▪ Journal of Competitiveness

Foreign Ownership, Foreign Board Members, and Firm Performance: The Moderating Roles of Leverage and Solvency in an Emerging Market

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Abstract

This study explores the relationship between foreign characteristics and firm performance by examining the impact of foreign ownership and the presence of foreign board members. It provides empirical evidence on the role of foreign participation in enhancing firm performance during the COVID-19 pandemic and the subsequent recovery period. Using a dataset of 359 non-financial firms listed in Vietnam—an emerging market—between 2017 and 2023, with over 2,500 observations, our findings reveal that foreign characteristics play a crucial role in improving firm performance. Specifically, foreign ownership has a positive and significant effect on both market value (Tobin's Q) and return on assets (ROA). The consistent positive impact across different periods highlights the substantial benefits that Vietnamese firms gain from foreign investors. However, while the presence of foreign board members appears beneficial, its impact on firm performance remains inconclusive across different time frames. Moreover, the interaction between foreign ownership ratio and leverage ratio (FO_LEV) has a significantly negative effect on ROA, suggesting that a high debt ratio weakens the positive influence of foreign ownership. These findings offer valuable insights for policymakers and business leaders in developing strategies to attract foreign investment, enhance corporate governance, and strengthen firms' competitive advantages in the global market.

Keywords: Internationalization, foreign ownership, foreign board members, firm performance, Vietnam, emerging market

JEL Classification: M16, G34

Article history: Received: March 2025; Accepted: June 2026; Published: September 2026

1 INTRODUCTION

In recent years, a substantial body of literature has examined how foreign-related governance influences firm performance. For example, Iwasaki et al. (2022) find that foreign ownership significantly enhances firm value in emerging markets, while Ahmed and Iwasaki (2021) demonstrate in the Japanese context that higher foreign ownership promotes greater board independence and contributes to improved firm value. Conversely, other studies emphasize potential drawbacks associated with foreign participation. Tsui et al., (1992) argue that cultural diversity within corporate boards may create communication barriers, interpersonal conflicts, and slower decision-making processes, whereas Masulis et al., (2012) provide U.S. evidence suggesting that foreign directors may underperform domestic directors in monitoring and advisory functions.

Empirical evidence regarding the performance implications of foreign involvement remains inconclusive. Several studies report positive effects of foreign-related governance on firm

https://doi.org/10.7441/joc.2026.03.13

performance whereas others document weaker, insignificant, or context-dependent relationships. For instance, Nguyen (2023) finds evidence from Vietnam that the presence of a foreign board member positively affects ROA; however, increasing the number of foreign directors does not generate additional gains, potentially due to communication frictions and coordination costs. These mixed findings suggest that the effectiveness of foreign governance mechanisms may depend heavily on firm-specific characteristics and institutional context, particularly in emerging economies.

Notably, most prior studies examine foreign ownership and foreign directors separately rather than considering their joint influence within a unified analytical framework. Only a limited number of studies investigate the interaction between these governance dimensions. Likewise, the moderating role of financial structure remains insufficiently explored. Evidence from Vietnamese listed firms by Le and Le (2025) indicates that both high leverage and extreme solvency levels are associated with lower profitability, implying that debt burden and liquidity conditions may substantially shape how foreign investors and foreign board members influence firm performance.

A further limitation concerns contextual coverage. Much of the existing literature is concentrated in developed economies, while emerging and frontier markets remain comparatively underexplored. Vietnam is a suitable context for this study given its classification as a frontier market by MSCI (2024), indicating a relatively less mature but increasingly internationally integrated capital market with growing foreign investor participation. In such an environment, foreign investors operate under conditions characterized by concentrated ownership structures and institutional transition. Supporting this argument, Le and Le (2025) document that foreign ownership significantly improves both accounting-based and market-based performance among Vietnamese firms. Their findings, together with related evidence from emerging markets, underscore the importance of further examining foreign governance mechanisms within developing institutional environments.

Finally, limited research has addressed the temporal heterogeneity associated with external crises. The COVID-19 pandemic represented an unprecedented global disruption, the effects of which interacted substantially with corporate governance arrangements. Recent evidence from Indonesia shows that foreign ownership strengthens firm performance under normal economic conditions, but that this beneficial effect was significantly weakened during the COVID-19 period (Putra, 2024). Motivated by this emerging line of inquiry, this study explicitly examines firm performance across pre-COVID, during-COVID, and post-COVID periods to capture how systemic shocks may reshape the effectiveness of foreign investors and foreign board participation.

This study addresses these gaps through several contributions. First, unlike prior research that typically focuses on a single dimension of foreign governance, we simultaneously examine foreign ownership and foreign board participation within a unified empirical framework. Second, we investigate the moderating roles of leverage and solvency, thereby providing new insights into how financial structure conditions the relationship between foreign governance and firm performance. Third, by focusing on Vietnam, this study extends the literature on foreign governance in frontier-market emerging economies characterized by distinctive institutional and ownership structures. This positioning contributes to recent global calls for more context-sensitive and structurally interactive analyses of corporate governance mechanisms in emerging markets. Finally, we introduce a dynamic temporal perspective by analyzing the effects of foreign governance across pre-COVID, during-COVID, and post-

https://doi.org/10.7441/joc.2026.03.13

COVID periods. Overall, this study integrates internationalization, corporate governance, and financial structure into a unified analytical framework, offering a more comprehensive and dynamic understanding of how foreign participation shapes firm performance in emerging markets.

The article is structured as follows: section 2 discusses the theoretical basis and literature review related to the topic. Section 3 describes the research methodology, and section 4 analyzes the research results and discussion. Finally, section 5 concludes and provides implications drawn from the research results.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Theoretical framework

The process of internationalization has been thoroughly studied over the decades, especially in the context of developing economies. On an international level, the study by Contractor et al. (2003) analyzed the impact of internationalization on the business performance of multinational companies and found that internationalization has a positive impact when the level of internationalization exceeds a certain threshold. The study by Bobillo et al. (2010) pointed out that internationalization has a linear relationship with firm performance, where performance increases as the level of internationalization rises. Lin et al., (2011) added that nationality diversity on the board of directors (BoD) plays an essential role in promoting creativity and firm performance. Many other studies also provide positive evidence on the benefits of internationalization. Georgiou (2011) reported the positive impact of globalization on the profitability of companies in Europe. Gboyega et al., (2012), through the study of Nigerian banks, found that globalization positively affects pre-tax profits. Karadagli (2012) found that firm performance, measured by stock market profitability indicators, increased with globalization in seven emerging countries. Donadelli and Prosperi (2012) also pointed out that financial market openness subsequently led to returns exceeding expectations in emerging stock markets. However, from the perspective of agency theory, Jensen and Meckling (1976) and Likitwongkajon and Vithessonthi (2020) found that high levels of international diversification can destroy company value, as foreign investment allows managers to pursue self-serving activities that do not necessarily enhance company value. They concluded that receiving foreign investment is inversely correlated with firm performance in both the short and long term.

The concept of “foreign characteristics” or “internationalization” is approached and measured through various methods. The most common is measuring the degree of internationalization by the percentage of foreign sales revenue to total revenue (Vithessonthi & Racela, 2016), or the ratio of foreign equity ownership. In this study, we will examine the impact of foreign factors through variables including the ratio of foreign equity ownership and the presence of foreign board members.

2.2 Foreign Ownership and firm performance

Previous research articles on foreign ownership (FO) mostly show positive changes in increased output ratios and sales. Superior financial performance has been identified among foreign-owned companies compared to domestic companies studied by Willmore (1986). With the advantages of multinational corporations often stemming from exclusive possession of knowledge, technology, and foreign market links, there is no doubt that these corporations

https://doi.org/10.7441/joc.2026.03.13

usually have higher labor productivity than similarly sized local enterprises. Consistent with the OECD (2025), foreign ownership reflects the participation of foreign investors in domestic enterprises through equity investment, enabling them to exert a degree of influence over corporate decisions and governance. According to Zraiq and Fadzil (2018), FO is a type of ownership where the enterprise has a certain investment ratio from foreign investors when investing in the domestic market.

From a theoretical perspective, the positive role of FO can be explained by agency theory and the resource-based view, which suggest that foreign investors enhance monitoring and provide valuable resources, such as technology, managerial expertise, and international networks (Bena et al., 2017; Jensen & Meckling, 1976). These effects are particularly important in emerging markets, where external governance mechanisms can significantly reduce agency costs and improve firm efficiency.

Previous studies have found varying results on the relationship between FO and firm performance. Estrin et al. (2009) showed that FO positively impacts Tobin's Q and even more so than other types of ownership (Nguyen et al., 2020). Other author showed that the return on assets (ROA) of companies with FO is higher than that of domestic firms, and more recent studies continue to support this positive relationship, showing that FO contributes to enhanced firm performance in emerging markets (Khan et al., 2025). In addition, recent evidence in Vietnam further confirms that foreign ownership contributes positively to firm performance through improved access to capital, reduced cost of capital, and increased sales (Tran et al., 2025).

This positive relationship is also supported by global evidence showing that foreign ownership enhances long-term outcomes such as investment, innovation, and firm value (Bena et al., 2017). Through these channels, firm performance acts as a key mechanism linking FO to firm competitiveness, enabling firms to strengthen productivity and market positioning (Guan et al., 2023).

On the other hand, the study by Kim and Lyn (1990) found that foreign-owned firms with foreign direct investment (FDI) in the United States did not seem to have higher profits and had lower performance than domestic companies. Barbosa and Louri (2005) added that in Portuguese and Greek companies, FO does not significantly impact firm performance. More recent evidence also suggests that the effect of FO may operate indirectly through corporate governance mechanisms, whereby improvements in governance quality enhance firm performance (Tran et al., 2024). This shows that FO can have both positive and negative impacts on firm performance.

Moreover, recent studies highlight that this relationship may be nonlinear and context-dependent. For example, an inverted U-shaped relationship has been documented in China, suggesting the existence of an optimal level of FO (Tsafack & Guo, 2021), while evidence in Vietnam also indicates nonlinear effects in governance-related outcomes (Pham & Hoang, 2025). Cross-country studies further suggest that the impact of foreign ownership is generally stronger in emerging markets than in developed economies due to differences in institutional quality (Khan et al., 2025; Temiz et al., 2026).

In the Vietnamese context, where governance mechanisms are still evolving, FO is more likely to enhance both firm performance and competitiveness through improved transparency, governance, and integration into global markets (Tran et al., 2025; Zhang & Wu, 2024).

https://doi.org/10.7441/joc.2026.03.13

Based on such arguments, the research hypothesis is stated as follows:

H1: Foreign ownership has a positive effect on firm performance.

This hypothesis is grounded in the expectation that foreign investors improve firm performance through enhanced monitoring, superior resources, and governance improvements (Bena et al., 2017; Tran et al., 2024) which in turn strengthen firm competitiveness in increasingly globalized markets (Guan et al., 2023)

2.3. Foreign board and firm performance

The presence of diverse nationalities in a company's human resources is also considered an opportunity to enhance organizational effectiveness and bring positive impacts, including increasing creativity and knowledge contributing to the overall productivity of the business. Hambrick et al. (1998) remarked that the world economy is witnessing a robust and rapid globalization phase. Large firms and corporations always desire to expand their operations, leading to an increasing demand for finding foreign national managers and executives. The study also indicated that nationality diversity has significant impacts, stemming from the strong influence of the country of origin on making strategic decisions and company performance. Concurrently, Ayub and Jehn (2006) noted that in multinational workgroups, nationality diversity is the most prominent characteristic.

From a theoretical perspective, the impact of foreign board members can be explained through resource dependence theory and upper echelons theory, which suggest that board members with diverse international backgrounds provide firms with access to critical external resources, knowledge, and strategic perspectives (Pfeffer & Salancik, 2015). Foreign directors, in particular, are expected to enhance strategic decision-making by bringing international experience, global networks, and diverse cognitive perspectives, which are essential in increasingly competitive and globalized markets (Arsh et al., 2025; Masulis et al., 2012).

Previous studies have attempted to measure the impacts of foreign board (FB) members on performance or firm value, yielding various results. According to Oxelheim and Randøy (2003), in a study examining the impact of foreign board membership (U.K.-U.S.) on firm performance through Tobin's Q value, it was found that the firm value significantly increased while controlling for firm governance and specific firm factors. Estélyi and Nisar (2016) also showed that firm performance, such as business segments, stock price volatility, and firm value, was better with foreign directors through Tobin's Q and ROA. According to Masulis et al. (2012), the existence of foreign workers, with their experience and expertise, can propose and make better policy decisions, enhancing firm performance. Another study pointed out that the nationality diversity of board members significantly affects firm performance. Specifically, according to Joenoes and Rokhim (2019), the presence of FB members has a significant and positive impact on firm performance measured by ROA and return on equity (ROE) but has a negative impact when there is the presence of Asian members, mainly from developing countries.

These findings are further supported by recent evidence indicating that board diversity, including nationality diversity, plays a crucial role in enhancing corporate governance quality and improving firm performance, particularly in emerging markets where firms benefit from external expertise and monitoring mechanisms (Abedin et al., 2022; Arsh et al., 2025). In this context, FB members not only contribute to financial performance but also strengthen firm competitiveness by facilitating access to international markets, improving strategic decision-making, and enhancing the firm's ability to operate in a global environment (Guan et al., 2023).

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Moreover, Mi Choi et al. (2012) states that while the FB brings positive impacts, it can also reduce financial leverage if they prioritize the interests of foreign shareholders. Additionally, FB members may face cultural differences and communication issues, which can lead to misunderstandings and slower decision-making processes. This was highlighted in a study by Masulis et al., (2012), where such barriers contributed to reduced firm performance efficiency.

Based on these discussions, the second research hypothesis is stated as follows:

H2: The presence of foreign board (FB) members has a positive effect on the firm performance

2.4 The moderating role of leverage and solvency in the relationship between the foreign characteristics and firm performance

In the context of corporate finance research, analyzing the impact of independent variables such as FO or FB on firm performance has become a critical topic. However, these effects may not be purely linear but are also influenced by other financial factors, such as financial leverage (LEV) and solvency (SOL). Prior studies have demonstrated that the interaction between these factors can significantly alter the relationship between independent and control variables. The use of interaction variables in the model not only helps uncover hidden relationships between variables but also provides deeper insights into how different factors interact with one another and influence firm performance.

Karaca-Mandic et al. (2012) and Lin et al. (2011) have developed analytical methods for interaction variables in nonlinear and internationalization models, offering essential theoretical foundations for understanding how factors like LEV and SOL can moderate the effects of key variables in the model. These studies affirm that financial factor interactions are not merely aspects to be considered but are crucial determinants in comprehending the complex relationships among variables in corporate finance models.

When analyzing the impact of financial leverage, Arhinful and Radmehr (2023) found that LEV can serve as a critical moderating factor that alters the way other factors, such as FO, influence firm performance. Similarly, Ayoush et al. (2021) emphasized the importance of LEV and SOL in determining the profitability of industrial firms, particularly when these factors interact with other variables. Their findings indicate that liquidity and solvency levels can either mitigate or amplify the impact of independent variables on firm performance, reflecting the complexity of financial factor relationships. Their results suggest that disregarding interaction variables may lead to inaccurate conclusions regarding financial relationships.

In addition, recent empirical studies in emerging markets further highlight that capital structure variables do not always exert a direct linear impact on firm performance, but instead operate as conditioning mechanisms. For example, Sosa et al. (2024) show that financial leverage does not have a statistically significant direct effect on stock returns in the Mexican market, suggesting that its role may depend on contextual and interaction effects rather than acting as a primary determinant. In contrast, their findings confirm that solvency has a positive and significant relationship with firm performance, reflecting its role as an indicator of financial stability and the firm's ability to meet obligations, which strengthens investor confidence and reduces default risk.

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Similarly, Amoa-Gyarteng and Dhliwayo (2023) provide evidence from Ghana that financing decisions and capital structure act as crucial mitigating factors for financial risk and firm failure. Their study demonstrates that an appropriate balance between debt and equity enhances short-term solvency and improves firms' financial resilience, thereby influencing how financial performance drivers translate into firm stability and survival. Moreover, excessive leverage increases default risk and weakens solvency, whereas an optimal capital structure improves liquidity and reduces the liability of newness. These findings collectively suggest that financial leverage captures firms' exposure to financial risk, whereas solvency reflects financial resilience, both of which condition the effectiveness of other determinants on firm performance.

Taken together, these studies support the view that leverage and solvency should not be treated solely as independent determinants of firm performance, but rather as moderating variables that shape the strength and direction of relationships between key explanatory variables, such as foreign ownership characteristics, and firm outcomes.

In summary, the use of interaction variables in this study not only captures the complexity of financial factor relationships but also provides deeper insights into how these factors combine to influence firm performance. This is particularly crucial in the context of internationalization, where the interaction between foreign ownership and domestic financial factors such as LEV and SOL can illuminate the determinants of corporate success or failure.

Based on these discussions, the third research hypothesis is stated as follows:

H3: The effects of foreign characteristics on firm performance are moderated by leverage and solvency.

2.5 Model Development and Research Framework

This study is developed based on the empirical framework of Khan et al. (2025), which examines the relationship between ownership structure, board composition, and firm performance in an emerging market context. Following this approach, firm performance in this study is measured using both market-based and accounting-based indicators, including Tobin's Q, ROA, ROE, and ROS, in order to provide a comprehensive evaluation of firm outcomes. This combination allows capturing both forward-looking market expectations and backward-looking operational efficiency.

However, unlike previous studies that separately examine ownership structure or board characteristics, this study extends the existing framework by focusing explicitly on internationalization through two dimensions: foreign ownership (FO) and the presence of foreign board members (FB). In addition, financial characteristics such as leverage, liquidity, and solvency are incorporated not only as control variables but also as moderating factors influencing the relationship between foreign characteristics and firm performance. Therefore, this model can be considered a contextual extension of prior studies, adapted to the Vietnamese market, contributing to a deeper understanding of how internationalization and financial conditions jointly affect firm performance in emerging economies.

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3 METHODOLOGIES

3.1 Data & Methodology

This study employs a panel data framework to examine the effects of foreign ownership and foreign board presence on firm performance in Vietnamese listed firms over the period 2017–2023. The sample is drawn from the Vietstock Finance database and consists of 359 non-financial listed firms as of December 31, 2023. Financial firms, insurance companies, and trust units are excluded due to structural differences in regulatory and reporting systems, ensuring cross-firm comparability (Wooldridge, 2010).

The final dataset is comprised of approximately 2,500 firm-year observations, representing repeated annual observations of the same firms rather than distinct entities. Firms are included only when complete audited financial statements, annual reports, and corporate governance disclosures are available, ensuring data reliability and reducing bias from incomplete reporting. The sample period is divided into pre-COVID-19 (2017–2019), COVID-19 (2020–2021), and post-pandemic (2022–2023), allowing for variation in macroeconomic conditions (Baltagi, 2021).

Baseline estimations are conducted using pooled ordinary least squares (POLS), fixed effects model (FEM), and random effects model (REM), which are standard approaches for panel data analysis in corporate finance and governance studies (Baltagi, 2021; Wooldridge, 2010). Model selection is guided by specification tests, including tests for unobserved heterogeneity and model consistency (Hausman, 1978). The feasible generalized least squares (FGLS) estimator is employed as the main estimation technique to address heteroskedasticity and within-panel correlation, which are common in firm-level datasets from emerging markets. FGLS is widely recommended for improving efficiency under non-spherical error structures in panel data settings (Greene, 2018; Parks, 1967). Accordingly, FGLS provides more efficient and robust estimates than conventional linear estimators, making it more appropriate for inference in this context.

3.3 Measurement of Variables

3.3.1 Dependent Variables

First, we focus on efficiency, which refers to how effectively a firm uses its available resources to achieve the desired outcomes Then, it is time to move towards performance and quality. If these three concepts are applied, the result will likely be an efficient organization. Therefore, this paper only considers and measures the following ratios: Tobin's Q, ROA, ROS (return on sales), and ROE. These ratios are the clearly and most commonly used criteria for evaluating a company's performance. The measurements are grounded in the pioneering work of Tobin, particularly the seminal studies by Tobin and Brainard (1978) and Tobin (1969), and is defined as the ratio of a firm's market value to the replacement cost of its assets. According to Nuryanah and Islam (2011), research results show that a company demonstrates positive performance through ROA, indicating the firm has achieved high performance as planned. According to Vinayagamoorthi et al. (2015), ROA and other profitability variables (ROE, ROS) positively relate to financial performance and environmental operations. They also suggest that ROA provides an overview of the company's ability to achieve results from its invested financial resources. Besides, ROS is also an important indicator of firm performance, particularly in business and financial analysis. According to Manoppo (2015), ROS has a significant influence on stock prices because investors tend to favor firms that are more efficient in generating profits from sales. Higher profitability from sales is generally associated with greater dividend-paying

https://doi.org/10.7441/joc.2026.03.13

capacity, thereby increasing investor confidence and investment. Unlike ROA and ROE, which primarily capture firms' historical operating performance, Tobin's Q reflects investors' expectations regarding future growth and market value. Therefore, Tobin's Q provides a forward-looking perspective on firm performance, complementing the backward-looking nature of accounting-based measures such as ROA and ROE.

3.3.2 Independent Variables

Ownership structure is one of the important variables in corporate governance research and can vary over time as the company conducts new stock issues or when significant transactions from existing shareholders occur on the market (Rashid, 2020). FO refers to individuals or organizations from other countries owning and controlling resources and business activities within a country. To measure the level of FO, the study uses the foreign share ratio, calculated by dividing the number of shares held by foreign investors by the company's total shares. The presence of foreign board (FB) members describes the presence of members from various countries on a company's board. Based on the research of Joenoes and Rokhim (2019), to measure FB, the study uses a binary variable with a value of 1 if the company has at least one FB member and 0 if not.

3.3.3 Control Variables

In studies on the performance of listed firms, controlling for basic variables is necessary to ensure accurate and reliable results. Control variables such as firm size (FS), liquidity (LIQ), financial leverage (LEV), solvency (SOL), and board size (BS) help eliminate extraneous factors that may affect the analysis and results, providing a comprehensive view of the factors impacting firm financial performance.

- **Firm Size (FS):** Firm size affects financial performance and can be measured by the logarithm of total assets. Some studies find a quadratic relationship between size and financial performance (Amato & Amato, 2004; Voulgaris & Lemonakis, 2014).

- **Liquidity (LIQ):** Liquidity reflects the ability to meet cash needs and is measured by the ratio of current assets to current liabilities.

- **Financial Leverage (LEV):** Financial leverage can positively or negatively impact financial performance and is measured by the ratio of total liabilities to total assets.

- **Solvency (SOL):** Solvency reflects the ability to meet long-term financial obligations and is measured by the ratio of total equity plus total liabilities to total liabilities. Based on the study of Nguyen and Nguyen (2020), the formula for measuring solvency is constructed as follows:

SOL = (Total Equity + Total Liabilities)/ Total Liabilities

- **Board Size (BS):** The size of the board can impact management effectiveness and is measured by the number of board members.

Regression Model

The empirical model is developed to examine the impact of internationalization on firm performance in the Vietnamese context. Specifically, the model incorporates both ownership-based and board-level internationalization factors, while controlling for firm-specific financial characteristics:

$$FP_{it} = \beta_0 + \beta_1 FO_{it} + \beta_2 FB_{it} + \beta_3 FS_{it} + \beta_4 LEV_{it} + \beta_5 LIQ_{it} + \beta_6 SOL_{it} + \beta_7 BS_{it} + \varepsilon_{it}$$

https://doi.org/10.7441/joc.2026.03.13

Where i and t represent the company and time. β_i (i = 1 to 7) are the coefficients of the independent and control variables, respectively. FP is measured through Tobin's Q, ROS, ROA, and ROE indicators. FO - the ratio of foreign ownership is calculated by the total number of shares held by foreign investors divided by the total outstanding shares; FB - the presence of foreign members on the BOD is measured by a dummy variable with a value of 1 if the company has at least one foreign board member and 0 if not. Control variables include FS - firm size measured by the logarithm of total assets; LEV - financial leverage measured by total liabilities divided by total assets; LIQ - liquidity measured by current assets divided by current liabilities; SOL - solvency measured by total equity plus liabilities divided by total liabilities; BS - board size measured by the number of board members. ε_{it} is the error term.

Tab. 1 - Measurement of variables

Variable	Description	Definition
$\mathbf{FP_{i1t}}$	Tobin's Q – Firm performance	(Equity Market Value + Liabilities Book Value)/Assets Book Value. Defined as the ratio between a company's market value and the replacement cost of its assets (Tobin, 1969; Tobin & Brainard, 1978).
$\mathbf{FP_{i2t}}$	ROA – Firm performance (Return on Assets)	Net Income / Total Assets. The ROA ratio measures the profitability per VND of the company's assets (Vinayagamoorthi et al., 2015)
$\mathbf{FP_{i3t}}$	ROS – Firm performance (Return on Sales	Net Income/Net Sales. ROS indicates how many dollars of profit are generated per dollar of net sales.
$\mathbf{FP_{i4t}}$	ROE – Firm performance (Return on Equity)	Net Income/Total Equity. The ROE ratio measures the profitability per dollar of the company's equity (Masulis et al., 2012).
FO_{it}	Foreign ownership	Total shares held by foreign investors / Total outstanding shares.
FB_{it}	Foreign board membership	A dummy variable that takes the value of 1 if the company has at least one foreign board member, and 0 otherwise (Joenoes & Rokhim, 2019).
FS_{it}	Firm size	Measured by the logarithm of total assets (Voulgaris & Lemonakis, 2014).
LEV_{it}	Financial leverage	$\mathbf{LEV} = \frac{\text{Total liabilities}}{\text{Total assets}}$
LIQ_{it}	Liquidity	$\mathbf{LIQ} = \frac{\text{Current assets}}{\text{Current liabilities}}$
SOL_{it}	Solvency	$\mathbf{SOL} = \frac{\text{Total equity + Total liabilities}}{\text{Total liabilities}}$

https://doi.org/10.7441/joc.2026.03.13

			(Nguyen & Nguyen, 2020)
BS_{it}	Board size	Number of board members.	

Source: Own summary.

4 FINDINGS

4.1 Descriptive Statistics

From a sample of 359 companies on the VSE, we divided them into six main sectors to provide an overview of the research sample. The manufacturing sector has the most firms with 137 companies, accounting for 38.16%, indicating it is the largest sector with significant contributions to the economy. The real estate sector also stands out with 88 companies, accounting for 24.51%, making it the second-largest sector, reflecting the strong development of the real estate market. Conversely, the agriculture and mining sectors have the lowest number of companies, only 19, accounting for 5.29%, indicating less investment attraction compared to other sectors.

Tab. 2 - Performance Statistics by Sector

				(1)	(2)	(3)	(4)	(5)
Industry group	N	Percent		FO (%)	TOBINQ	ROS	ROA	ROE
Transport sector	32	9%	**Mean**	13.19	1.52	0.15	0.11	0.04
			Max	52.65	7.96	2.04	0.54	1.02
			Min	-	0.07	-0.83	-0.26	-25.33
Services sector	23	6%	**Mean**	8.83	1.25	0.34	0.06	0.11
			Max	48.90	3.95	35.77	0.38	0.43
			Min	-	0.12	-2.69	-0.85	-1.18
Real estate sector	88	25%	**Mean**	9.20	1.06	-0.18	0.04	0.07
			Max	62.30	4.60	14.44	0.25	0.67
			Min	-	-	-114.11	-0.48	-11.94
Manufacture sector	137	38%	**Mean**	11.63	1.19	0.06	0.06	0.07
			Max	95.02	9.19	1,.02	0.45	10.16
			Min	-	-	-6.26	- 0.47	-40.82
Retail and distribution sector	60	17%	**Mean**	10.26	1.19	0.11	0.06	0.11
			Max	100.00	4.79	0.96	0.65	0.95
			Min	-	-	-0.51	-0.24	-2.32
Agriculture and mining sector	19	5%	**Mean**	11.20	1.20	0.01	0.07	0.10
			Max	49.00	3.31	0.52	0.42	0.56
			Min	-	0.01	-4.82	-0.28	-1.18
Total	359	100%	**Mean**	10.74	1.19	0.03	0.06	0.08
			Max	100.00	9.19	35.77	0.65	10.16
			Min	-	-	-114.11	-0.85	-40.82
Note:	N is the number of companies divided into each industry group. Percent is the percentage of businesses divided by industry group. Refer to table 1 for definitions of variables							

https://doi.org/10.7441/joc.2026.03.13

Based on the results in Table 2, FO represents the percentage of foreign ownership in firms, providing insight into the level of foreign investment attraction in each sector. Sectors with high FO, such as transportation (highest average of 13.19%) and manufacturing (average of 11.63%), show strong interest from international investors. Conversely, sectors like services (average of 8.83%) and real estate (average of 9.20%) have lower foreign ownership due to primarily domestic business operations, reflecting lower investment attractiveness. Besides FO, the dependent variables in the study also provide important information about company performance. The average Tobin's Q index across sectors hovers around 1.19, indicating reasonable market valuation of 'firms' assets. The ROS varies significantly between sectors, with the lowest average of -0.18 (real estate) and the highest of 0.34 (services). ROA and ROE reflect the efficiency of asset and equity utilization, showing significant differences, especially in the manufacturing sector with ROE volatility from -40.82 to 10.16. The average liquidity ratio is 2.56 times, indicating good payment capacity despite significant differences between companies in the sample. The solvency ratio, measured by total assets divided by total liabilities, has an average value of 3.08, indicating a fairly good balance between assets and liabilities. The average BoD size is about 6 members, reflecting the management structure of listed firms on the VSE.

Tab. 3 - Statistics of foreign factors in industry groups over the years

Industry group	Foreign ownership ratio (%)						
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
	Mean	**Mean**	**Mean**	**Mean**	**Mean**	**Mean**	**Mean**
Transport sector	13,28	15,56	15,62	11,01	11,56	12,31	13,00
Services sector	3,81	7,85	8,77	8,25	11,48	10,50	11,15
Real estate sector	11,51	11,58	11,59	8,44	7,20	6,93	7,11
Manufacture sector	12,28	12,01	12,56	11,09	11,10	10,91	11,47
Retail and distribution sector	10,77	11,24	11,19	9,93	8,94	11,50	8,22
Agriculture and mining sector	12,87	12,18	12,44	11,54	9,48	10,34	9,52
Total	**11,42**	**11,83**	**12,12**	**10,08**	**9,76**	**10,10**	**9,87**
N0 (FB=0)	301	291	285	286	289	289	289
N1 (FB=1)	**58**	**68**	**74**	**73**	**70**	**70**	**69**
N	359	359	359	359	359	359	359

Note N is the number of companies. Refer to table 1 for definitions of variables **N0 (FB=0); N1 (FB=1)**

https://doi.org/10.7441/joc.2026.03.13

In this analysis, we focus on two main independent variables: foreign ownership and the presence of foreign members on the BoD. These factors help clarify the impact of foreign elements on the performance of listed companies in the Vietnamese stock market, providing valuable information for investors and managers in strategic development orientation in the context of international economic integration. Many companies on the VSE have foreign investment, accounting for 88.02% of the total 359 companies in Vietnam. Based on Table 3, the average FO ratio in industry groups exceeds 10% from 2017 to 2023, reflecting strong interaction between the Vietnamese market and international investors, creating both opportunities and challenges for the Vietnamese economy and financial market. During 2017-2019, the FO ratio remained stable, always above 10%, except for the services sector, as investors usually focus on tangible manufacturing and trade industries. The COVID-19 pandemic (2020-2021) changed the global business landscape, creating new challenges and opportunities. The services sector thrived due to increased demand for online services, healthcare, delivery, and entertainment, leading to increased foreign ownership in this sector, while others like manufacturing, construction, and retail faced difficulties due to supply chain disruptions and reduced consumer demand. By 2022, the economy stabilized as pandemic control measures eased, with foreign ownership ratios remaining stable in most sectors, but the real estate sector continued to struggle due to low primary supply, decreased investor confidence, and land policy uncertainties. In 2023, the average foreign ownership ratio trend showed a decrease (9.87%), but some sectors like services, manufacturing, real estate, and transportation saw growth. The average foreign ownership ratio above 10% across industry groups from 2017-2023 indicates significant foreign investor interest in the Vietnamese economy. The COVID-19 pandemic altered the investment structure, increasing the importance of the services sector while traditional sectors like manufacturing and real estate faced many challenges. Additionally, based on Table 3, the number of companies with foreign BoD members from 2017 to 2023 showed a diverse and complex picture of integration and global interaction. Although the presence of foreign BoD members is not high, having foreign members on the BoD reflects deep integration and interaction between Vietnamese companies and the international market.

4.2 Matrix correlation coefficient between variables

Table 5 provides an overview of the correlation between variables in 359 listed companies on the VSE from 2017 to 2023. Notably, the correlation between independent variables and firm performance measures, particularly FO and FB, is of primary interest. The variables generally exhibit low to moderate correlation levels, with the exception of FO and FB, which show a relatively higher correlation coefficient of 0.606 ($p < 0.05$), suggesting that firms with higher foreign ownership are more likely to have foreign board members, reflecting a higher degree of international integration. Regarding the relationship between independent and dependent variables, FO is positively and significantly correlated with Tobin's Q ($r = 0.201$) and ROA ($r = 0.144$), while FB is positively correlated with Tobin's Q ($r = 0.167$). Although statistically significant, these correlations remain relatively weak ($|r| < 0.3$), indicating limited linear association. Control variables also exhibit expected relationships, such as the negative association between leverage (LEV) and ROA ($r = -0.392$), and the strong positive correlation between liquidity (LIQ) and solvency (SOL) ($r = 0.712$). The correlation between Tobin's Q and ROA ($r = 0.488$) and between ROA and ROE ($r = 0.221$) suggests potential overlap among performance measures; however, correlation levels among explanatory variables remain

https://doi.org/10.7441/joc.2026.03.13

sufficiently low to mitigate multicollinearity concerns. This is further confirmed by variance inflation factor (VIF) diagnostics, where all individual VIF values are below the conventional threshold of 2. The reported mean VIF of 1.66 represents the average VIF across all 11 explanatory variables, indicating that multicollinearity is not a serious concern in the model.

Tab. 5 - Correlation analysis

	TOBINQ	ROS	ROA	ROE	FO	FB	FS	LEV	LIQ	SOL	BS	VIF
TOBINQ	1											
ROS	0.018	1										
ROA	**0.488*** **	0.027	1									
ROE	**0.042***	0.010	**0.220*** **	1								
FO	**0.201*** **	0.020	**0.144*** **	0.023	1							1.65
FB	**0.167*** **	0.008	-0.006	-0.003	**0.606*** **	1						1.66
FS	**0.167*** **	0.025	**-0.051***	-0.020	**0.162*** **	**0.191*** **	1					1.31
LEV	**-0.113*** **	-0.001	**-0.392*** **	**-0.087*** **	**-0.094*** **	0.014	**0.367***	1				1.47
LIQ	0.004	**0.058*** **	**0.150*** **	0.017	-0.015	**-0.041***	**-0.144***	**-0.447*** **	1			2.30
SOL	-0.014	0.030	**0.089*** **	0.008	-0.020	-0.019	**-0.111***	**-0.315*** **	**0.712*** **	1		2.03
BS	**0.206*** **	**0.051***	**0.067*** **	0.024	**0.296*** **	**0.333*** **	**0.314***	**0.066*** **	**-0.080*** **	**-0.044***	1	1.23
Mean VIF												**1.66**

Note: ***, **, *: indicate significance at the 1%, 5%, and 10% respectively. Refer to table 1 for definitions of variables

4.3 Analysis of multivariate regression model

The regression analysis results in Table 6 show that FO and the number of BoD members (BS) have a positive and statistically significant impact on the performance of companies listed on the VSE from 2017 to 2023. Specifically, FO has a regression coefficient of 0.00421 in the POLS model and 0.00224 in the FGLS model, both significant at the 1% level, while the REM model also shows a positive impact at the 10% level. This reflects that the participation of foreign investors can bring significant benefits to listed companies on the VSE, possibly due to their bringing experience, technology, and international networks, contributing to improving company performance. Conversely, the FB only has a positive and statistically significant impact in the FGLS model with a coefficient of 0.0443 at the 10% level, indicating that the impact of this factor on firm performance is unclear and depends on specific company conditions. Financially, total assets (FS) always have a positive and very statistically significant impact on Tobin's Q value in all models, indicating that large asset size is an important factor in enhancing company performance. Conversely, the debt-to-total-assets ratio (LEV) has a

https://doi.org/10.7441/joc.2026.03.13

significantly negative impact in the POLS and FGLS models, indicating that excessive debt usage can cause financial risks and negatively affect firm value. Other variables such as the ratio of current assets to current liabilities (LIQ) and the ratio of total assets to total liabilities (SOL) do not show significant impacts on performance. These results provide an overview of factors affecting company performance, particularly the role of foreign factors, helping managers and investors make strategic decisions in the economic context of Vietnam from 2017 to 2023.

Tab. 6 - Analysis results of regression models according to Tobin's Q

Variables	POLS | TobinQ	FEM | TobinQ	REM | TobinQ	FGLS | TobinQ	VIF
FO	**0.00421*****	0.00148	**0.00240***	**0.00224*****	1.65
	(3.88)	(1.33)	(2.31)	(3.79)	
FB	0.0707	0.0483	0.0666	**0.0443***	1.66
	(1.57)	(0.90)	(1.38)	(2.00)	
FS	**0.0624*****	**0.0267*****	**0.0346*****	**0.0494*****	1.31
	(7.89)	(3.91)	(5.27)	(16.44)	
LEV	**-0.654*****	0.185	-0.0576	**-0.284*****	1.47
	(-8.54)	(1.84)	(-0.65)	(-8.61)	
LIQ	-0.00381	-0.00205	-0.00281	-0.00376	2.30
	(-0.80)	(-0.58)	(-0.82)	(-1.61)	
SOL	-0.00188	-0.000978	-0.000975	-0.000726	2.03
	(-1.20)	(-0.65)	(-0.69)	(-1.20)	
BS	**0.0565*****	**0.0317*****	**0.0357*****	**0.0164*****	1.23
	(5.77)	(3.79)	(4.41)	(4.34)	
_cons	-0.215	**0.329***	0.239	0.0608	
	(-1.39)	(2.53)	(1.85)	(1.09)	
N	2513	2513	2513	2513	
R-sq	0.101	0.031			
F-statistics	40,35	9,67			

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables.
Source: Own computation based on resources mentioned in the Table 2 and 3.

Firm performance is also measured through two more values, ROS and ROE, but the correlation results show that the independent variables do not have significant correlations with these two dependent variables. The measurement results of these two variables will be presented through the FGLS model to more reliably assess the relationship.

Tab. 7 - Analysis results of regression models according to ROA

Variables	POLS | ROA	FEM | ROA	REM | ROA	FGLS | ROA
FO	**0.000740*****	0.000296	**0.000468*****	**0.000369*****
	(6.43)	(1.93)	(3.56)	(6.33)
FB	**-0.0263*****	-0.0143	**-0.0175****	**-0.00874*****
	(-5.52)	(-1.93)	(-2.96)	(-3.52)
FS	**0.00319*****	**0.00421*****	**0.00414*****	**0.00410*****
	(3.81)	(4.50)	(4.85)	(12.50)
LEV	**-0.156*****	**-0.134*****	**-0.147*****	**-0.126*****

https://doi.org/10.7441/joc.2026.03.13

	(-19.24)	(-9.69)	(-13.76)	(-27.04)
LIQ	-0.0000919	-0.000437	-0.000366	0.000370
	(-0.18)	(-0.91)	(-0.80)	(1.13)
SOL	-0.000177	-0.0000993	-0.000110	-0.000192
	(-1.07)	(-0.48)	(-0.61)	(-1.41)
BS	**0.00344*****	-0.000334	0.000747	**0.00115****
	(3.32)	(-0.29)	(0.71)	(2.75)
_cons	**0.0425****	**0.0355***	**0.0356***	**0.0184****
	(2.59)	(1.99)	(2.14)	(3.05)
N	2513	2513	2513	2513
R-sq	0.184	0.046		
F-statistics	80,96	14,83		

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables.
Source: Own computation based on resources mentioned in the Table 2 and 3.

The regression analysis results from Table 8 indicate that the FO has a positive and statistically significant impact on Tobin's Q, ROA, and ROS at the 1% and 5% significance levels, respectively. This demonstrates that the participation of foreign investors contributes to enhancing firm performance. Conversely, the FB shows a negative impact on ROA and no significant relationship with ROS and ROE. However, for Tobin's Q, FB has a positive impact, with a coefficient of 0.0443 at the 5% significance level. This indicates that while there may be challenges in the short term, in the long term, the participation of foreign members on the BoD can bring added value to the enterprise through the strategies and international relationships they offer.

Tab. 8 - FGLS estimates-regression analysis

Variables	FGLS | TobinQ	FGLS | ROA	FGLS | ROS	FGLS | ROE
FO	**0.00224*****	**0.000369*****	**0.000639****	0.000145
	(3.79)	(6.33)	(3.17)	(0.87)
FB	**0.0443***	**-0.00874*****	-0.0149	0.0142
	(2.00)	(-3.52)	(-1.52)	(1.81)
FS	**0.0494*****	**0.00410*****	**0.0104*****	0.00164
	(16.44)	(12.50)	(5.56)	(1.45)
LEV	**-0.284*****	**-0.126*****	**-0.0960*****	**-0.0460*****
	(-8.61)	(-27.04)	(-5.73)	(-3.34)
LIQ	-0.00376	0.000370	0.000279	0.0000559
	(-1.61)	(1.13)	(0.14)	(0.09)
SOL	-0.000726	-0.000192	0.00160	-0.000155
	(-1.20)	(-1.41)	(1.03)	(-0.92)
BS	**0.0164*****	**0.00115****	**0.00987*****	**0.0110*****
	(4.34)	(2.75)	(4.80)	(7.02)
_cons	0.0608	**0.0184****	**-0.179*****	0.0190

https://doi.org/10.7441/joc.2026.03.13

	(1.09)	(3.05)	(-4.80)	(0.89)
N	2513	2513	2513	2513

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables.
Source: Own computation based on resources mentioned in the Table 2 and 3.

4.4 Advanced analysis

4.4.1 Analysis in the COVID-19 pandemic context

To provide deeper insights, we compare the impact relationship between two independent variables: the FO and the FB on firm performance across different periods.

The regression analysis from Table 9 provides intriguing insights into the impact of foreign participation on firm performance in Vietnam during the pre-COVID period of 2017-2019. Notably, FO consistently shows a positive and statistically significant relationship with multiple performance indicators. The strongest effect is observed on Tobin's Q, with a coefficient of 0.0045 (p<0.001), suggesting that increased FO is associated with higher market valuations. Interestingly, the impact of FO on accounting-based measures paints a clearer picture. While FO shows a positive relationship with both ROA and ROS, at the 1% significance, its impact on ROE is negative at the 1% significance p<0.01. This discrepancy suggests a potential trade-off in how FO affects different aspects of firm performance. Conversely, the FB shows a more mixed impact. While not statistically significant for Tobin's Q, FB has a strong negative relationship with ROA (-0.0113, p<0.001) and a weaker negative association with ROS (-0.0158, p<0.05). The stark contrast in impact between FO and FB highlights the complexity of foreign participation in Vietnamese firms. It suggests that passive foreign investment might bring more consistent benefits compared to active foreign involvement in governance, at least in the short term.

Tab. 9 - Regression analysis estimates FGLS by period

	The period before COVID-19 (2017 - 2019)			
Variables	FGLS | TobinQ	FGLS | ROA	FGLS | ROS	FGLS | ROE
FO	**0.0045*****	**0.0005*****	**0.0006****	**-0.0008****
	(6.22)	(7.42)	(3.13)	(-3.19)
FB	0.0323	**-0.0113*****	**-0.0158***	-0.004
	(1.04)	(-4.69)	(-2.26)	(-0.44)
FS	**0.0418*****	**0.0061*****	**0.0133*****	-0.00222
	(9.84)	(16.11)	(10.49)	(-1.70)
LEV	**-0.288*****	**-0.163*****	**-0.291*****	**0.095*****
	(-6.77)	(-38.25)	(-15.14)	(5.22)
LIQ	**-0.0126*****	0.0002	-0.0000408	-0.0007
	(-3.32)	(0.61)	(-0.02)	(-0.81)
SOL	0.000401	-0.000138	-0.000304	0.00021
	(0.53)	(-1.01)	(-0.86)	(0.90)
BS	**0.0287*****	**-0.00066****	**-0.005*****	**0.025*****

https://doi.org/10.7441/joc.2026.03.13

	(7.14)	(-2.77)	(-3.62)	(8.53)
_cons	0.132	**0.0146***	-0.0274	-0.0259
	(1.57)	(2.04)	(-1.30)	(-1.10)
N	1077	1077	1077	1077

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables.

Source: Own computations based on resources mentioned in the Table 2 and 3.

The regression analysis results presented in Table 10 provide compelling insights into the impact of internationalization on the performance of VSE-listed companies during the tumultuous period of the COVID-19 pandemic (2020-2021). Notably, the FO variable shows a significant positive relationship with Tobin's Q ($\beta = 0.006$, $p < 0.001$) and ROA ($\beta = 0.0004$, $p < 0.001$), indicating that higher FO is associated with improved firm value and profitability. This finding aligns with the view that foreign investors can bring valuable expertise, networks, and resources to Vietnamese firms, enhancing their performance even amidst the pandemic's challenges. Interestingly, and contrary to expectations, the FB shows a negative correlation with ROA ($\beta = -0.004$, $p < 0.001$). This unexpected result may reflect the particular difficulties that international board members faced in adapting to Vietnam's complex business environment during the pandemic, potentially hindering effective decision-making.

Tab. 10 - Regression analysis estimates FGLS by period

	The period during COVID-19 (2020 - 2021)			
Variables	FGLS | TobinQ	FGLS | ROA	FGLS | ROS	FGLS | ROE
FO	**0.006*** **	**0.0004*** **	0.000631	**-0.00755*** **
	(12.52)	(22.59)	(0.68)	(-60.65)
FB	-0.0364	**-0.004*** **	-0.0545	**0.413*** **
	(-1.76)	(-3.75)	(-1.31)	(76.18)
FS	**0.085*** **	**0.0095*** **	**0.0346*** **	**0.231*** **
	(57.14)	(24.79)	(3.76)	(66.31)
LEV	**-0.755*** **	**-0.147*** **	-0.0117	**-0.225*** **
	(-63.67)	(-71.63)	(-0.16)	(-20.64)
LIQ	**0.006*** **	0.0004	0.00931	-0.0025*
	(4.21)	(0.76)	(1.33)	(-2.44)
SOL	**-0.0038*** **	**0.0013** **	-0.00027	**0.0023***
	(-7.82)	(3.13)	(-0.09)	(2.23)
BS	**0.064*** **	-0.00027	**0.0303** **	**-0.0324*** **
	(25.61)	(-1.20)	(2.61)	(-25.51)
_cons	**-0.604*** **	**-0.090*** **	**-0.870*** **	**-4.421*** **
	(-24.74)	(-11.38)	(-3.50)	(-67.48)
N	718	718	718	718

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables.

Source: Own computations based on resources mentioned in the Table 2 and 3.

https://doi.org/10.7441/joc.2026.03.13

Furthermore, control variables such as firm size (FS) positively and significantly impact performance, helping larger firms navigate economic crises better, while financial leverage (LEV) negatively correlates with Tobin's Q and ROA, increasing financial risks and reducing flexibility with higher debt levels. The liquidity ratio (LIQ) positively affects Tobin's Q (β = 0.006, $p < 0.001$), indicating that investors value strong short-term solvency during crises. Board size (BS) also positively correlates with Tobin's Q ($\beta = 0.064$, $p < 0.001$), implying that larger boards provide diverse perspectives and resources to overcome the pandemic's challenges.

Table 11 shows that in the post-COVID-19 period (2022-2023), VSE-listed companies exhibited intriguing performance patterns influenced by internationalization factors. Our analysis, using the FGLS method, provides compelling insights into the role of foreign participation in Vietnamese firms. Notably, FO consistently shows a positive and statistically significant impact across multiple performance indicators. A 1% increase in FO corresponds to a 0.0064 increase in Tobin's Q ($p<0.001$), indicating enhanced market valuation. Similarly, FO positively affects ROA and ROS, with coefficients of 0.00093 and 0.00042 (both $p<0.01$), respectively. Conversely, the FB presents a more nuanced picture. FB shows a negative relationship with Tobin's Q (-0.037, $p<0.05$), ROA (-0.037, $p<0.001$), and ROS (-0.158, $p<0.001$).

Tab. 11 - Regression analysis estimates FGLS by period

	The period after COVID-19 (2022 - 2023)			
Variables	FGLS | TobinQ	FGLS | ROA	FGLS | ROS	FGLS | ROS
FO	**0.0064*****	**0.00093*****	**0.00042****	**-0.0017*****
	(13.67)	(15.30)	(3.07)	(-7.99)
FB	**-0.037***	**-0.037*****	**-0.158*****	**0.0863*****
	(-2.46)	(-15.96)	(-50.40)	(7.43)
FS	**0.046*****	**0.0034*****	**0.0696*****	-0.00145
	(12.49)	(8.88)	(86.82)	(-1.82)
LEV	**-0.223*****	**-0.167*****	**0.102*****	**-0.319*****
	(-6.91)	(-39.97)	(14.09)	(-21.08)
LIQ	-0.0023	**-0.00098***	**0.113*****	-0.00069
	(-0.92)	(-2.12)	(54.71)	(-0.71)
SOL	-0.00074	0.000005	**-0.0081*****	-0.0009
	(-0.86)	(0.02)	(-6.18)	(-1.96)
BS	**0.0157*****	**0.0058*****	**0.026*****	**0.044*****
	(3.97)	(9.99)	(37.38)	(22.67)
_cons	0.0466	**0.0187****	**-1.858*****	-0.0095
	(0.65)	(3.10)	(-84.80)	(-0.89)
N	718	718	718	718

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Refer to table 1 for definition of variables.

Source: Own computation based on resources mentioned in the Table 2 and 3.

4.4.2 Results on the moderating effects of leverage and solvency in the relationship between foreign characteristics and firm performance

i. Empirical Evidence from TobinQ market value analysis

https://doi.org/10.7441/joc.2026.03.13

The results presented in Table 12 indicate that FO consistently demonstrates a statistically significant and positive impact on firm performance, as measured by Tobin's Q, across all analytical models. However, when interaction variables are introduced into the models, the magnitude of FO's effect varies but remains highly significant. This suggests that, beyond FO, other financial factors also play a crucial role in shaping firm performance. Additionally, the impact of foreign board membership (FB) on Tobin's Q exhibits substantial variation across different models. In model 5 (POLS), the FB coefficient is 0.413 with high statistical significance (p-value < 0.01), whereas in other models, the coefficient is either insignificant or even negative. This finding reflects that the FB only provides benefits in certain specific contexts.

The interaction variable FO_LEV, representing the interaction between FO and leverage, exhibits a significant and negative effect in both analytical models (models 1 and 2). The FO_LEV coefficients are -0.0348 and -0.0132, respectively, indicating that as firms increase their leverage, the positive impact of FO on firm performance decreases. This aligns with the notion that foreign investors tend to favor firms with more stable financial structures, as higher leverage levels may increase financial risk and erode investor confidence. Prior studies have also demonstrated that excessive debt levels can undermine firm performance and heighten bankruptcy risk (Modigliani & Miller, 1958; Jensen, 1986). Highly leveraged firms face greater financial burdens due to interest expenses, which can erode profitability (Ayoush et al., 2021).

Conversely, the interaction variable FO_SOL, representing the interaction between foreign ownership and solvency, has a statistically significant and positive effect in models 3 and 4. The FO_SOL coefficients are 0.0003 and 0.0002 ($p < 0.05$), respectively, suggesting that higher solvency enhances the positive influence of foreign ownership on firm performance. Foreign investors value firms with strong solvency, as financial stability reduces bankruptcy risk and improves overall performance (Myers & Majluf, 1984).

Furthermore, the interaction between FB and LEV exhibits a significantly negative effect in both model 5 and model 6, with coefficients of -0.696 and -0.311, respectively, both highly significant (p-value < 0.01). This finding is consistent with the observed interaction between FO and LEV, suggesting that in firms with high debt levels, the presence of foreign board members may not yield benefits. This could be attributed to potential conflicts of interest or differences in corporate governance practices across countries.

On the other hand, the interaction between FB and SOL demonstrates a statistically significant and positive effect, with a coefficient of 0.0141 in model 8. This result suggests that strong solvency can amplify the positive impact of foreign board members on firm performance. In financially stable firms, foreign board members may be better positioned to make informed and strategic decisions, further enhancing firm performance.

https://doi.org/10.7441/joc.2026.03.13

Tab. 12 - Regression Results with Moderating Effects of Leverage and Solvency

Variables	TOBIN'S Q							
Equations	**Model 1 POLS**	**Model 2 FGLS**	**Model 3 POLS**	**Model 4 FGLS**	**Model 5 POLS**	**Model 6 FGLS**	**Model 7 POLS**	**Model 8 FGLS**
FO	**0.019*** **	**0.008*** **	**0.003** **	**0.0015***	**0.004*** **	**0.0016** **	**0.004*** **	**0.002*** **
	(8.67)	(5.64)	(2.68)	(2.28)	(3.41)	(2.66)	(3.87)	(3.54)
FB	**0.095***	0.033	0.068	0.039	**0.413*** **	**0.187** **	0.066	-0.014
	(2.13)	(1.37)	(1.52)	(1.70)	(4.39)	(3.18)	(1.38)	(-0.50)
FS	**0.063*** **	**0.047*** **	**0.063*** **	**0.049*** **	**0.064*** **	**0.048*** **	**0.063*** **	**0.049*** **
	(8.03)	(16.34)	(7.92)	(16.35)	(8.16)	(16.15)	(7.90)	(16.21)
LEV	**-0.356*** **	**-0.141*** **	**-0.635*** **	**-0.264*** **	**-0.542*** **	**-0.182*** **	**-0.654*** **	**-0.249*** **
	(-4.19)	(-3.79)	(-8.26)	(-7.89)	(-6.68)	(-5.39)	(-8.53)	(-7.39)
LIQ	-0.004	-0.002	-0.006	-0.004	-0.004	-0.0017	-0.004	**-0.005***
	(-0.88)	(-0.95)	(-1.23)	(-1.72)	(-0.79)	(-0.74)	(-0.85)	(-2.05)
SOL	-0.002	-0.001	-0.002	-0.0008	-0.0018	-0.001	-0.002	-0.0007
	(-0.98)	(-1.40)	(-1.33)	(-1.29)	(-1.16)	(-1.60)	(-1.20)	(-1.18)
BS	**0.055*** **	**0.016*** **	**0.056*** **	**0.016*** **	**0.055*** **	**0.015*** **	**0.056*** **	**0.015*** **
	(5.70)	(4.14)	(5.73)	(4.28)	(5.59)	(4.05)	(5.76)	(4.09)
FO_LEV	**-0.035*** **	**-0.013*** **						
	(-7.75)	(-5.45)						
FO_SOL			**0.0003** **	**0.0002***				
			(2.59)	(2.22)				
FB_LEV					**-0.696*** **	**-0.311*** **		
					(-4.14)	(-3.72)		
FB_SOL							0.0014	**0.014*** **
							(0.31)	(3.65)
_cons	**-0.352***	0.027	-0.218	0.059	-0.297	0.039	-0.215	0.059
	(-2.28)	(0.50)	(-1.41)	(1.05)	(-1.91)	(0.71)	(-1.38)	(1.05)
N	2513	2513	2513	2513	2513	2513	2513	2513
Wooldridge	0.0000		0.000		0.000		0.000	
R-sq	0.122		0.104		0.107		0.101	
F-statistics	43,64		36,22		37.67		35.31	

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables. R-squared and F-statistics are reported for POLS models only, as these measures are not directly applicable to FGLS estimation. The Wooldridge test indicates the presence of autocorrelation in all model specifications.

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ii. Empirical Evidence from ROA Analysis

Table 13 shows that the FO exhibits a statistically significant and positive impact on ROA across all models (model 1 to model 8), with coefficients ranging from 0.0004 to 0.0012. This effect remains statistically significant at p-value < 0.001 in all models, suggesting that FO tends to enhance firm performance. In contrast, FB has a negative effect on ROA in most models, with coefficients ranging from -0.023 to -0.027. This negative relationship is statistically significant (p-value < 0.01) in models 1 through 5. These findings are consistent with previously analyzed results.

The FO_LEV interaction has a significantly negative effect on ROA, with coefficients of -0.0012 in model 5 and -0.001 in model 6, both statistically significant (p-value < 0.05 and p-value < 0.001, respectively). This indicates that when a firm's leverage increases, the positive impact of FO on performance weakens. Meanwhile, the FO_SOL interaction does not exhibit statistical significance in models 7 and 8, with negligible coefficients and no discernible impact. This suggests that a firm's solvency is not a determining factor in the relationship between FO and firm performance.

Additionally, the interaction between foreign board membership and financial variables yields mixed results. The FB_LEV interaction has a significant negative effect in model 7, with a coefficient of -0.027 (p-value < 0.05). Similarly, FB_SOL has a negative effect in model 8 (coefficient -0.00054), though it lacks statistical significance. These results indicate that even in firms with strong solvency, the FB does not generate a clearly positive impact on performance.

Tab. 13 - Regression Results with Moderating Effects of Leverage and Solvency

Variables	ROA							
Equations	**Model 1 POLS**	**Model 2 FGLS**	**Model 3 POLS**	**Model 4 FGLS**	**Model 5 POLS**	**Model 6 FGLS**	**Model 7 POLS**	**Model 8 FGLS**
FO	**0.0012*** **	**0.0008*** **	**0.0007*** **	**0.00037*** **	**0.0007*** **	**0.00036*** **	**0.0007*** **	**0.00037*** **
	(5.30)	(5.38)	(5.87)	(5.49)	(6.40)	(6.06)	(6.46)	(6.47)
FB	**-0.026*** **	**-0.0082*** **	**-0.026*** **	**-0.00874*** **	**-0.027** **	0.0059	**-0.023*** **	**-0.0068***
	(-5.34)	(-3.36)	(-5.52)	(-3.51)	(-2.71)	(0.85)	(-4.50)	(-2.29)
FS	**0.003*** **	**0.0041*** **	**0.0032*** **	**0.0041*** **	**0.0032*** **	**0.004*** **	**0.0032*** **	**0.004*** **
	(3.83)	(12.65)	(3.81)	(12.48)	(3.80)	(12.52)	(3.76)	(12.69)
LEV	**-0.146*** **	**-0.119*** **	**-0.156*** **	**-0.126*** **	**-0.157*** **	**-0.123*** **	**-0.156*** **	**-0.128*** **
	(-16.07)	(-24.06)	(-19.12)	(-26.84)	(-18.15)	(-25.78)	(-19.28)	(-27.40)
LIQ	-0.0001	0.0004	-0.0001	0.00037	-0.0001	0.0004	0.00016	0.00047
	(-0.20)	(1.20)	(-0.24)	(1.13)	(-0.18)	(1.19)	(0.31)	(1.56)
SOL	-0.0002	-0.0002	-0.0002	-0.000193	-0.00018	-0.00019	-0.00018	-0.00019
	(-1.00)	(-1.39)	(-1.08)	(-1.42)	(-1.07)	(-1.43)	(-1.06)	(-1.49)
BS	**0.0034** **	**0.0011** **	**0.0034*** **	**0.00115** **	**0.0034*** **	**0.0011** **	**0.0035*** **	**0.0012** **
	(3.28)	(2.70)	(3.31)	(2.74)	(3.32)	(2.66)	(3.37)	(2.93)
FO_LEV	**-0.0012***	**-0.0001*** **						
	(-2.43)	(-3.44)						
FO_SOL			0.000005	0.0000003				

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			(0.34)	(0.03)				
FB_LEV					0.0017	**-0.0265***		
					(0.10)	(-2.35)		
FB_SOL							**-0.001***	-0.00054
							(-2.08)	(-0.62)
_cons	**0.038***	**0.016****	**0.0424****	**0.0184****	**0.043***	**0.016****	**0.042****	**0.019****
	(2.29)	(2.67)	(2.58)	(3.05)	(2.58)	(2.65)	(2.59)	(3.17)
N	2513	2513	2513	2513	2513	2513	2513	2513
Wooldridge	0.0005		0.0005		0.0006		0.000	
R-sq	0.186		0.185		0.184		0.186	
F-statistics	71.71		70.83		70.81		71.47	

Note: * p<0.05, ** p<0.01, *** p<0.001. Refer to table 1 for definitions of variables. R-squared and F-statistics are reported for POLS models only, as these measures are not directly applicable to FGLS estimation. The Wooldridge test indicates the presence of autocorrelation in all model specifications.

Overall, the results from both tables highlight the critical role of control variables in explaining financial performance and market value. Among these, FS and LEV are the most influential factors affecting both Tobin's Q and ROA. Larger firms tend to exhibit improved performance in both measures, whereas higher leverage reduces both profitability and market value. Other factors, such as LIQ, SOL, and BS, also exert notable effects, though their impact may vary between ROA and Tobin's Q. These findings reflect the complexity of the relationships among corporate governance, financial structure, and firm performance, particularly within the context of firm internationalization.

5. DISCUSSION AND CONCLUSIONS

5.1 Discussion

The involvement of foreign investors has been shown to bring significant benefits to businesses in Vietnam in general and Vietnam in particular. This is evidenced by the research results from the regression analyses in tables 6, 7, and 8, which show a positive and statistically significant impact of the FO on the performance of firms listed on the VSE stock exchange from 2017 to 2023. Specifically, the FO has a significantly positive effect on the firm market value (Tobin's Q) and firm performance (ROA, ROS). This finding aligns with previous studies (Phung & Mishra, 2016; Rashid, 2020).

The empirical results indicate that foreign ownership consistently enhances firm performance, suggesting that it serves as a stable channel through which internationalization contributes to firm-level competitive advantage. In contrast, the impact of foreign board members is more context-dependent, implying that their contribution to competitiveness is conditional on firm-specific financial and institutional characteristics. Overall, these findings highlight that internationalization enhances competitiveness primarily through ownership channels, while governance-based mechanisms require supportive financial conditions to be fully effective.

Importantly, this result is not unique to Vietnam but aligns with broader international evidence. Studies in emerging economies such as China and India have also documented a positive association between foreign ownership and firm performance, emphasizing improved corporate governance and efficiency gains (Contractor et al., 2003; Lin et al., 2011). Similarly,

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in developed markets, foreign institutional investors have been shown to play a disciplining role that enhances firm valuation and operational efficiency (Ferreira & Matos, 2008). However, consistent with the Vietnamese literature, several studies suggest that this relationship may be nonlinear or context-dependent, with diminishing or even negative effects at high levels of foreign ownership due to coordination costs and agency conflicts Nguyen, 2023). Thus, Vietnam's case reinforces the global view that foreign ownership contributes positively to firm performance, while also highlighting the importance of institutional context in shaping this relationship.

Meanwhile, the FB yields inconsistent results. While having a positive impact on the company's market value measured by Tobin's Q in some models, it negatively affects operational efficiency measured by ROA and has no effect on ROS or ROE. These results also align with some international studies (Estélyi & Nisar, 2016; Oxelheim & Randøy, 2003), which affirm that the presence of foreign members on the board positively impacts TobinQ. Additionally, the findings are consistent with domestic research by c, which notes the adverse effects on business performance represented by return on total assets (ROA) and return on equity (ROE).

Furthermore, the regression analysis results in tables 9, 10, and 11 provide deeper insights into the impact of internationalization during different phases from 2017 to 2023, a period marked by the onset of COVID-19. Our study evaluated three phases: pre-COVID (2017-2019), COVID (2020-2021), and post-COVID (2022-2023). Specifically, before the COVID-19 pandemic (2017-2019), FO showed a consistently positive and statistically significant relationship with all performance indicators, particularly the firm market value. Conversely, foreign board members negatively impacted performance indicators such as ROA and ROS. During the pandemic (2020-2021), FO continued to exhibit a significant positive relationship with the firm market value and firm performance. However, foreign board members showed a negative correlation with ROA, possibly reflecting difficulties in making effective decisions in a challenging economic environment. After the pandemic, FO maintained its strong role in enhancing performance, while FB continued to demonstrate mixed effects across performance indicators.

These findings are consistent with international evidence from crisis periods, where foreign investors are often associated with improved resilience and access to capital, particularly in emerging markets facing external shocks (Putra, 2024). However, the role of foreign board members appears more constrained during periods of heightened uncertainty, as documented in several international studies. Limitations in local knowledge, information asymmetry, and reduced responsiveness to rapidly changing conditions may weaken the effectiveness of foreign directors during crises. Similar patterns have been reported in other emerging economies, suggesting that while foreign ownership can continue to provide financial support and market confidence, the governance benefits associated with foreign board participation may become less pronounced under adverse conditions. The Vietnamese evidence therefore reinforces the broader international view that different forms of foreign participation contribute to firm performance through distinct channels and may respond differently to external shocks.

Moreover, our results further indicate that firms' financial conditions shape the extent to which these benefits can be realized. Specifically, strong solvency strengthens, whereas high leverage weakens, the positive effects of foreign ownership and foreign board participation on firm performance. This finding is consistent with international corporate finance literature emphasizing the role of financial stability in enhancing the effectiveness of external

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governance mechanisms (Ayoush et al., 2021; Myers & Majluf, 1984). Similar evidence from emerging economies such as Mexico and Ghana suggests that leverage and solvency are important conditioning factors in the governance–performance relationship (Amoa-Gyarteng & Dhliwayo 2023; Sosa et al., 2024). From a theoretical perspective, these findings extend agency theory by showing that the monitoring benefits of foreign investors are contingent upon firms' leverage and solvency positions. They also support resource dependence theory, suggesting that the value of foreign directors and investors lies not only in the resources and expertise they provide but also in firms' ability to effectively utilize those resources under different financial conditions. In doing so, the study identifies important boundary conditions for the effectiveness of foreign participating in enhancing firm performance.

Overall, by situating the Vietnamese findings within a broader international context, this study contributes to the global literature on firm competitiveness and internationalization. It demonstrates that although the positive role of foreign participation is widely observed across countries, its magnitude and effectiveness are strongly conditioned by institutional environments, governance structures, and firms' financial characteristics. This highlights the importance of adopting a context-sensitive approach when evaluating the performance implication of internationalization.

5.2 Conclusions and Policy Implications

This study examined the relationship between internationalization through foreign ownership and the presence of foreign board members on firm performance via Tobin's Q, ROA, ROS, and ROE. With a research sample of 359 companies listed on the Vietnam Stock Exchange (VNE) from 2017 to 2023, we conclude that FO positively and significantly impacts Tobin's Q, ROA, and ROS values, showing that FO can bring significant benefits to listed companies, possibly due to bringing experience, technology, and international networks, contributing to improving company performance. Firms with higher foreign investment show improved financial efficiency and enhanced market competitiveness. This indicates that foreign capital not only brings financial resources but also valuable expertise and best practices from around the world to businesses.

Contrarily, the FB only has a positive and significant impact on ROS in the FGLS model, indicating that the impact of this factor on firm performance is unclear and depends on specific company conditions. Although diversity in board composition is often considered beneficial, our research indicates that the impact of foreign board members on company performance is neither positive nor significant. This ambiguity highlights the complex dynamics in corporate governance and the necessity for further investigation.

Financially, total assets always positively and significantly impact Tobin's Q, ROA, and ROS values, indicating that large asset size is an important factor in enhancing company performance. Conversely, the LEV has a significant negative impact on ROA and ROS, indicating that excessive debt usage can cause financial risks and negatively affect company value. Other variables such as the liquidity and the leverage do not show significant impacts on performance. These results suggest that the presence of international factors on the BoD and FO ratio may contribute to firm performance, but the impact is not strong and requires further testing through appropriate econometric models.

Moreover, businesses with foreign shareholders have maintained and improved firm performance during the COVID-19 period and the post-pandemic recovery. During the globally challenging pandemic, which significantly affected the economy, altering the

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landscape of foreign investment and business performance, we observed changes in investment patterns and increased market volatility. However, companies with foreign characteristics leveraged robust capital, advanced technology, and international management experience to effectively cope with economic challenges during the pandemic. These advantages not only improved financial performance but also enhanced resilience and competitiveness post-pandemic, while other businesses were still struggling to recover. These factors played a crucial role in enhancing market value and financial indicators such as ROA and ROS, helping them overcome difficulties and quickly adapt to the new business environment.

These results highlight the complexity and diverse impacts of foreign participation in Vietnamese enterprises during different periods. They underscore the benefits of passive foreign investment while suggesting potential challenges with active foreign involvement in governance, particularly during and post the COVID-19 pandemic. The interaction between foreign ownership ratio and leverage ratio (FO_LEV) has a significantly negative impact on ROA. This indicates that when a company's debt ratio is high, the positive effect of foreign ownership decreases. Meanwhile, the interaction variable FO1_SOL is not statistically significant and has no clear impact, suggesting that the company's solvency is not a factor that alters the relationship between foreign ownership and firm performance. Moreover, the interaction between the presence of foreign board members and financial variables yields different results. FB_LEV has a negative and statistically significant impact. Similarly, the interaction variable FB_SOL also has a negative impact but is not highly statistically significant. Such a result suggests that even when a company has good solvency, the presence of foreign board members does not bring a clearly positive effect.

The results provide essential information for policymakers and business leaders not only in Vietnam but also in the other emerging markets. To maximize the benefits from FO, policies need to encourage foreign investment through tax incentives and the reduction of administrative and legal barriers. Additionally, enhancing governance capabilities for domestic board members is necessary so they can work effectively with foreign members. Simultaneously, developing training programs on local culture and business for foreign board members is crucial, helping them better understand the Vietnamese business environment and make more effective decisions. Lastly, financial risk management is key in a volatile economic context. Businesses need to manage financial leverage and board size well to ensure stability and sustainable growth. These policies and measures not only help companies capitalize on the benefits of foreign ownership but also improve board effectiveness, thereby enhancing performance in an increasingly competitive global environment.

Despite these contributions, this study is subject to several important limitations that should be acknowledged. First, the analysis focuses exclusively on firms listed in Vietnam, which may limit the generalizability of the findings to other institutional contexts, particularly developed economies with more mature governance systems. This may limit external validity and introduce potential sample selection bias. Second, the measurement of foreign board participation relies on a binary indicator, which may not fully capture the intensity, expertise, or actual influence of foreign directors within firms.

Based on these limitations, several directions for future research can be proposed. Future studies could expand the analysis to cross-country datasets, enabling more systematic comparisons between emerging and developed markets and enhancing the external validity of the findings. In addition, incorporating more detailed measures of board characteristics, such as the proportion of foreign directors, nationality diversity, professional expertise, or tenure,

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would provide deeper insights into the governance role of foreign board members. Further research may also explore nonlinear or threshold effects of foreign ownership, as suggested by recent empirical evidence, to identify optimal levels of foreign participation. Finally, future studies could investigate the mechanisms through which foreign ownership and foreign board participation influence firm performance, such as improvements in corporate governance quality, access to strategic resources, innovation capability, or risk management effectiveness.

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https://doi.org/10.7441/joc.2026.03.13