The Relationship between the Board's Characteristics, Ownership Structure, and the Probability of Delisting in Vietnam

THAI NGUYEN HOANG*, NU TRAN THE
Department of Accounting and Auditing,
University of Economics and Business - Vietnam National University, Hanoi,
144 Xuan Thuy, Cau Giay, Ha Noi,
VIETNAM

**Corresponding Author*

Abstract: - Delisting refers to the situation where a listed firm is disqualified because it is ineligible for transactions in the stock market. A delisting situation is bad news for investors; it not only impacts shareholders but is also a sanction imposed on managers. This paper aims to identify the determinants of delisting firms in Vietnam from a corporate governance perspective. A dataset comprising 370 firms was collected in the period from 2014 to 2021; 185 of these firms were delisted firms and the rest were matching firms. Our results show that firms with larger sizes, greater board activities, and a higher proportion of state and institutional ownership are generally less likely to be delisted. Notably, there is no empirical evidence to support the finding that board ownership, concentrated ownership, and foreign ownership impact the probability of delisting in the context of Vietnam. This study contributes to the literature by providing specific empirical evidence on the relationship of non-financial indicators, measured by the corporate governance characteristics, and the probability of delisting. Our findings may be considered an early warning signal for shareholders or investors to anticipate the probability of delisting, allowing them to make better decisions.

Key-Words: Delisting, HNX, HOSE, corporate governance, ownership structure.

Received: March 26, 2023. Revised: August 19, 2023. Accepted: September 8, 2023. Published: September 15, 2023.

1 Introduction

Over the past decade, the Vietnamese stock market has contributed significantly to the country's macroeconomic activity. Unfortunately, in 2019, COVID-19 seriously affected economic and social life. The prolonged pandemic caused many businesses to face financial risks. In 2021, Vietnam had 116,800 firms with a total registered capital of VND 1,611 trillion, showing a 13.4% decrease in the number of firms and a 27.9% decline in registered capital compared to the previous year, [1]. The number of suspended enterprises was nearly 55,000, while 48,100 enterprises stopped operating and waited for dissolution procedures, and 16,700 enterprises completed dissolution procedures, [1]. Noticeably, the COVID-19 pandemic had a negative impact on the financial position and seriously affected the ability of listed companies to continue operations, [2]. As a result, the survival of listed firms and factors associated with public firms becoming delisted from a stock exchange drew increasing attention.

Delisting refers to the situation in which a listed firm becomes disqualified because its stock is no longer eligible for transactions. Delisting is regarded as bad news for shareholders and is considered a sanction for managers. According to a study by, [3], the firm value and average abnormal returns immediately decrease after the delisting announcement. In addition, the existence of the stock market also contributes to the increase in the bid–ask spread and decreasing trading volumes, [4]. Investors who are not aware of the imminent delisting risk have to suffer high costs for their investment. To minimize the negative impact of delisting on shareholders, a few security exchanges across the globe, such as the Chinese Stock Exchange, require listed firms to provide an initial delisting risk warning, [5]. However, such a requirement has not been imposed in Vietnam. As a result, it is difficult for stakeholders to anticipate

and deal with this adverse circumstance. Hence, the significantly negative impacts of delisting on shareholders raise the need for investigating the crucial factors affecting the possibility of delisting.

The trade-off between cost and benefits is often used to explain the reasons for the decision to remain public or delist from the stock market. In, [6], the study suggests that firms with specific characteristics can influence delisting decisions, these characteristics include low investment and financing requirements, high information asymmetry, and low market-to-book value ratios. In the same vein, firms are likely to cancel their listing status if they have fewer growth opportunities, greater inside ownership, higher leverage, and lower market momentum, [7]. Going private may be a favorable decision to avoid the constant undervaluation by analysts or to prevent the risk that managers may invest in unprofitable projects, particularly in markets with limited growth prospects. Besides that, firms are expelled from the stock market if they fail to satisfy a certain number of market capitalization requirements, [8]. When investigating the determinants of delisting, prior studies focus on the appearance of the accounting outcome, [9], [10]. However, there is a possibility that the published financial information of delisting firms is unreliable, [11]. Furthermore, audited accounting information is available three months after the settlement date; thus, it is historical. Besides financial indicators, many studies have used non-financial indicators to determine the factors impacting the probability of delisting. For instance, [12], suggest that delisting occurs more frequently in countries with substantial shareholder rights. Similarly, [13], has provided evidence that supports the relationship between the likelihood of delisting and the firm's corporate governance characteristics. However, most of the studies on this issue have been conducted in developing countries; there is little empirical work in emerging markets such as Vietnam.

This paper aims to identify the determinants of delisting in Vietnam from a corporate governance perspective. We argue and demonstrate that the effectiveness of the corporate governance mechanisms, as proxied by its ownership structure and board characteristics, is related to its ability to persist on the Vietnam stock exchange. To accomplish this, we compare the governance characteristics of 185 firms delisted between 2014 and 2021 from the stock exchanges in Vietnam. Our findings indicate that firms with larger sizes, more active boards, and greater state and institutional ownership are less likely to be delisted.

This paper contributes to the literature by providing specific empirical evidence regarding the relationship between nonfinancial indicators, as measured by corporate governance characteristics, and the probability of delisting. Our findings may be interpreted as an early warning signal for shareholders and investors to anticipate the probability of delisting, allowing them to make better decisions. Moreover, our findings have significant implications for policymakers and business management, as they strengthen current efforts to ensure the efficient operation of corporate governance in publicly traded companies.

The rest of the paper is organized as follows: Section 2 includes a literature review and the hypotheses, while Section 3 describes the methodology; the results and discussion are indicated in Section 3; and finally, the conclusion is discussed in Section 4.

2 Literature Review and Hypotheses

2.1 Literature Review

Delisting can occur voluntarily or involuntarily. First, when a firm experiences financial distress or breaches certain criteria, it is likely to be forced out of stock exchanges. This circumstance is called involuntary delisting. On the other hand, voluntary delisting is when firms voluntarily revoke their listed status. Voluntary delisting occurs for a number of reasons, including mergers, leveraged buyouts (LBO), and squeeze-outs, [14].

Previous studies, such as those conducted by, [15], suggest that firms will consider the trade-off between the benefits of listing and its cost in deciding whether to remain public or leave the market. The advantages of remaining public go beyond just accessing capital; they include stimulating liquidity and demonstrable adherence to recognized standards of transparency and governance, [16]. Despite the benefits, there are significant costs associated with public listing, including outright cash expenditures, compliance costs, and the mandated disclosure of information that may inhibit competitiveness, [17]. The study, [18], suggests that although going public helps firms mitigate agency costs by aligning interests between the management and shareholders, firms choose to go private to improve their performance.

Reunifying ownership and control leads to an increase in managerial incentives and value-maximization efforts, [19]. Based on the cost–benefit analysis, companies will determine their listing status and impose different kinds of delisting, [20].

However, the decision to go private is not always in the hands of firms' managers. According to, [8], involuntary delisting implies that firms lack some characteristics necessary to sustain listing, for instance, they do not meet several numerical market capitalization criteria. A recent study by, [15], indicates that the primary cause of the involuntary delisting of Vietnamese firms participating in the Hanoi Stock Exchange (HNX) and the Ho Chi Minh Stock Exchange (HOSE) is substandard performance. To explain this further, 70.5% of delisting firms were forced to cancel their listing because their accumulated losses exceeded the charter capital, [21]. In other words, an unsatisfactory operating outcome is the main factor that forces firms to cancel their listing. Hence, when investigating the determinants of delisting, prior studies focus on the appearance of the accounting outcome, [22], [23]. However, there is the possibility of low reliability of the published financial information of delisting firms, [14]. Since a firm is facing financial distress, this incident increases the possibility of bad financial conditions and performance. As a result, the firm may have enough motivation to be involved in earning management on financial data by taking advantage of the accounting policy and estimation application. Furthermore, audited accounting information is available three months after the settlement date; thus, it is historical. Consequently, it cannot provide timely information that can be used to predict the likelihood of delisting.

Although accounting information was considered an important factor in predicting the possibility of delisting, questions about the reliability and timeliness of the information narrowed its use in anticipating the probability of delisting. This research designs the delisting prediction model based on another aspect by inquiring about the board of directors' characteristics and the ownership structure as crucial factors. In addition, corporate governance characteristics are classified as non-financial information, and using non-financial information is expected to provide a better indicator of delisting events. Therefore, stakeholders may have effective warning signals to improve their decision-making. Furthermore, corporate governance characteristics do not have the limitations of financial information, and changes in corporate governance cannot be estimated or manipulated. Hence, using this factor enhances the reliability of the information. Furthermore, media reports or regulatory agencies publish information on corporate governance in real-time. Therefore, it can be used to predict the likelihood of delisting in a timely manner.

2.2 Hypothesis Development

To assess the overall effectiveness of corporate governance, the size of the board is an important characteristic. The argument in favor of a larger board size indicates that a greater board size provides a larger multidimensional body of knowledge, which is better at combating the adverse situations and challenges faced by firms, [24]. However, in contradiction to this argument, [25], suggests that the board size may have a negative impact on its effectiveness in carrying out duties. They argue that larger boards of directors likely face problems of communication and coordination and decision-making is affected as a consequence.

Hypothesis 1: There is a negative association between board size and the probability of delisting.

When the directors are interested in the firm's management or attempt to maintain a smooth relationship with the firm, they will be actively involved in all aspects of the firm, leading to improvements in the firm's performance and a reduction of the agency cost, [23]. Several existing studies in the broader literature have found that more active boards indicate better corporate governance practices. Therefore, such firms are likely to have better future performance and are less likely to be delisted from the stock market, [26].

Hypothesis 2: There is a negative association between board activity and the probability of delisting.

In addition, several studies examine the role of board ownership and its relationship with the likelihood of delisting. In, [27], the study emphasizes the potential disciplinary function and enhanced oversight provided by inside investors for delisting. As board members, they utilize their diverse expertise to assist the top management in monitoring investments, controlling operating activity, and improving the firm's performance. In this circumstance, a listing is likely to be an effective step toward improved oversight and, consequently, improved corporate governance for the company by reducing agency costs.

Hypothesis 3: There is a negative association between board ownership and the probability of delisting.

Recently, ownership concentration has been grounded on the institutional-based view, [28]. When a small group has the majority of a company's shares, it tends to impose upon and control the management, reducing the agency problem and increasing the firm's value, [29]. A study by, [30], reveals that claims are prevented in firms with large shareholdings, which is also correlated with negative political influence and corruption, resulting in improved firm performance and avoidance of delisting. In, [31], the authors conducted a study and found that when firms made more frequent changes in concentrated shareholders, it might signal an increase in the probability of delisting.

Hypothesis 4: There is a negative association between concentrated ownership and the probability of delisting.

The structure of ownership is one of the primary determinants of agency issues. The agency problem is pronounced, especially in the Vietnamese context, because of the proportion of state ownership and the political appointment of directors, [21]. Consequently, highly state-owned corporations may shift their principal purpose from the maximization of profit to the maximization of social benefit. In, [7], the authors find evidence supporting the influence of state ownership on financial resources, since state corporations are more likely to issue bonds and borrow exclusively on the bond market. Consequently, corporations with a high proportion of state ownership have a diminished incentive to remain publicly traded.

Hypothesis 5: There is a positive association between state ownership and the probability of delisting.

Resource-based theory enhances the relationship between foreign ownership and the firm's operating activities. According to a study by, [32], the potential of foreign shareholders facilitates local enterprises' access to technological, managerial, and financial resources and helps them gain access to a new market. In addition, according to, [33], foreign investors play an essential role in supervising managers and establishing good corporate governance standards, hence minimizing agency costs. Foreign investors require higher corporate governance standards and are involved in supervising and giving advice to managers. As a result, firms may operate more efficiently and avoid business decisions or plans that may cause adverse outcomes, [34].

Hypothesis 6: There is a negative association between foreign ownership and the probability of delisting.

A large proportion of shareholding enables institutional investors to express their disappointment with a company's management and exert pressure on the firm's managers to enhance the effectiveness of corporate governance mechanisms, [10]. In addition, institutional investors can also oversee and support managers with advanced management expertise, high-quality resources, and specialized talents, [35]. As a result, the presence of institutional investors facilitates firms' operational transparency, reduces information asymmetry, and avoids and prevents adverse circumstances. Furthermore, delisted enterprises are reported to have lower institutional ownership than listed firms, [12]. Moreover, concentrated shareholdings by the institution or block-holders can increase managerial monitoring, improve firm performance, and avoid delisting, [36].

Hypothesis 7: There is a negative association between institutional ownership and the probability of delisting.

3 Methodology

3.1 Data Collection

Our sample considers all the delisting transactions of firms participating in HNX and HOSE in Vietnam from 2014 to 2021. We apply a number of restrictions to our sample. First, we eliminate all the delisted firms that follow a merger/acquisition by new owners. Second, we use the matching method based on industry and firm size and the following specific standards to build the control group: For each delisted firm, this research intends to gather data of a control firm that (1) was operating in the same industry classification in the corresponding year; (2) was listed on the same exchange; (3) had an asset size similar to that of the delisted firm three years before their delisting; and (4) had a reasonable audit opinion. The reason for selecting matching firms that satisfy these specific requirements is that governance structures are likely to be correlated with firm size and industry, [12]. According to [12], the company size at the time of delisting is likely to be misleading. Therefore, this research uses the matching procedure three years before delisting. This approach results in a time-, industry-, and a size-matched sample of delisted and surviving firms.

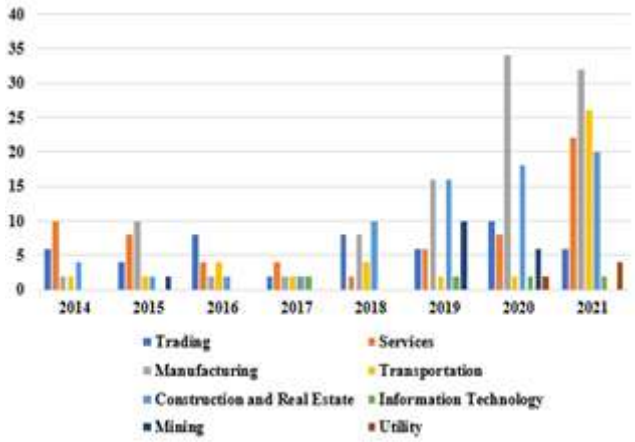

Fig. 1: Delisting year and distribution of firm by industry

If no match could be found, the delisted firm was discarded from the sample. Consequently, the matched (or control) sample contained an equal number of listed firms. We obtained a sample of 370 firms of which 185 were delisted firms and 185 were the control sample. Figure 1 presents the data sampling used in the paper. The dataset includes 370 firms from HNX and HOSE. The observations of the sample were performed between 2014 and 2021. Figure 1 presents a breakdown of delisted firms by delisting year and distribution of firms by industry. The largest occurrence of delisting was in 2021, and the industry that has the highest number of delisted firms is manufacturing (106 delisted and non-delisted firms, accounting for 57% of the sample). The number of delisted firms in the utility industry is the lowest (accounting for 3.24% of the sample).

3.2 Regression Model

3.2.1 Logistic Regression Model

We analyze the effect of board characteristics and ownership structure on the delisting phenomenon in Vietnam using logistic regression. Previously, a study conducted by, [38], employed linear regression to resolve such problems. However, [9], [39], suggests that logistic regression is the most appropriate for problems involving dummy dependent variables. Moreover, logistic regression does not require the strict assumptions of linearity, normality, and equal variance, [39]. We estimate the following logistic regression model:

$P_{(delisting)} = \alpha_0 + \beta_1$* BoardAct + β2*BoardOwn + β_3*BoardSize + β_4*ConcOwn + β_5*StateOwn + β_6*ForeignOwn + β_7*InstOwn + β_8*ROE + β_9*CapExp + β_{10}*CashHolding + β_{11}*Leverage + β_{12}*TobinQ + ε

Table 1 describes in detail the definition and measurement of each variable used in the logistic regression model.

Table 1. Variables definition and measurement

Variable	Definition
P(delisting)	P(delisting) is the probability of delisting, P(delisting) is a binary variable that equals one for delisted firms and zero for control firms
BoardAct	BoardAct is board activity measured as the frequency or cumulative frequency of board meetings in a given period.
BoardOwn	BoardOwn is board ownership measured as the percentage of ownership held by board members.
BoardSize	BoardSize is determined by the number of directors serving on the board of a company.
ConcOwn	ConcOwn is the concentrated ownership of firms, measured by the percentage of ownership collectively held by large shareholders (a large shareholder possesses over 5% of a company's shares).
StateOwn	StateOwn is the state ownership, measured by the percentage of ownership held by the state government.
Foreign-Own	ForeignOwn is foreign ownership, measured by the percentage of ownership held by foreign investors.
InstOwn	InstOwn is the institutional ownership, measured by the percentage of ownership held by institutions.
ROE	Return on equity is the net income by total equity
CapExp	The capital expenditure is measured as the total capital expenditure over the total assets.
Cash-Holding	CashHolding is cash holding, measured by the total cash and short-term financial investment over the total assets.
Leverage	The leverage ratio is the total debt divided by the total assets.
TobinQ	Tobin's Q ratio is calculated by taking the market capitalization over the total assets.
α	The constant.
β	Coefficients of independent variables (explanatory variables).
ε	Residual.

3.2.2 Variables Measurement

3.2.2.1 Dependent variable

The probability of delisting, P(delisting) is a binary variable that equals one for delisted firms and zero for control firms

3.2.2.2 Independent Variables

Board Activity

The board activity variable in this study is measured as the frequency or cumulative frequency of board meetings in a given period following, [13], [21].

Board Ownership

The board ownership variable in this study is measured as the percentage of ownership held by board members following, [5], [13].

Board Size

The board size variable in this study is determined by the number of directors serving on the board of a company following, [24], [25].

Concentrated Ownership

The concentrated ownership variable in this study is determined by the percentage of ownership collectively held by large shareholders (a large shareholder possesses over 5% of a company's shares) following, [25].

Foreign Ownership

The foreign ownership variable in this study is measured by the percentage of ownership held by foreign investors following, [25].

Institutional Ownership

The institutional ownership variable in this study is measured by the percentage of ownership held by institutions following, [25].

3.2.2.3 Control Variables

Return on Equity

ROE is adopted as an accounting measure of profitability. It is measured as the ratio of net income (after interest and taxes) to total equity, [39].

$$ROE_{it} = \frac{NI_{it}}{TE_{it}}$$

Where:

ROE = Return on Equity of the company i in year t.

NI_{it}: Net income after interest and taxes of the company i in year t.

TE_{it}: Total equity of the company i in year t.

Capital expenditure

The capital expenditure variable in this study is measured by the total capital expenditure over the total assets.

$$CapExp_{it} = \frac{\Delta\ PPE_{it} + Depr_{it}}{TA_{it}}$$

Where:

ΔPPE_{it}: the property, plant, and equipment of a company i in year t is calculated by subtracting the previous cost of property, plant, and equipment from the cost in the current period.

$Depr_{it}$: Depr is the depreciation of company i in year t.

TA_{it}: Total asset of the company i in year t.

Cash holding

Cash holding is measured by the total cash and short-term financial investment over the total assets following, [39], [40].

$$CashHolding_{it} = \frac{Cash_{it} + ShortFinInv_{it}}{TA_{it}}$$

Where:

$CashHolding_{it}$: Cash holding of a company i in year t.

$Cash_{it}$: Cash and Cash equivalence of company i in year t.

$ShortFinInv_{it}$: Short-term financial investment of company i in year t.

TA_{it}: Total asset of the company i in year t.

Leverage

Leverage controlled for the financial wealth and debt ratio. Leverage is calculated by taking the total debt divided by the total assets following, [41].

$$LEV_{it} = \frac{TD_{it}}{TA_{it}}$$

Where:

LEV_{it}: Leverage of the company i in year t.

TD_{it}: Total debt of the company i in year t.

TA_{it}: Total assets of the company i in year t.

Firm value

The firm value is measured using Tobin's Q ratio calculated by taking the market capitalization over the total assets following, [42].

$$TobinQ_{it} = \frac{MV_{it}}{TA_{it}}$$

Where:

$TobinQ_{it}$: The Tobin'Q ratio of company I in year t.

MV_{it}: Market value of the company i in year t.

TA_{it}: Total assets of the company i in year t.

4 Results and Discussion

4.1 Characteristics of Delisting and Non-Delisting Firms

Table 2 provides the characteristics of firms delisting from the stock market and firms that remained listed. The results indicate that firms that canceled their listing differ from non-delisting firms regarding the board's characteristics and the ownership structure.

Table 2. Univariate comparison of corporate governance and control characteristics for 185 delisted and matched control firms

Variables	All Obs	All Samples		Treatment Firm		Control Firms		Equality of means	Equality of means
		Mean	Median	Mean	Standard Deviation	Mean	Standard Deviation	t-test	MW
BoardSize	370	5.1	1.202	4.89	1.31	5.31	1.05	3.469***	4.445***
BoardOwn	370	25.03	25.76	23.09	25.26	26.98	26.18	1.454	1.713*
BoardAct	370	7.370	4.99	6.76	4.71	7.98	5.20	2.356**	2.666***
ConcOwn	370	50.32	27.93	47.0	30.76	53.67	24.39	2.320**	1.93**
StateOwn	370	15.98	23.99	10.27	20.85	21.69	25.57	4.709***	4.92***
ForeignOwn	370	4.37	12.46	4.47	14.37	4.27	10.25	-0.149	1.204
InstOwn	370	22.18	28.47	20.68	28.9	23.67	28.05	1.008	1.454
ROE	370	-0.1315	1.758	-0.3711	2.455	0.108	0.243	2.641***	5.994***
CapExp	370	86.53	22.39	89.46	17.87	87.22	17.82	-1.206	-2.237**
CashHolding	370	1.02	3.33	0.77	2.96	1.26	3.66	1.393	5.320***
Leverage	370	3.64	5.59	4.38	6.39	2.89	4.56	-2.585**	-2.339**
TOBINQ2	370	38.39	43.8	30.58	43.19	46.21	43.12	3.484***	5.419***

The table shows the mean and median values for listing and delisting firms. The t-statistics for the differences in means and the Wilcoxon–Mann–Whitney test (WMW) of the differences in median values are reported in the last two columns. The variables are defined in the third section. The p-values are reported in parentheses: *p < 0.05. **p < 0.01. ***p < 0.001.

The results for variables that measure the board size show that firms that remain listed are likely to have a larger board than delisting firms; the mean board sizes of listing and delisting firms are 5.3 and 4.8, respectively. In addition, board meetings are more frequent at non-delisting firms. The mean values of board meetings in the delisting and non-delisting firms are 6.7 and 7.9, respectively. While the mean of board ownership in the non-delisting firm is approximately 27%, there is 23% of board ownership in delisting firms. Similarly, non-delisting firms are likely to have more concentrated ownership (accounting for 53.67%) than delisting firms (accounting for 47%). The percentage of board ownership is not statistically significant between delisting and non-delisting firms. In the same vein, there is no statistically significant relationship between listing and delisting firms regarding the presence of foreign ownership and institutional ownership.

The results for the control variables show that delisted firms are over-leveraged, indicating that they were less likely to have raised equity capital throughout their public existence and, as a result, chose to exit trading. Similarly, [16], argues that delisting firms have greater spending on capital expenditure, implying that they may have more collateral for borrowing. Similarly, firm profitability and the value of listed firms are likely higher than those of delisting firms. Overall, the results indicate that non-delisting companies are more likely to have larger growth prospects and lower leverage, indicating that their decision to delist is likely to be influenced

by the significantly higher costs relative to the benefits of listing.

Table 3 presents pairwise correlations between the variables used in the logistic regressions. Delisting is negatively correlated with board size, board ownership, board meetings, concentrated ownership, state ownership, institutional ownership, ROE, cash holding, and Tobin's Q, and it is positively correlated with foreign ownership, capital expenditure, and leverage. In summary, the correlations between the variables to be included in the same regression model are weak, which reduces the likelihood of impending correlation bias. Moreover, we exclude multicollinearity because the variance inflation factors of all regressors in the models under consideration are less than 4.0.

4.2 Results and Discussion

The results in Table 4 indicate full support for Hypothesis 1 in that the coefficient of BoardSize is negative and significant ($p < 0.01$) in both Models 1 and 3. According to previous research, a larger board can frequently impede corporate decision-making, coordination, and communication, [39]. As the number of board members increases, it may become more challenging to reach a consensus or make prompt decisions, resulting in possible delays in addressing urgent matters.

Table 3. Pearson correlations among variables, and the likelihood of an involuntary delisting

	P(delist-ing)	Board-Size	Board-Own	Board-Act	Conc-Own	State-Own	Foreign-Own	Inst-Own	ROE	CapExp	Cash-Holding	Leverage	Tobin Q2
P(delist-ing)	1												
BoardSize	-0.178***	1											
BoardOwn	-0.0756	-0.103*	1										
BoardAct	-0.122*	0.0236	-0.0243	1									
ConcOwn	-0.120*	0.056	0.345***	0.0329	1								
StateOwn	-0.238***	-0.102*	0.159**	0.0418	0.258***	1							
ForeignOwn	0.0078	0.0817	-0.114*	0.0226	-0.0232	-0.0718	1						
InstOwn	-0.0525	0.00993	0.0328	-0.0098	0.212***	-0.199***	-0.149**	1					
ROE	-0.136**	0.0247	0.0517	0.00653	-0.0029	0.0446	-0.0348	-0.0263	1				
CapExp	0.0523	-0.0649	0.130*	-0.0027	0.116*	0.0867	-0.130*	0.0789	0.0063	1			
CashHolding	-0.0724	-0.0182	0.0787	-0.0361	0.0241	0.00667	0.178***	-0.0109	0.0404	-0.144**	1		
Leverage	0.134*	-0.0956	0.0167	0.0348	0.00927	0.00079	0.0485	-0.0354	-0.0047	-0.0171	0.487***	1	
TOBINQ2	-0.179***	0.118*	0.0937	-0.028	0.241***	0.0413	0.0571	0.0898	0.084	0.155**	0.00223	-0.255***	1

The p-values are reported in parentheses: *p < 0.05. **p < 0.01. ***p < 0.001.

Note: This table presents pairwise correlations between the variables used in the logistic regressions. The variables are defined in the third section.

Larger boards may also be hampered by increased bureaucracy and inefficiency, which may impact a company's ability to adapt to market changes and make effective strategic decisions, [5]. These issues may contribute to a company's poor financial performance and noncompliance with listing requirements, thereby increasing the likelihood that it will be delisted. Although there is evidence suggesting that a company with a larger board frequently confronts communication and coordination issues, which negatively impacts decision-making, the results of this study indicate the opposite. A larger board implies a larger body of multidimensional knowledge; consequently, it is better able to deal with adverse situations and problems faced by companies. Hence, Vietnamese companies with larger boards are less likely to delist from the stock exchange. This finding is in line with the results of, [24], [37].

The coefficient of BoardAct is negative and significant for the probability of delisting ($p < 0.01$), which fully supports Hypothesis 3, confirming the view that more frequent board meetings reduce the likelihood of delisting. This finding aligns with those of previous studies by, [26], [43]. They suggest that a highly engaged and active board of directors can play a crucial role in supervising and managing a company's strategic decisions, financial performance, and regulatory compliance. Active boards hold frequent meetings, discussions, and interactions with management, which enables them to remain informed, provide valuable insights, and participate actively in decision-making processes. This can contribute to effective governance, improved financial performance, and increased compliance, thereby reducing the possibility of delisting. Conversely, a low level of board activity may indicate a lack of attention, involvement, or effectiveness of the board. In such situations, critical issues may be neglected or not addressed promptly, resulting in potential compliance failures or poor financial performance, which can ultimately lead to delisting.

Hypothesis 5 is fully supported, as the coefficient of StateOwn is negative and significant for the probability of delisting ($p < 0.001$). This finding is consistent with the result of, [24], Period studies suggest that state ownership may cause agency problems and negatively impact the monitoring role and operating efficiency, resulting in an increased probability of delisting.

Table 4. Logistic regression on the relation between board ownership and ownership structure and the likelihood of being delisted.

VARIABLES	Model 1		Model 2		Model 3		Model 4	
	β	S.E	β	S.E	β	S.E	β	S.E
BoardSize			-0.296***	0.103			-0.361***	0.108
BoardOwn			-0.671	0.443			-0.413	0.498
BoardAct			-0.0608***	0.0231			-0.0603**	0.0241
ConcOwn					-0.00166	0.00443	-0.00103	0.00485
StateOwn					-0.0247***	0.00544	-0.0270***	0.00563
ForeignOwn					0.00079	0.00941	0.0021	0.00997
InstOwn					-0.00721*	0.00424	-0.00823*	0.00436
ROE	-0.246**	0.122	-0.235*	0.123	-0.278**	0.134	-0.261*	0.135
CapExp	0.00514	0.00497	0.00532	0.0052	0.00849	0.00522	0.00828	0.00543
CashHolding	-0.110**	0.0468	-0.110**	0.0475	-0.118**	0.0476	-0.121**	0.0489
Leverage	0.0781***	0.0289	0.0796***	0.0298	0.0890***	0.0305	0.0900***	0.0319
TobinQ	-0.629**	0.275	-0.566**	0.282	-0.574**	0.291	-0.531*	0.301
Constant	-0.377	0.446	1.698**	0.737	-0.0931	0.488	2.212***	0.779
Observations	370		370		370		370	
R^2	6.18		9.66		11.49		15.23	

Note: This table presents pairwise correlations between the variables used in the logistic regressions. The variables are defined in the third section. The p-values are reported in parentheses: *p < 0.05. **p < 0.01. ***p < 0.001.

In addition, firms with a high level of state ownership have less motivation to remain publicly traded as they have alternative sources of financing, such as issuing bonds or borrowing exclusively on the bond market. However, this is not the case in Vietnam. State ownership may provide certain benefits that reduce the likelihood of delisting. Governments typically have long-term investment horizons and may place stability, the preservation of jobs, industries, and economic growth ahead of short-term financial performance. State-owned companies may receive financial assistance, subsidies, or preferential treatment from the government, enabling them to endure difficult times and avoid delisting, [9]. In addition, state-owned businesses may have access to government resources, expertise, and networks, which can help them comply with regulatory requirements and enhance their overall performance. Government oversight and involvement in the governance of state-owned companies can also assure a higher level of accountability and transparency, thereby reducing the likelihood of noncompliance issues leading to delisting, [21].

Partial support is found for Hypothesis 7. The coefficient of InstOwn is negative and significant for the probability of delisting ($p < 0.05$). Institutional factors are essential for the survival of listing firms. The oversight function of institutional investors may enhance corporate governance mechanisms, [44]. According to, [13], a higher level of institutional ownership provides stronger protection of shareholders' rights, appropriate incentives, and changes in corporate culture that have enabled enterprises, including state-owned ones, to reduce and avoid the likelihood of delisting. In addition, institutional investors have the resources, expertise, and incentives to actively monitor and exert influence over the companies in which they invest. Higher levels of institutional ownership can result in improved corporate governance practices, increased transparency, and increased accountability, thereby decreasing the likelihood of non-compliance issues and poor performance that could lead to delisting, [15]. Institutional investors may also be able to provide struggling companies with financial resources, guidance, and support, allowing them to surmount obstacles and avoid delisting. In addition, their participation can lend market credibility and attract additional investors, thereby contributing to a company's overall stability and viability, [24].

No support is found for Hypotheses 2, 4, and 6, as the coefficients of BoardOwn, ConcOwn, and ForeignOwn are not significant on the delisting outcomes. In other words, there is no empirical evidence supporting the relationship between board ownership, concentrated ownership, and foreign ownership and the probability of delisting in the context of Vietnam.

Of the firm's specific control variables, ROE, CashHolding, Leverage, and TobinQ are found to have a negative and significant effect on the probability of delisting ($p < 0.01$). According to, [17], organizations with excellent operating performance are more likely to have sufficient resources for long-term survival. Therefore, it is expected that operational performance variables measured by ROE negatively correlate with the delisting rate. In addition, corporations with a high level of cash reserves are likely to have a lower delisting risk because they typically have more unique resources than other firms. In, [45], the authors support the negative correlation between cash holding and the probability of delisting.

Firms with a lower leverage ratio are less subject to the discipline of external debt and are less likely to be subject to delisting. By listing in the stock market, firms have more substantial bargaining power with banks because they have access to public markets and increased transparency, which reduces borrowing limits and diversifies sources of finance, [38]. In addition, high-value enterprises are likely to benefit from a market listing since they can overcome their financial constraints by gaining access to low-cost external finance. Therefore, corporations with a high market value are less likely to face the probability of delisting.

5 Conclusion

Delisting is considered to be a result of financial problems and is often perceived as a step before bankruptcy. The negative impacts of delisting include a decrease in firm value and an average abnormal increase in the bid–ask spread along with a decrease in trading volumes. Given the high costs of listing cancellation, delisted firms cannot recover through a takeover bid or by voluntarily restructuring their assets, [6]. In this paper, we examine whether the effectiveness of a firm's corporate governance mechanisms, as proxied by the board characteristics and ownership structure, is a primary determinant of

the delisting risk in Vietnam. In doing so, we empirically compare the board characteristics and ownership structure of 185 delisted firms to a set of industry- and size-matched control firms. Our results suggest that firms that have a larger size, greater board activities, and a higher proportion of state and institutional ownership are generally less likely to become delisted. Notably, there is no empirical evidence to support the impact of board ownership, concentrated ownership, and foreign ownership on the probability of delisting in the context of Vietnam.

The size of our sample is a limitation of our research, as our sample only includes firms delisting from 2014 to 2021 on HNX and HOSE. The limitation of research size results from the decision to study specific stock exchanges which include Ha Noi Stock Exchange and Ho Chi Minh Stock Exchange. These are the two largest stock exchanges in Vietnam and they are quite similar in the listing requirements, regulations, and market structures. By limiting the research to a specific stock exchange, this study can ensure comparability and standardization across the selected sample, reduces the potential confounding effects of varying market characteristics, and facilitates more accurate comparisons and insights. Despite the limitation of the research scope, we believe there is sufficient homogeneity in our sample selection to investigate how the probability of delisting is related to the governance structure. In addition, another limitation of the study on the effect of ownership structure and board characteristics on the probability of delisting could be the potential for omitted variable bias. While the study may control for relevant factors such as firm profitability, leverage, capital expenditure, cash holding, and Tobin's Q, there may still be unobserved variables that influence both ownership structure, board characteristics, and delisting probability. These unaccounted variables, such as management quality, industry-specific factors, or market conditions, can confound the relationship under investigation. Failure to consider or control for these unobserved factors may limit the accuracy of the findings and introduce potential bias in attributing the observed effects solely to institutional ownership.

This research makes the following contributions to the literature. First, it provides specific empirical evidence on the relationship of non-financial indicators, measured by the corporate governance characteristics, and the probability of delisting. Our findings may be considered to constitute an early warning signal for shareholders or investors to anticipate the probability of delisting, allowing them to make better decisions. In addition, our results also have significant implications for policymakers and business management, as they reinforce current efforts to assure the effective functioning of corporate governance in listed companies.

References:

[1] Hanh, N. (2021). Thăng hoa thị trường chứng khoán Việ Nam. *Tạp chí con số sự kiện, Tổng cục Thống kê, Bộ Kế hoạch và Đầu tư* – ISSN 2734 -9144.

[2] Kim, Q. (2022). Does Financial Leverage Fit Firm Performance During the COVID-19 Pandemic: Evidence from Vietnam. *International Journal of Asian Business and Information Management*, 13 (1), 1-20.

[3] Harris, R., Siegel, D., & Wright, M. (2005). Assessing the Impact of Management Buyouts on Economic Efficiency: Plant-Level Evidence from the United Kingdom. *Review of Economics and Statistics,* 87, 148–153.

[4] Martinez, I., & Serve, S. (2011). The delisting decision: The case of buyout offer with squeeze-out (BOSO). *International Review of Law and Economics*, 31(4), 228–239.

[5] Chien, C., Parng, Y., & Lu, C. (2009). Corporate Board, Ownership Structure, and The Involuntary Delisted Firms. Corporate Ownership & Control. *Virtus Interpress*.

[6] Aslan, H., & Kumar, P. (2011). Lemons or cherries? Growth opportunities and market temptations in going public and private. *Journal of Financial and Quantitative Analysis*, 489-526.

[7] Marosi, A., & Massoud, N. (2007). Why do firms go dark?. *Journal of Financial and Quantitative Analysis*, 42(2), 421–442.

[8] Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics* 53, 113–142.

[9] Shumway, T. (1997). The delisting bias in CRSP data. *The Journal of Finance*, 52(1), 327–340.

[10] Sueyoshi, T. (2005). Financial ratio Analysis of the Electric Power Industry. *Asia-Pacific Journal of Operational Research*, 349-376.

[11] In, T., Sun, M., & Shun, J. (2014). A delisting prediction model based on nonfinancial

information. *Asia-Pacific Journal of Accounting & Economics*, 21(3), 328-347.

[12] Dahiya, S., & Klapper, L. (2007). Who Survives? A Cross-Country Comparison. *Journal of Financial Stability, 3*, 261-278.

[13] Charitou, A., Louca, C., & Vafeas, N. (2007). Boards, ownership structure and involuntary delisting from the New York stock exchange. *Journal of Accounting & Public Policy*, 26(2), 249–262.

[14] Li, J. T., & Qian, C. (2013). Principal-Principal Conflicts under Weak Institutions: A Study of Corporate Takeovers in China. *Strategic Management Journal,* 34 (4), 498–508.

[15] Boot, A., Gopalan, R., & Taylor, A. V. (2006). The entrepreneur's choice between public and private ownership. *Journal of Finance*, 61(2), 803–836.

[16] Mehran, H., & Peristiani, S. (2010). Financial visibility and the decision to go private. *Review of Financial Studies*, 23(2), 519–547.

[17] Chaplinsky, S., & Ramchand, L. (2012). What drives delistings of foreign firms from U.S. Exchanges?. *Journal of International Financial Markets, Institutions and Money, 22*(5), 1126–1148.

[18] In, T., Sun, M., & Shun, J. (2014). A delisting prediction model based on nonfinancial information. *Asia-Pacific Journal of Accounting & Economics*, 21(3), 328-347.

[19] Bessler, W., & Stanzel, M. (2009). Conflicts of Interest and Research Quality of Affiliated Analysts in the German Universal Banking System: Evidence from IPO Underwriting. *European Financial Management,* 15:4, 757–786.

[20] Leuz, C., Triantis, A., & Wang, T. Y. (2008). Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations. *Journal of Accounting and Economics*, 45(2), 181–208.

[21] Nguyen, T., & Nguyen, H. (2020). State Ownership and Firm Performance in Vietnam: The Role of State-Owned Holding Company. *Asian Journal of Business and Accounting,* 13(2), 182-211.

[22] Shumway, T. (1997). The delisting bias in CRSP data. *The Journal of Finance*, 52(1), 327–340.

[23] Sueyoshi, T. (2005). Financial ratio Analysis of the Electric Power Industry. *Asia-Pacific Journal of Operational Research*, 349-376.

[24] Karamanou, I., & Vafeas, N. (2005). The association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis. *Journal of Accounting Research*, 43(3), 453-486.

[25] Haniffa, R., & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed firms. *Journal of Business Finance and Accounting, 33,* 1034-1066.

[26] Core, J., Guay, W., & Rusticus, T. (2006). Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *Journal of Finance*, 61, 655–687.

[27] Moon, J. (2006). Public versus private equity. *Journal of Applied Corporate Finance,* 18(3), 76–82.

[28] Khan, W. (2013). The Impact of Capital Structure and Financial Performance on Stock Return "A case of Pakistan Textile Industry". *Middle-East Journal of Scientific Research*, 16 (2), 289-295.

[29] Kim, H., & Lu., Y. (2011). CEO ownership, external governance, and risk-taking. *Journal of Financial Economics*, 102(2), 272-292.

[30] Ahmed, H. (2013). Corporate social responsibility disclosure over time: Evidence from Malaysia. *Managerial Auditing Journal*, 28, 647-676.

[31] Klein, A., & Zur, E. (2009). "Entrepreneurial Shareholder Activism: Hedge Funds and Other Private Investors." *Journal of Finance,* 64 (1), 187–229.

[32] Farhan, A., & Freihat, A. R. F. (2021). The impact of Government Ownership and Corporate Governance on the Corporate Social Responsibility: Evidence from UAE. *Journal of Asian Finance, Economics and Business*, 8(1), 851–861.

[33] Lee, Min-Dong Paul. (2008). A Review of the Theories of Corporate Social Responsibility: Its Evolutionary Path and the Road Ahead. *International Journal of Management Reviews,* 10.1, 53–73.

[34] Thanatawee, Y. (2021). The Impact of Foreign Ownership on Stock Price Volatility: Evidence from Thailand. *The Journal of Asian Finance, Economics and Business*, 8(1): 7-14.

[35] Lin, Y. R., & Fu, X. (2017). Does institutional ownership influence firm performance? Evidence from China. *International Review of Economics & Finance*, 49, 17–57.
[36] Andres, C. (2008). Large shareholders and firm performance—An empirical examination of founding-family ownership. *Journal of Corporate Finance*, 14, 431-445.
[37] Beasley, M. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *Accounting Review,* 71, 433–465.
[38] Peng Y, Kou G, Shi Y, Chen Z. A. (2008). Descriptive Framework for the Field of Data Mining and Knowledge Discovery. *International Journal of Information Technology & Decision Making.* 7:639 - 682
[39] Agyei-Boapeah, H., Michael, M., Abongeh, A., &Zhang, F. (2019). Intangible Investments and Voluntary Delisting: Mass Exodus of Chinese Firms from US Stock Exchanges. International journal of accounting and information management 27.2: 224–243.
[40] Zhou, F., Zenan, Z., Jun, Y., Yunpeng, S., & Yunbi, A. (2018). Delisting Pressure, Executive Compensation, and Corporate Fraud: Evidence from China." *Pacific-Basin finance journal* 48: 17–34.
[41] Alhadab, M., Clacher, I., Keasey, K. (2015). Real and accrual earnings management and IPO failure risk. *Account. Bus. Res*. 45 (1), 55–92.
[42] Haga, J., Henrik, H. & Dennis, S. (2018). Stock Market Listing Status and Real Earnings Management. *Journal of accounting and public policy.* 37.5: 420–435.
[43] Karpoff, M. J. (2017). Thirty Years of Shareholder Activism: A Survey of Empirical Research. *Journal of Corporate Finance*, 44, 405–424.
[44] Balatbat, M., Lin, C., & Carmichael, D. (2010), "Comparative performance of publicly listed construction companies: Australian evidence". *Construction Management and Economics*, Vol. 28, No. 9, pp. 919-932.
[45] Willenborg, M. and McKeown, J. (2001). Going-concern initial public offerings. *Journal of Accounting and Economics*, Vol. 30 No. 4, 279-313.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Thai Nguyen has developed the conceptualization, visualization, writing, review and editing of the research, also developed the methodology, data curation, formal analysis and validation of the research.
- Nu Tran has organized and written Section 2.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

We would like to thank VNU University of Economics and Business, Hanoi for financing the Research Project number KT.21.08. This paper has been extracted from this research.

Conflict of Interest

The authors have no conflict of interest to declare.