Ichev (2023).

Table 6. Regression results of the 11 days surrounding the event announcement date as considered under the influence of relevant factors.

Content	Event window			
	[-5, +5]	*[-1, +1]*	*[0, +1]*	*[0, +5]*
Misconduct	0.343*** [7.47]	0.159*** [3.89]	0.114*** [5.03]	0.244*** [6.49]
Relate	-0.504*** [-12.91]	-0.248*** [-7.14]	-0.216*** [-11.21]	-0.375*** [-11.76]
Stock exchange	-0.0174 [-1.22]	0.0232* [1.83]	0.0403*** [5.73]	0.0144 [1.23]
Industry	0.133*** [6.68]	0.105*** [5.92]	0.0338*** [3.45]	0.0506*** [3.11]
Covid19	-0.135*** [-4.17]	-0.143*** [-4.97]	-0.113*** [-7.08]	-0.132*** [-4.97]
N	242	66	44	132
R-sq	0.861	0.89	0.964	0.905

Note: t statistics in brackets * p < 0.1, *** p<0.01.

We tested the differences between groups in the research model; the results showed that there was a statistically significant difference between the groups (Table 7).

Table 7. Testing the difference.

Content	Group	Observations	The average value	t	Pr	Conclude
Misconduct	Stock market manipulation	110	-0.290	7.354	0.0000	Difference
	Misconduct company other	132	-0.136			
Relate	Direct	154	-0.316	15.663	0.0000	Difference
	Indirect	88	-0.052			
Industry	Finance	121	-0.348	-15.942	0.0000	Difference
	Nonfinancial	121	-0.092			
Covid-19	Before the Covid-19 period	33	-0.431	-8.260	0.0000	Difference
	During the Covid-19 period	209	-0.186			

5. CONCLUSION

The study analyzes how the stock prices of companies listed on the Vietnam stock exchange react to news of business leaders being prosecuted and taken into custody. The data sample consists of information about personnel dismissal under the board of directors between December 20, 2012, and June 12, 2022. This paper found that the stock prices had negative changes before the board's dismissal date. The statistical significance of the negative average returns (AAR [0] = -4.6%) revealed this. The study also found unusual price changes on the day of the event. Therefore, the results indicate that the market responds to the misconduct of business leaders who face prosecution during the event windows.

The results of this study are consistent with those of Ichev (2023) who reported misconduct published in newspapers, showing that cumulative abnormal profits (CAR) decreased by 4.1%. Additionally, Phuong (2021) found that the abnormal rate of return (AR(1) = –4.6%) for ACB was significantly affected. In our opinion, investors' fear of losses related to the event can explain this phenomenon, which is also suitable for the recent context of Vietnam.

The author suggests some important economic implications for investors based on the research results discussed above. Specifically some of the following policies:

(1) Strengthen the transaction monitoring and analysis system: Automated monitoring and detection of abnormal transactions: Use high-tech systems, such as big data analysis software and artificial intelligence (AI), to monitor securities transactions and detect abnormal trading behaviors such as price manipulation, virtual trading, or insider trading. Improve early warning mechanisms: Deploy automatic warning systems to provide early warning of abnormal signs in transactions, helping regulatory agencies to intervene promptly.

(2) Tighten regulations on information disclosure: Transparency of financial and business information: Require listed companies to fully and accurately disclose financial information, business performance reports, stock issuance plans, as well as important events that may affect stock prices; Strictly control inside information: Issue strict regulations on inside information disclosure, and apply severe penalties to individuals or organizations that use inside information for trading.

(3) Improve the legal framework and penalties: Increase administrative and criminal penalties: Strengthen sanctions with higher financial penalties to create deterrence. At the same time, it is necessary to clearly stipulate criminal penalties for market manipulation, including detention and prosecution before the law. Expanding the scope of investigation and prosecution: Regulators should have the authority to expand the scope of investigation to organizations and individuals involved in market manipulation cases, including securities companies, investment funds, and large investors.

(4) Enhance the role of functional agencies and inter-agency coordination: Enhance coordination between the SSC and other agencies: The SSC should continue to closely coordinate with the Ministry of Public Security, the State Bank, and judicial agencies to promptly investigate, prosecute, and adjudicate market manipulation cases. Training and improving supervisory capacity: Invest in training the personnel of securities supervisory agencies, ensuring they have the skills and tools to detect and handle fraudulent behavior.

(5) Clear regulations on transactions by financial institutions and large investors: Control transactions for large investors: Provide specific regulations on ownership ratios and transaction limits for large investors to avoid stock price manipulation, and strictly inspect the activities of securities companies. Ensure that securities companies and financial institutions comply with regulations on information disclosure and do not engage in market manipulation.

The study has made notable contributions to both theory and practice, with a focus on promoting transparency and efficiency in the Vietnamese stock market. However, the study only examines the wrongdoing of indicted business leaders and fluctuations in stock returns. Moving forward, we plan to investigate the impact of these occurrences on the likelihood of a share price crash. Additionally, we will explore factors relating to the ownership of major shareholders in the businesses.

Funding: This research is supported by Hanoi University of Industry, Vietnam, and National Economics University, Vietnam.
Institutional Review Board Statement: Not applicable.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: The corresponding author can provide the supporting data of this study upon a reasonable request.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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Appendix 1. Business leadership misconduct events.

	Leader	Event date	Misleading content	Related	Company	Ticker	Industry	Stock exchanges
1	Le van Dung[i]	26/11/2010	Stock market manipulation	1	Vien Dong pharmaceutical joint stock company	DVD	Production	HOSE
2	Le van Dung	26/11/2010	Stock market manipulation	1	Ha Tay pharmaceutical joint stock company	D.H.T.	Production	HNX
3	Nguyen Duc Kien[ii]	21/8/2012	Stock market manipulation	1	Asia bank (A.C.B.)	A.C.B.	Finance and insurance	HOSE
4	Le Van Huong[iii]	17/06/2015	Stock market manipulation	1	Viet Nhat medical equipment joint stock company	JVC	Wholesale	HOSE
5	Pham Thi Hinh	22/3/2019	Stock market manipulation	1	Binh Thuan mineral industry joint stock company	KSA	Mining	HOSE
6	Do Thanh Nhan[iv]	20/04/2022	Stock market manipulation	1	Louis land stock company	B.I.I.	Construction and real estate	HNX
7	Do Duc Nam[v]	20/04/2022	Stock market manipulation	1	Louis capital joint stock company	TGG	Construction and real estate	HOSE
8	Do Duc Nam	20/04/2022	Stock market manipulation	1	Tri Viet securities joint stock company	TVB	Finance and insurance	HOSE
9	Pham Thanh Tung[vi]	9/12/2022	Stock market manipulation	1	Tri Viet asset management group joint stock company	TVC	Finance and insurance	HNX
10	Pham Thanh Tung	9/12/2022	Stock market manipulation	1	Tri Viet securities joint stock company	TVB	Finance and insurance	HOSE
11	Trinh Van Quyet[vii]	29/03/2022	Stock market manipulation	1	FLC group joint stock company	FLC	Construction and real estate	HOSE
12	Trinh Van Quyet	29/03/2022	Stock market manipulation	1	FLC Stone Investment and minerals joint stock company	AMD	Retail	HOSE
13	Trinh Van Quyet	29/03/2022	Stock market manipulation	1	BOS securities joint stock company	ART.	Finance and insurance	HNX
14	Trinh Van Quyet	29/03/2022	Stock market manipulation	1	HAI agrochemical joint stock company	HAI	Wholesale	HOSE
15	Trinh Van Quyet	29/03/2022	Stock market manipulation	1	CFS trade investment and import-export joint stock company	KLF	Wholesale	HNX
16	Trinh Van Quyet	29/03/2022	Stock market manipulation	1	FLC Faros construction joint stock company	ROS	Construction and real estate	HOSE
17	Do Anh Dung[viii]	5/4/2022	Fraudulent appropriation of property	0	Agribank securities joint stock company	A.G.R.	Finance and insurance	HOSE
18	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Bao Viet securities joint stock company	B.V.S.	Finance and insurance	HNX
19	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Electricity joint stock finance company	EVF	Finance and insurance	HOSE

	Leader	Event date	Misleading content	Related	Company	Ticker	Industry	Stock exchanges
20	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Everest securities joint stock company	E.V.S.	Finance and insurance	HNX
21	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	National citizen commercial joint stock bank	NVB	Finance and insurance	HNX
22	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Saigon - Hanoi commercial joint stock bank	SHB	Finance and insurance	HOSE
23	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Vietnam technological and commercial joint stock bank	TCB	Finance and insurance	HOSE
24	Do Anh Dung	5/4/2022	Fraudulent appropriation of property	0	Joint stock commercial bank for foreign trade of Vietnam	V.C.B.	Finance and insurance	HOSE

[i] https://tienphong.vn/mot-chu-tich-hdqt-bi-bat-vi-thao-tung-gia-chung-khoan-post520122.tpo

[ii] https://kinhtedothi.vn/bau-kien-bi-bat-ve-toi-kinh-doanh-trai-phep.html

[iii] https://tuoitre.vn/bat-tam-giam-nguyen-chu-tich-hdqt-jvc-766047.htm

[iv] https://tuoitre.vn/bat-chu-tich-louis-holdings-do-thanh-nhan-vi-thao-tung-thi-truong-chung-khoan-20220420155155267.htm

[v] https://vietnamfinance.vn/chan-dung-ceo-chung-khoan-tri-viet-nguoi-bi-bat-vi-thao-tung-ttck-20180504224267710.htm

[vi] https://nld.com.vn/phap-luat/chu-tich-hdqt-chung-khoan-tri-viet-pham-thanh-tung-bi-khoi-to-20221213070311809.htm

[vii] https://nld.com.vn/phap-luat/ong-trinh-van-quyet-thao-tung-gia-chung-khoan-ban-chui-748-trieu-co-phieu-flc-the-nao-20220330011424184.htm

[viii] https://tuoitre.vn/bat-chu-tich-tap-doan-tan-hoang-minh-do-anh-dung-20220404151226145.htm