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ORIGINAL

The Impact of Social Accounting Practices on Export Competitiveness and the Moderating Role of Foreign Ownership: Evidence from Listed Seafood Processing Enterprises in Vietnam

El impacto de las prácticas de contabilidad social en la competitividad exportadora y el papel moderador de la propiedad extranjera: Evidencia de las empresas procesadoras de productos del mar cotizadas en Vietnam

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ABSTRACT

This study stems from the context where Vietnamese seafood processing enterprises face increasing pressure regarding social standards from international markets, while the actual effectiveness of Social Accounting Practices (SAP) on Export Competitiveness (EC) remains contradictory. Therefore, this research aims to clarify this relationship, particularly by analyzing the moderating role of Foreign Ownership (FO) as a key factor capable of conditioning the impact of SAP. Using a quantitative method, the study employs panel data collected from 28 listed seafood enterprises over the period 2015-2024, forming a dataset of 225 firm-year observations, and applies a fixed-effects regression model (FEM). The research findings illuminate a complex relationship: social accounting practices, by themselves, do not have a direct and statistically significant impact on export competitiveness (β = 0,035, p > 0,10). Instead, the most critical finding reveals that foreign ownership plays a strong and positive moderating role; the impact of SAP on EC only becomes significant in firms with a high proportion of foreign ownership, as demonstrated by the positive and highly significant coefficient of the interaction term (SDI * FO) (β = 0,955, p < 0,01). Furthermore, the study also discovers an inverted U-shaped non-linear relationship, suggesting the existence of an optimal threshold for investment in SAP at approximately 40,5 % on the disclosure index, beyond which marginal benefits diminish. Ultimately, the study concludes that the effectiveness of sustainability investments is not a universal linear relationship but is contingent upon conditional factors. Foreign ownership acts as a strategic "catalyst," helping to transform social efforts into tangible competitive advantages in emerging markets.

Keywords: Social Accounting; Export Competitiveness; Foreign Ownership; Seafood Industry; Vietnam.

RESUMEN

Este estudio surge del contexto en el que las empresas procesadoras de productos del mar de Vietnam enfrentan una presión creciente respecto a los estándares sociales de los mercados internacionales, mientras que la efectividad real de las prácticas de contabilidad social (SAP) sobre la competitividad exportadora (EC) sigue presentando contradicciones. Por lo tanto, la investigación tiene como objetivo clarificar esta relación, analizando en particular el papel moderador de la propiedad extranjera (FO) como un factor clave capaz de condicionar el impacto de las SAP. Mediante un método cuantitativo, el estudio utiliza datos de panel recopilados de 28 empresas de productos del mar cotizadas durante el período 2015-2024, formando un conjunto de datos

con 225 observaciones empresa-año, y aplica un modelo de regresión de efectos fijos (FEM). Los resultados de la investigación esclarecen una relación compleja: las prácticas de contabilidad social, por sí mismas, no tienen un impacto directo y estadísticamente significativo sobre la competitividad exportadora (β = 0,035; p > 0,10). En cambio, el hallazgo más importante revela que la propiedad extranjera desempeña un papel moderador positivo y robusto; el impacto de las SAP sobre la EC solo se vuelve significativo en empresas con una alta proporción de propiedad extranjera, como lo demuestra el coeficiente positivo y altamente significativo del término de interacción (SDI * FO) (β = 0,955; p < 0,01). Además, el estudio también descubre una relación no lineal en forma de U invertida, lo que sugiere la existencia de un umbral óptimo de inversión en SAP en aproximadamente el 40,5 % en el índice de divulgación, más allá del cual los beneficios marginales disminuyen. Finalmente, el estudio concluye que la efectividad de las inversiones en sostenibilidad no es una relación lineal universal, sino que depende de factores contingentes. La propiedad extranjera actúa como un "catalizador" estratégico, que ayuda a transformar los esfuerzos sociales en ventajas competitivas tangibles en los mercados emergentes.

Palabras clave: Contabilidad Social; Competitividad Exportadora; Propiedad Extranjera; Industria de Productos del Mar; Vietnam.

INTRODUCTION

The seafood processing industry has long affirmed its position as one of the strategic pillars of the Vietnamese economy, not only contributing significantly to the national total export turnover and GDP but also creating livelihoods for millions of workers. However, in the era of globalized supply chains, the competitive advantage of Vietnamese enterprises no longer relies solely on traditional factors such as low labor costs or abundant resources. Key and demanding import markets like the European Union (EU), the United States, and Japan are increasingly imposing pressure, requiring suppliers to comply with stringent standards not only in quality and food safety but also in sustainability and social responsibility. Issues such as labor conditions, worker welfare, environmental protection, and responsible traceability have become tangible non-tariff barriers, capable of determining the success or failure of an enterprise in the international arena.[1,2] This context compels seafood processing enterprises to seek new, more sustainable sources of competitive advantage that extend beyond the mere framework of price and product quality.

In the face of pressure from international stakeholders, the implementation and disclosure of Social Accounting Practices (SAP) are considered a potential strategic tool. Theoretically, the practice of social accounting, which expands the scope of traditional financial accounting to encompass the social and environmental impacts of a business, is believed to offer numerous benefits. Grounded in Legitimacy Theory[3] and Stakeholder Theory[4], scholars argue that proactively transparentizing social activities helps firms gain a "social license to operate",[5] reinforcing trust and relationships with key stakeholders such as customers, investors, and the community.[6,7] The positive relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP) has been demonstrated through numerous empirical studies, notably in large-scale meta-analyses.[8,9,10]

When connected to the international market, the Resource-Based View[11] suggests that social accounting practices can create unique and inimitable intangible resources, such as brand reputation, international customer loyalty, and supply chain resilience. These resources have the potential to be transformed into sustainable Export Competitiveness (EC).[12,13] However, despite a solid theoretical foundation, a concerning paradox and a profound research gap persist when contrasted with empirical evidence.[14,15] Studies on the link between social activities and business performance have yielded inconsistent, sometimes contradictory or insignificant, results.[16,17,18] The reality in Vietnam's seafood industry also reflects this ambiguity: many enterprises have invested significantly in social certifications and sustainability reports, yet not all have reaped corresponding success in export markets.[19,20] This inconsistency leads to a critical research puzzle: Why do similar investments in social practices yield such different competitive outcomes? Is it possible that these practices alone are insufficient, and there exists an overlooked conditional factor, a "catalyst" capable of activating their latent value?

This study posits that the solution to the aforementioned paradox lies not in the social accounting practices themselves, but in the governance mechanisms and strategic resources capable of "transforming" these efforts into real competitive advantages. This research proposes that Foreign Ownership (FO) is that key factor. According to Agency Theory, foreign investors, particularly institutional shareholders, often impose higher standards for corporate governance and information transparency, acting as an effective monitoring mechanism to reduce agency costs and compel firms to comply with international norms.[21,22] Furthermore, from the perspective of Internationalization Theory, foreign shareholders not only bring capital but also serve as conduits for market knowledge, distribution networks, and sensitivity to the social standards of global consumers.

[23,24] Therefore, it can be argued that the presence of foreign ownership creates both pressure and resources, acting as a moderating mechanism that amplifies the positive impact of social accounting practices on export competitiveness. Nevertheless, this complex moderating role of foreign ownership in the relationship between sustainability and internationalization performance remains a largely unexplored area, especially in the context of emerging markets, creating a significant research gap that needs to be addressed.

From the identified research gaps, this study broadens its approach, shifting from the question "do social accounting practices affect export competitiveness?" to a more profound and practically relevant question: "Does the effectiveness of social accounting practices in promoting export competitiveness depend on the presence and level of foreign ownership?". Accordingly, this paper sets the following main research objectives:

- To test the impact of social accounting practices on the export competitiveness of listed seafood processing enterprises in Vietnam.
- To analyze the moderating role of foreign ownership in the relationship between social accounting practices and export competitiveness.

By addressing these objectives, the study expects to contribute new empirical evidence, clarifying the complex role of the interaction between social accounting practices and foreign ownership in promoting competitiveness within the context of an emerging economy, specifically the Vietnamese seafood industry. These findings will not only have academic significance but also provide important implications for managers of seafood enterprises in formulating sustainability investment strategies, for investors in assessing corporate risks and potential, and for policymakers in designing appropriate incentive mechanisms to enhance the industry's overall competitiveness.

METHOD

To achieve the set objectives, this study is designed based on a quantitative methodology, with the primary research type being observational research. This approach was chosen because the study does not perform any intervention or experimental manipulation on the variables, but rather collects and analyzes existing data (ex-post facto) to test relationships in their natural context. Instead, the study conducts an analysis of secondary data (ex-post facto) from published financial statements, annual reports, and sustainability reports.

Sample and Data Collection

Sample and research period selection: The initial research population comprised all 42 enterprises classified under the seafood processing industry (VSIC code 1020) with shares listed on the Ho Chi Minh Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX). Data were collected in the form of panel data over a 10-year period, from the fiscal year 2015 to 2024. The choice of this period is justified for several reasons. First, 2015 was the year Circular 155/2015/TT-BTC of the Ministry of Finance came into effect, imposing higher information disclosure requirements on listed companies, including information related to sustainable development, which created a foundation for more systematic data collection on social accounting. Second, this period is long enough to observe changes in corporate strategies and covers several significant macroeconomic fluctuations, notably the COVID-19 pandemic (2020-2022), allowing for the control of industry-wide shocks through the model.

Data sources and collection process: To ensure accuracy and comprehensiveness, data were compiled from multiple reliable sources. Specifically: (i) Data on social accounting practices (SAP) were manually collected through content analysis of Annual Reports and Sustainability Reports. These reports were downloaded directly from the official websites of the enterprises and reputable financial information portals such as Vietstock (https://vietstock.vn/). (ii) Data on export competitiveness (EC), foreign ownership (FO), and other financial control variables were extracted from the audited Financial Statements of the enterprises and cross-referenced with the Vietstock Finance database to ensure consistency.

Sample screening and data processing: From the initial population of 42 companies, we conducted a multi-step screening process to ensure data quality:

- Excluded 7 companies that did not consistently publish Annual Reports or whose report content made no mention of any information related to employees, the community, or the environment.
- Excluded 3 companies with no export revenue or whose export revenue share was below 1 % for most years of the research period.
- Excluded 2 companies with severe deficiencies in financial data, especially for variables necessary for the regression model.
- Excluded 2 companies that underwent major restructuring events (mergers, acquisitions) that significantly altered their operational nature and asset structure during the research period.

After the screening process, the final sample consists of 28 companies, forming an unbalanced panel data

with 225 firm-year observations. To mitigate the influence of outliers that could distort regression results, all continuous variables in the model were treated using winsorization at the 1st and 99th percentiles.

Measurement of Variables

The selection and measurement of variables were based on established and reputable international empirical studies, while also being adjusted to fit the context and data availability in Vietnam.

Dependent Variable: Export Competitiveness (EC)

This study approaches export competitiveness from an operational performance perspective, measuring a firm's ability to penetrate and maintain its position in international markets. Accordingly, the main variable used is Export Intensity (EXP_INT), calculated as net export revenue divided by total net revenue. This measure is widely used in internationalization studies[25] as it directly reflects the extent of a firm's success in generating revenue from foreign markets relative to its overall operations. For robustness checks, we use an alternative measure, Export Growth (EXP_GRW).

Independent Variable: Social Accounting Practices (SAP)

Measuring social accounting practices, a multidimensional and complex concept, is a major challenge, especially in the context of non-standardized ESG data in Vietnam. Acknowledging this limitation, the study inherits the methodology from seminal works in the field of social and environmental accounting [6,26] using a Social Disclosure Index (SDI) as a proxy for the level and scope of Social Accounting Practices (SAP). Although a distinction exists between "disclosure" (what firms say) and "performance" (what firms do), the use of SDI as a proxy is robustly justified based on three main pillars: theoretical foundations, methodological precedent, and suitability for the specific industry context.

First, from a theoretical standpoint, the link between disclosure and performance is reinforced by foundational theories: (i) Legitimacy Theory posits that firms disclose social information to demonstrate that their operations align with societal values and norms, thereby maintaining their "social license to operate." For disclosure to be persuasive and credible, it must be backed by substantive internal practices; (ii) Stakeholder Theory argues that firms need to meet the information demands of their stakeholder groups. Information disclosure is a critical communication channel, and to have information to disclose, firms must have a system for recording, monitoring, and managing their social practices; (iii) Signaling Theory suggests that firms with high-quality social performance have a strong incentive to "signal" their quality to the market through detailed and verifiable disclosures, differentiating themselves from weaker competitors. Disclosing false information carries significant reputational risk; thus, a high level of disclosure often reflects a corresponding level of performance.

Second, in the specific context of the Vietnamese seafood processing industry, the link between disclosure and performance is even tighter. Key export markets such as the EU, the US, and Japan impose extremely strict requirements on traceability, labor conditions, and environmental impact, often verified through international certifications like ASC, BAP, or SA 8000. To obtain and maintain these certifications (a form of verified disclosure), firms are compelled to implement good practices throughout their value chains. Therefore, for enterprises in this industry, disclosure is not merely a voluntary act but a strategic, survival-critical requirement that directly reflects their performance efforts to maintain competitiveness.

Third, while acknowledging the potential limitation of a "disclosure-performance gap" or "greenwashing," the method of constructing a comprehensive index based on numerous specific and verifiable items helps mitigate this risk. Based on these arguments, the study affirms that SDI is a valid and robust proxy for quantifying the level of commitment and investment in social activities by the firms in the research sample.

The process of constructing the SDI was as follows: The study conducted a content analysis of the Annual Reports and Sustainability Reports of the companies in the sample. A checklist of 30 information items was developed, based on a combination of international standards highly relevant to the seafood industry, such as GRI Standards and SA 8000, while also inheriting the structure from foundational studies.[6,26] This list was categorized into four main groups: (i) Employees, (ii) Responsible Supply Chain, (iii) Community Impact, and (iv) Product and Consumer Responsibility.

Data were coded using a binary method: an item received a value of 1 if information about it was disclosed in the company's report for a given year, and 0 otherwise. The SDI for company i in year t was calculated as the total score achieved divided by the maximum possible score (30 points). To ensure the objectivity and reliability of the coding process, two researchers independently coded a sub-sample. The inter-coder reliability coefficient (Cohen's Kappa) was 0,87; indicating a very high level of agreement and that the coded data is reliable.

Table 1 below summarizes the definitions and measurements of all variables used in the study.

Table 1. Definitions and Measurements of Research Variables

Variable	Symbol	Definition and Measurement	Proposed Reference(s)
Dependent Variable			
Export Intensity	EXP_INT	Net export sales / Total net sales.	Leonidou et al.[25]
Export Growth	EXP_GRW	(Export sales in year t - Export sales in year t-1) / Export sales in year t-1.	Bianchi et al.[13]
Independent Variable			
Social Accounting	SDI	Social Disclosure Index, calculated as the total disclosure score / maximum possible score.	Clarkson et al.[26]; Gray et al.[6]
Moderating Variable			
Foreign Ownership	FO	Percentage of shares held by foreign investors at the end of the fiscal year.	Shleifer et al.[21]; Sen[24]
Control Variables			
Firm Size	SIZE	Natural logarithm of total assets.	Khan & Gupta[8]
Financial Leverage	LEV	Total debt / Total assets.	Fiandrino et al.[9]
Financial Performance	ROA	Profit after tax / Total assets.	Orlitzky et al.[10]
Firm Age	AGE	Natural logarithm of the number of years since incorporation to the year of study.	Zainul Abidin et al.[22]

Research Model

To test the research hypotheses, we use a panel data regression model with fixed effects. The use of this model allows for the control of unobserved, time-invariant characteristics specific to each firm (e.g., corporate culture, core managerial capabilities), thereby helping to mitigate omitted variable bias. Two models are constructed corresponding to the two research objectives:

Model 1 (Testing Objective 1 - Main Effect):

$$EC\_it = \beta_0 + \beta_1 SDI\_it + \beta_2 SIZE\_it + \beta_3 LEV\_it + \beta_4 ROA\_it + \beta_5 AGE\_it + \alpha\_i + \gamma\_t + \varepsilon\_it$$

Model 2 (Testing Objective 2 - Moderating Effect):

$$EC\_it = \beta_0 + \beta_1 SDI\_it + \beta_2 FO\_it + \beta_3 (SDI\_it * FO\_it) + \beta_4 SIZE\_it + \beta_5 LEV\_it + \beta_6 ROA\_it + \beta_7 AGE\_it + \alpha\_i + \gamma\_t + \varepsilon\_it$$

Where:

- EC_it is the dependent variable (EXP_INT).
- SDI_it * FO_it is the interaction term to test the moderating role.
- α_i represents firm-fixed effects to control for time-invariant firm characteristics.
- γ_t represents year-fixed effects to control for industry-wide macroeconomic shocks.
- ε_it is the random error term.

Analysis Method

The data analysis process was conducted rigorously. Initially, we performed descriptive statistics and checked for multicollinearity. After selecting the Fixed Effects Model (FEM) via the Hausman test, we used Driscoll-Kraay standard errors to effectively address issues of heteroskedasticity, autocorrelation, and cross-sectional dependence, ensuring robust estimates. To enhance reliability, a series of robustness checks were performed, including using System GMM to control for endogeneity, using an alternative measure, analyzing by foreign ownership subgroups, and testing for a non-linear relationship. All analyses were performed using Stata 17.0.

RESULTS

Descriptive Statistics and Correlation Analysis

Table 2 presents the descriptive statistics for all variables used in the study with 225 firm-year observations.

Table 2. Descriptive Statistics of Research Variables

Variable	Symbol	Obs	Mean	Std. Dev.	Min	Max
Export Intensity	EXP_INT	225	0,654	0,251	0,015	0,982
Export Growth	EXP_GRW	225	0,102	0,289	-0,451	0,895
Social Disclosure Index	SDI	225	0,382	0,211	0,033	0,867

Foreign Ownership	FO	225	0,125	0,158	0,000	0,491
Firm Size	SIZE	225	14,62	1,48	11,23	17,54
Financial Leverage	LEV	225	0,518	0,193	0,104	0,882
Financial Performance	ROA	225	0,079	0,062	-0,058	0,245
Firm Age	AGE	225	3,08	0,55	2,08	4,11

The descriptive statistics provide several important initial insights. First, the mean value of Export Intensity (EXP_INT) is 0,654, indicating that exporting is a core activity and accounts for a large proportion of revenue for the seafood enterprises in the sample, affirming the suitability of the research sample. The standard deviation of 0,251 also shows a significant difference in the degree of internationalization among the firms.

Second, the Social Disclosure Index (SDI) has a mean value of 0,382, meaning that, on average, firms disclose about 38,2 % of the social information items on the checklist. Notably, this index has a very large variation (standard deviation of 0,211), with values ranging from a very low 0,033 to a relatively high 0,867. This wide dispersion indicates a clear disparity in the level of social information transparency among seafood enterprises, creating a favorable condition for testing the impact of this variable.

Third, Foreign Ownership (FO) on average accounts for 12,5 % of equity capital; however, the large standard deviation (0,158) and the range from 0 % to 49,1 % (the foreign ownership limit in many enterprises) indicate an uneven distribution of foreign investment in the industry. This allows the study to effectively analyze the moderating role of FO at different levels. Other control variables such as SIZE, LEV, ROA, and AGE all have values within a reasonable range and are consistent with previous studies in Vietnam.

To preliminarily examine the relationships between variables and assess the risk of multicollinearity, we conducted a Pearson correlation analysis and calculated the Variance Inflation Factor (VIF). The results are presented in table 3.

Table 3. Pearson Correlation Matrix and Variance Inflation Factor (VIF)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	VIF
(1) EXP_INT	1,000							
(2) SDI	0,258***	1,000						1,42
(3) FO	0,195**	0,351***	1,000					1,33
(4) SIZE	0,301***	0,412***	0,288***	1,000				1,48
(5) LEV	-0,121*	-0,084	-0,155**	-0,210**	1,000			1,15
(6) ROA	0,188**	0,162**	0,110*	0,205**	-0,354***	1,000		1,28
(7) AGE	0,095	0,133*	0,078	0,255***	-0,061	0,049	1,000	1,14
Mean VIF								1,32

Note: ***, **, and * denote statistical significance at the 1 %, 5 %, and 10 % levels, respectively.

The results from table 3 show that the correlation matrix provides preliminary evidence supporting the research hypotheses. Specifically, the correlation coefficient between SDI and EXP_INT is 0,258 and is statistically significant at the 1 % level, indicating an initial positive relationship between social accounting practices and export competitiveness.

Regarding the issue of multicollinearity, the correlation coefficients between the explanatory variables in the model are mostly at low to moderate levels. The highest correlation is between SIZE and SDI (r = 0,412), which is reasonable as larger companies often have more resources and face more pressure to disclose social information. However, all these coefficients are significantly lower than the commonly cited threshold of 0,8.[27] To be more certain, the Variance Inflation Factor (VIF) test results show a mean VIF of 1,32, and no independent variable has an individual VIF index exceeding 1,5. These values are all much lower than the common critical threshold of 10 (Hair et al.[28]), from which it can be concluded that multicollinearity is not a serious issue in the regression models of this study.

Main Regression Results

To address the research objectives, we use a panel data regression model. Before analyzing the results, we performed model selection tests. The F-test result is statistically significant at the 1 % level, indicating that both the fixed-effects model (FEM) and the random-effects model (REM) are more suitable than the pooled OLS model. More importantly, the Hausman test result is also highly significant (Chi2 = 28,45, p-value = 0,0002), indicating that the unobserved characteristics of the firms are correlated with the explanatory variables. Therefore, the Fixed Effects Model (FEM) is the more appropriate and efficient choice over the Random Effects

Model (REM) to provide robust estimates and minimize the risk of omitted variable bias.

Table 4 presents the main regression results from the FEM model, with the dependent variable being Export Intensity (EXP_INT). The models are constructed sequentially: Model (1) includes only control variables; Model (2) adds the main independent variable, the Social Disclosure Index (SDI), to test the first research objective; and Model (3) introduces the moderating variable, Foreign Ownership (FO), along with the interaction term (SDI * FO), to test the second research objective.

Table 4. The Impact of Social Accounting and the Moderating Role of Foreign Ownership on Export Competitiveness

Variables	**(1)**	**(2)**	**(3)**
	EXP_INT	**EXP_INT**	**EXP_INT**
SDI		0,035	-0,085
		(0,040)	(0,051)
FO			-0,150
			(0,102)
SDI * FO			0,955***
			(0,288)
SIZE	0,045***	0,042***	0,038***
	(0,011)	(0,011)	(0,010)
LEV	-0,112*	-0,110*	-0,098*
	(0,058)	(0,057)	(0,052)
ROA	0,250**	0,245**	0,211**
	(0,105)	(0,103)	(0,095)
AGE	0,021	0,018	0,015
	(0,025)	(0,024)	(0,022)
Constant	-0,088	-0,101	-0,052
	(0,185)	(0,188)	(0,175)
Observations	225	225	225
Number of firms	28	28	28
R-squared (within)	0,154	0,161	0,243
F-statistic	8,54***	7,98***	10,21***
Hausman test (Chi2)			28,45***
Year-fixed effects	Yes	Yes	Yes
Firm-fixed effects	Yes	Yes	Yes

Notes: Driscoll-Kraay[31] robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1 %, 5 %, and 10 % levels, respectively.

Model (2) is used to assess the direct impact of social accounting practices (measured by the SDI) on export competitiveness. The results show that the coefficient of the SDI variable is positive but very small and not statistically significant ($\beta = 0,035$; $p > 0,1$). Therefore, the first research objective is not directly supported; social accounting practices alone are not a primary driver of export competitiveness.

Model (3), where the moderating role of foreign ownership is introduced into the analysis. The coefficient of the interaction term SDI * FO is positive and highly statistically significant at the 1 % level ($\beta = 0,955$; $p < 0,01$). This result provides strong evidence in support of the second research objective: foreign ownership plays a positive moderating role, amplifying the impact of social accounting practices on export competitiveness.

The control variables in the model largely yield results consistent with theory and previous research. Firm size (SIZE) has a positive and statistically significant coefficient at the 1 % level in all three models. This is consistent with the Resource-Based View, suggesting that larger firms, with advantages in financial resources, technology, and networks, are more competitive in international markets. Financial performance (ROA) also has a positive and significant impact, affirming that efficiently operating, profitable firms have more resources to reinvest in export activities and enhance competitiveness. Financial leverage (LEV) has a negative coefficient, significant at the 10 % level. This result suggests that a high debt burden may limit the ability to invest in international market expansion activities, thereby negatively affecting export competitiveness. Firm age (AGE)

does not show a statistically significant impact, implying that in the Vietnamese seafood industry, the factor of long-standing experience is not a clear competitive advantage for exports compared to the dynamism of younger firms.

In summary, the regression results have illuminated a complex relationship: it is not social accounting practices themselves, but the interaction between social accounting practices and foreign ownership that creates a sustainable export competitive advantage for Vietnamese seafood enterprises.

Robustness Checks

Controlling for Endogeneity with System GMM

The issue of endogeneity is one of the biggest challenges when analyzing the relationship between social accounting practices and export competitiveness. For instance, there is a possibility of reverse causality, meaning that firms with better export competitiveness may have more resources to invest in and disclose information about social activities. Additionally, omitted variable bias is also a potential risk.

To address this issue, the study employs the System Generalized Method of Moments (System GMM) developed by Arellano et al.[29] and Blundell et al.[30] This method is particularly effective for panel datasets with a small number of time periods (T) and a large number of units (N), and it allows for the control of endogeneity sources by using lagged values of the explanatory variables as instruments.

The results from the System GMM model are presented in Column (1) of table 5. First, the diagnostic tests indicate that the GMM model is valid. The Sargan test of over-identifying restrictions has a p-value of 0,254, which is greater than 0,1, indicating that we cannot reject the null hypothesis that the instruments used are valid. Furthermore, the Arellano-Bond test for autocorrelation shows the presence of first-order autocorrelation AR(1) ($p < 0,05$) but no evidence of second-order autocorrelation AR(2) ($p > 0,1$). This meets the necessary condition for the consistency of GMM estimators.

Most importantly, the regression results continue to reinforce the main conclusion of the study. The coefficient of the interaction term SDI * FO remains positive and highly statistically significant at the 1 % level ($\beta = 0,898$, $p < 0,01$). Meanwhile, the coefficient of the SDI variable remains statistically insignificant. This confirms that even when controlling for potential endogeneity, the positive moderating role of foreign ownership in amplifying the impact of social accounting on export competitiveness remains very strong and reliable.

Using an Alternative Measure for the Dependent Variable

To check whether the results are sensitive to the definition and measurement of export competitiveness, the study performs a robustness check by replacing the main dependent variable EXP_INT (Export Intensity) with an alternative measure: EXP_GRW (Export Growth). This measure focuses on the dynamic aspect, measuring a firm's ability to expand its scale of operations in international markets over time, rather than just measuring the degree of dependence on exports at a single point in time.

Column (2) of table 5 presents the results of the fixed-effects regression with EXP_GRW as the dependent variable. The results show that our main findings remain unchanged. The coefficient of the interaction term SDI * FO continues to be positive and statistically significant at the 5 % level ($\beta = 0,512$, $p < 0,05$). Although the significance level and magnitude of the coefficient are slightly reduced compared to the main model (which is reasonable as EXP_GRW is a more volatile variable), the direction of the impact and statistical significance are maintained. This provides convincing evidence that the moderating relationship we have discovered is not a byproduct of a specific measure but reflects a real economic phenomenon.

In summary, both robustness checks yield consistent results, significantly increasing the reliability and generalizability of the research conclusions.

Table 5. Robustness Checks

Variables	(1) System GMM	(2) Alternative DV
	(DV: EXP_INT)	(DV: EXP_GRW)
SDI	0,012	-0,045
	(0,068)	(0,060)
FO	-0,125	-0,201*
	(0,131)	(0,115)
SDI * FO	0,898***	0,512**
	(0,315)	(0,241)
SIZE	0,031**	0,025*
	(0,014)	(0,013)
LEV	-0,085	-0,135**

	(0,065)	(0,068)
ROA	0,195*	0,288**
	(0,110)	(0,124)
AGE	0,011	0,028
	(0,028)	(0,031)
Constant	-0,041	-0,115
	(0,210)	(0,198)
Observations	197	225
Number of firms	28	28
R-squared (within)		0,187
Sargan test (p-value)	0,254	
AR(1) test (p-value)	0,028	
AR(2) test (p-value)	0,412	
Year-fixed effects	Yes	Yes
Firm-fixed effects	No	Yes

Notes: Robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1 %, 5 %, and 10 % levels, respectively.

Column (1) uses the two-step System Generalized Method of Moments (System GMM) regression to control for endogeneity. The dependent variable is EXP_INT. The number of observations is reduced due to the creation of lagged instrumental variables. The GMM model does not include firm-fixed effects in the traditional sense but controls for time-invariant characteristics through the first-difference transformation.

Column (2) uses the Fixed Effects regression model, with an alternative dependent variable, Export Growth (EXP_GRW).

Testing for a Non-linear Relationship

Strategic management theory and recent empirical studies increasingly acknowledge the possibility of non-linear relationships, particularly an inverted U-shape, between investments in social activities and financial performance. In the context of the Vietnamese seafood industry, this is particularly relevant. Firms may feel pressured to pursue every international certification without having the internal capacity to transform them into real value, leading to increased costs without a corresponding improvement in export performance. To examine this non-linear relationship, the study adds the squared term of the Social Disclosure Index (SDI^2) to the baseline fixed-effects regression model. This model is based on Model (2) in table 4, but with the addition of a non-linear component. The test results are presented in table 6 below.

Table 6. Results of nonlinear relationship testing

Variables	**(4)**
	EXP_INT
SDI	0,452**
	(0,183)
SDI^2	-0,558**
	(0,215)
Constant	-0,135
	(0,186)
Observations	225
Number of firms	28
R-squared (within)	0,205
F-statistic	8,87***
Year-fixed effects	Yes
Firm-fixed effects	Yes

Notes: Driscoll-Kraay (1998) robust standard errors are reported in parentheses. ***, **, and * denote statistical significance at the 1 %, 5 %, and 10 % levels, respectively. Model (4) is a fixed-effects model (FEM) with the dependent variable being EXP_INT.

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The results in table 6 provide strong evidence supporting an inverted U-shaped non-linear relationship. Specifically:

The coefficient of the SDI variable is positive and statistically significant at the 5 % level (β = 0,452; p < 0,05). This indicates that at initial levels of investment, increasing social disclosure has a positive impact on export competitiveness.

The coefficient of the squared term SDI^2 is negative and statistically significant at the 5 % level (β = -0,558; p < 0,05). The negative sign of this coefficient confirms that the positive impact of SDI will diminish as the level of disclosure increases and will eventually reverse.

The combination of a positive coefficient for SDI and a negative coefficient for SDI^2 confirms the existence of an inverted U-shaped relationship between social accounting practices and export competitiveness. This finding not only deepens the research results but also clarifies why the SDI variable was not statistically significant in the linear model (table 4). That result may have been due to the linear model failing to capture the complex nature of the relationship, where the positive effect in the early stage and the negative effect in the later stage canceled each other out.

From the estimated coefficients, we can calculate the turning point of the curve, which is the optimal level of social disclosure (SDI*), at which export competitiveness is maximized. The turning point is calculated using the formula:

$SDI^* = -\beta_1 / (2 * \beta_2) = -0,452 / (2 * -0,558) \approx 0,405$

The value SDI* = 0,405 is significant. It suggests that the export competitiveness of seafood enterprises will increase as they improve their social disclosure index up to the threshold of 40,5 %. After this point, further investment in disclosure may no longer be effective and may even begin to have a negative impact. Comparing this with the mean value of SDI in the research sample, which is 0,382 (from table 2), we can see that, on average, Vietnamese seafood enterprises are operating near the optimal point. However, with a large standard deviation (0,211), this also implies that a considerable portion of firms have surpassed this optimal threshold and may be facing "diminishing returns," while many other firms still have significant room for improvement.

To visualize this relationship, figure 1 below illustrates the inverted U-shaped curve based on the regression results.

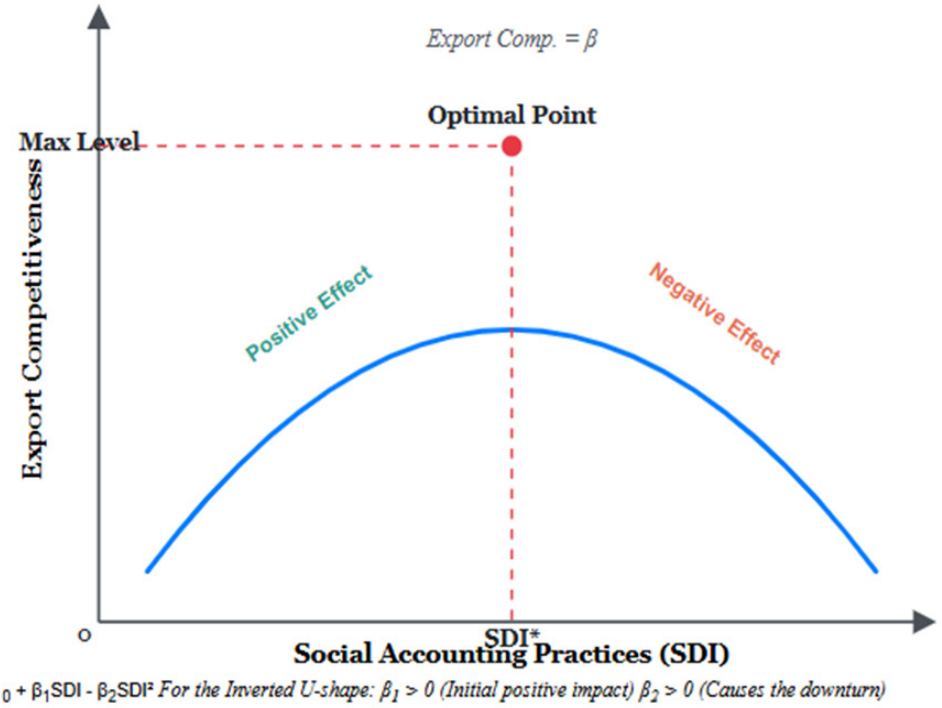

Figure 1. The Inverted U-shaped Relationship between Social Accounting Practices and Export Competitiveness

Subgroup Analysis by Foreign Ownership

To provide a convincing demonstration of the moderating role of foreign ownership, which was confirmed through the interaction term in the main model, the study proceeds to divide the sample into two distinct groups. Based on the median value of the foreign ownership variable (FO), the sample is split into: (i) a low foreign ownership group (FO ≤ median) and (ii) a high foreign ownership group (FO > median). The study then re-estimates the baseline regression model (table 4) for each of these subgroups. This approach allows for

a direct observation of whether the impact of social accounting practices (SDI) on export competitiveness (EXP_INT) truly differs in the significant presence of foreign investors. The results of the subgroup analysis are presented in table 7.

Table 7. The Impact of Social Accounting on Export Competitiveness by Foreign Ownership Group

Variable	(1) Low Foreign Ownership (FO ≤ Median)	(2) High Foreign Ownership (FO > Median)
SDI	-0,051 (0,065)	0,314** (0,135)
SIZE	0,039** (0,016)	0,051*** (0,014)
LEV	-0,121* (0,070)	-0,089 (0,068)
ROA	0,230** (0,112)	0,265** (0,120)
AGE	0,025 (0,030)	0,012 (0,029)
Constant	-0,095 (0,215)	-0,112 (0,201)
Observations	113	112
Number of firms	28	28
R-squared (within)	0,148	0,285
Year Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes

Notes: Driscoll-Kraay (1998) robust standard errors are reported in parentheses. ***, **, and * indicate statistical significance at the 1 %, 5 %, and 10 % levels, respectively. The dependent variable is EXP_INT.

In Column (1), for the group of firms with low foreign ownership, the coefficient of the SDI variable is negative and not statistically significant (β = -0,051, p > 0,1). This implies that, without the significant presence of foreign investors, efforts to invest in and disclose social accounting information do not seem to translate into an export competitive advantage. The negative coefficient even suggests that this could be a net cost, consuming resources without yielding corresponding results in the international market. This result is entirely consistent with the finding in the overall linear model (table 4), where the impact of SDI alone was insignificant.

Conversely, the results in Column (2) paint a completely different picture. In the group of firms with high foreign ownership, the coefficient of the SDI variable is positive and statistically significant at the 5 % level (β = 0,314, p < 0,05). This finding is powerful evidence, showing that with the participation of foreign shareholders, social accounting practices become a crucial driver, having a positive and clear impact on enhancing export competitiveness. Foreign investors, with their high governance demands, sensitivity to international standards, and market networks, appear to create a favorable environment where a firm's social efforts are "transformed" into reputation, trust, and ultimately, business performance on the international stage.

DISCUSSION

The Paradox of Social Accounting Practices

The first core finding of the study, and also the most surprising one, is the failure to find statistical evidence of a direct impact of social accounting practices (measured by the SDI) on export competitiveness (table 4). The coefficient of SDI, although positive, was not statistically significant, suggesting that simply increasing the level of social disclosure does not automatically translate into a competitive advantage in international markets.

This finding seems to challenge the core assumptions of both Legitimacy Theory and Stakeholder Theory. According to these theories, proactively making social activities transparent should help firms gain acceptance ("social license to operate") and strengthen relationships with stakeholders, thereby improving operational performance.[3,4] However, our research results indicate that this transformation is not a direct causal relationship, especially when the decisively influential "stakeholder" group is the discerning international importers. This strongly aligns with the stream of research pointing to inconsistencies, and even contradictions, in the relationship between social performance and financial performance.[16,17,18] Our results provide empirical evidence for the "paradox" mentioned in the introduction, similar to the observations in Vietnam by Nguyen et al.[19] and Khiem et al.[20]

This result is considered consistent with the practical context of the Vietnamese seafood industry. First, there may be a "disclosure-performance gap". Many companies view social information disclosure as a formalistic activity for compliance or to embellish their annual reports, rather than a strategic commitment deeply integrated into the value chain. Sophisticated importers in the EU, US, and Japan, with their own audit and traceability systems, can distinguish between "talking the talk" and "walking the walk." Therefore, a

high disclosure index not accompanied by substantive operational changes will not be convincing enough to create a competitive advantage. Second, the information transmission channel may be ineffective. An annual or sustainability report from a Vietnamese company, however detailed, may not be the primary information channel that international buyers use for decision-making. They often rely on widely recognized international certifications (ASC, BAP), third-party audit results, or direct relationships. Thus, disclosure efforts may not reach the intended target audience.

This research finding offers a more realistic perspective on the foundational theories. It indicates that in the context of an export-oriented emerging market, legitimacy is not simply created by disclosing information but requires more effective mechanisms for verification and value transformation. The study has shifted the focus from the question "does SAP have an impact?" to "why and when does it have an impact?".

Foreign Ownership: The Strategic Catalyst Unlocking the Value of Social Accounting

The most important and meaningful finding of the study is the strong and positive moderating role of foreign ownership (FO) in the relationship between social accounting practices and export competitiveness. The results from the interaction term (table 4) and the subgroup analysis (table 7) are both consistent and convincing: the impact of SDI on EXP_INT only becomes positive and statistically significant in firms with a high proportion of foreign ownership.

This finding not only provides a compelling explanation for the paradox stated above but also creates a novel integration of multiple theoretical foundations:
channel to "promote" them to the world market. Conversely, in the group with high foreign ownership, these investors often come from the key import markets themselves. They understand perfectly well that a labor certification (like SA 8000) or a transparent supply chain report is not just a piece of paper, but a "passport" into the demanding supermarket systems in Europe or America. They drive and direct SAP investments into items that are truly valuable in the eyes of international customers, thereby directly amplifying export competitiveness.

The main academic contribution here is the identification of foreign ownership as a crucial moderating variable, resolving the inconsistency in previous research. Instead of debating whether the CSP-CFP relationship exists, this study shows that the relationship is contingent on governance structure. This is a constructive contribution, providing a more complex and realistic model for studies on sustainability accounting in emerging markets.

The Lesson of the "Strategic Saturation Point"

Another particularly noteworthy and highly practical finding is the existence of an inverted U-shaped non-linear relationship between social accounting practices and export competitiveness, with a turning point (optimal threshold) at an SDI level of approximately 40,5 %. This means that, initially, enhancing social disclosure brings increasing benefits to export competitiveness, but after exceeding a certain threshold, the marginal benefits begin to diminish and can even become negative.

This finding provides an important supplement to the result of an insignificant direct impact in the linear model. The linear model (Model 2) may have failed to capture this complex nature, as the positive impact in the early stage and the negative impact in the later stage canceled each other out, leading to an overall insignificant coefficient.

The phase of increasing returns (before the 40,5 % threshold): In this stage, every effort to enhance transparency sends a strong signal about the firm's commitment. Obtaining basic certifications, publishing labor policies, reporting on wastewater treatment, etc., helps firms overcome market entry barriers, build initial trust, and differentiate themselves from less transparent competitors. The benefits gained (market access, better selling prices) outweigh the costs incurred.

The phase of diminishing returns (after the 40,5 % threshold): When a firm has already achieved a high level of transparency and compliance, continuing to invest in disclosing less material information can lead to "diminishing returns." The costs of auditing, consulting, and pursuing "niche" certifications may begin to exceed the incremental benefits they bring. Furthermore, an excessive focus on reporting and compliance might distract management from other core activities such as product innovation or operational optimization, causing a negative impact on overall competitiveness.

The practical implication of the 40,5 % turning point is immense. Compared to the sample's mean SDI of 38,2 %, it can be seen that, overall, Vietnamese seafood enterprises are operating close to the optimal point. However, the large standard deviation (0,211) reveals a polarized reality: there is a group of firms that has "over-invested" in disclosure and is at risk of wasting resources, while another group still has significant "room" to improve and reap benefits.

These conclusions offer significant academic contributions. By identifying foreign ownership as a key moderating variable, the study provides a clear explanatory mechanism for the inconsistencies in prior literature on the relationship between social and financial performance. It challenges the assumption of a linear and

automatic relationship where SAP always creates value, while successfully integrating Agency Theory, the Resource-Based View, and Internationalization Theory to decode the mechanism through which sustainability commitments are converted into international business performance.

In practical terms, the study proposes valuable implications. For managers, the lesson is not "the more SAP, the better," but to adopt a strategic approach: view SAP as a tool to attract foreign capital and optimize investment around the saturation point to avoid wasting resources. For investors and policymakers, the results emphasize that attracting high-quality foreign capital not only brings financial resources but is also an effective channel for disseminating international governance standards, thereby enhancing the comprehensive sustainable competitiveness of the industry.

Ultimately, this study rejects a simplistic, linear perspective, while providing a practical, context-dependent model that helps to clarify the complex question of the effectiveness of sustainability investments in emerging markets.

Limitations and Future Research Directions

Despite achieving the stated research objectives, we acknowledge that our study has certain limitations, and it is these limitations that open up avenues for future research.

First, the most significant limitation lies in the measurement of the central variable, Social Accounting Practices (SAP). Despite the effort to construct a comprehensive Social Disclosure Index (SDI) and rigorously justify its use as a proxy variable, we are aware of the potential "disclosure-performance gap." Our index measures what firms report they do, which does not necessarily reflect the full quality and depth of what they actually do.

Second, the study's sample is confined to listed seafood processing firms. These firms are typically larger, more visible, and face greater pressure for transparency than the majority of small and medium-sized enterprises or private companies, which constitute a significant portion of the industry. Therefore, the generalizability of the findings to the entire industry should be considered with caution.

In light of these limitations, future research could proceed in the following directions:

To overcome the measurement limitation, subsequent studies could adopt a mixed-methods approach. Researchers could combine panel data analysis with in-depth case studies of a few representative firms. Conducting interviews with managers, supply chain directors, and even representatives of foreign investors would provide rich insights to validate and deepen the quantitative results. Furthermore, using more practical social performance metrics, such as data on energy consumption per unit of product, occupational accident rates, or scores from third-party audits (like ASC, BAP), would be a significant step forward.

To enhance generalizability, future studies could conduct comparative analyses. One avenue is to compare the seafood industry with other key export-oriented industries in Vietnam that face similar social standard pressures, such as textiles or furniture. Another direction is to compare the Vietnamese context with that of competing countries in the region, such as Thailand, Indonesia, or India, to see whether the role of foreign ownership is a phenomenon specific to Vietnam or is more universal.

CONCLUSION

This research originated from the inconsistency in empirical evidence regarding the effectiveness of social investments and has successfully illuminated the complex relationship between social accounting practices (SAP) and the export competitiveness (EC) of Vietnamese seafood enterprises. The empirical evidence strongly confirms that social accounting practices, by themselves, do not create a statistically significant direct impact on export competitiveness. Instead, the core conclusion of this study is that foreign ownership (FO) acts as a positive moderating mechanism, a strategic "catalyst" that amplifies and unlocks the latent value of SAP, transforming it into a real competitive advantage. Furthermore, the study also discovered an inverted U-shaped non-linear relationship, indicating an optimal threshold for investment in social disclosure and warning against diminishing returns from over-investment.

BIBLIOGRAPHIC REFERENCES

1. Pham TT, Pham HH. The Impact of Green Governance and the Moderating Role of Institutional Ownership on Financial Reporting Quality in VN-Allshare Listed Companies. Management (Montevideo). 2025 Oct 4;3:337-. https://doi.org/10.62486/agma2025337

2. Hung PH. The applicability of lean accounting in enterprises: The case of pulp and paper manufacturing enterprises in Vietnam. Multidisciplinary Reviews. 2025;8(4):2025121-. https://doi.org/10.31893/multirev.2025121

3. Deegan C. Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation. Account Audit Account J. 2002;15(3):282-311. https://doi.org/10.1108/09513570210435852

4. Freeman RE. Strategic management: A stakeholder approach. Boston: Pitman; 1984.

5. Wolf A, Christiaens J. Stakeholder participation in the development of international public sector accounting standard 42, social benefits. Financ Account Manag. 2021;39(4):715-30. https://doi.org/10.1111/faam.12304

6. Gray R, Kouhy R, Lavers S. Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure. Account Audit Account J. 1995;8(2):47-77. https://doi.org/10.1108/09513579510086305

7. Leung T. Legitimacy-seeking strategies in the gambling industry: the case of responsible gambling. Sustain Account Manag Policy J. 2019;10(1):97-125. https://doi.org/10.1108/sampj-04-2018-0121

8. Khan S, Gupta S. The interplay of sustainability, corporate green accounting and firm financial performance: a meta-analytical investigation. Sustain Account Manag Policy J. 2023;15(5):1038-66. https://doi.org/10.1108/sampj-01-2022-0016

9. Fiandrino S, Devalle A, Cantino V. Corporate governance and financial performance for engaging socially and environmentally responsible practices. Soc Responsib J. 2019;15(2):171-85. https://doi.org/10.1108/srj-12-2017-0276

10. Orlitzky M, Schmidt FL, Rynes SL. Corporate social and financial performance: A meta-analysis. Organ Stud. 2003;24(3):403-41. https://doi.org/10.1177/0170840603024003910

11. Barney J. Firm resources and sustained competitive advantage. J Manage. 1991;17(1):99-120. https://doi.org/10.1177/014920639101700108

12. Gras D, Krause R. When does it pay to stand out as stand-up? Competitive contingencies in the corporate social performance–corporate financial performance relationship. Strateg Organ. 2020;18(3):448-71. https://doi.org/10.1177/1476127018805

13. Bianchi E, Bruno JM, Sarabia-Sanchez FJ. The impact of perceived CSR on corporate reputation and purchase intention. Eur J Manag Bus Econ. 2019;28(3):206-21. https://doi.org/10.1108/EJMBE-12-2017-0068

14. Kong Y, Antwi-Adjei A, Bawuah J. A systematic review of the business case for corporate social responsibility and firm performance. Corp Soc Responsib Environ Manag. 2020;27(2):444-54. https://doi.org/10.1002/csr.1838

15. Xie J, Nozawa W, Yagi M, Fujii H, Managi S. Do environmental, social, and governance activities improve corporate financial performance?. Bus Strateg Environ. 2019;28(2):286-300. https://doi.org/10.1002/bse.2224

16. Margolis JD, Walsh JP. Misery loves companies: Rethinking social initiatives by business. Adm Sci Q. 2003;48(2):268-305. https://doi.org/10.2307/3556659

17. Peloza J. The challenge of measuring financial impacts from investments in corporate social performance. J Manage. 2009;35(6):1518-41. https://doi.org/10.1177/0149206309335188

18. Saeed K, Gul S. Impact of corporate social responsibility disclosure reports on sale performance: evidence from pakistani non-financial firms. Jinnah Bus Rev. 2023;11(1):1-13. https://doi.org/10.53369/nlov4945

19. Nguyen MT, Khoa BT. Improving the competitiveness of exporting enterprises: A case of Kien Giang province in Vietnam. J Asian Finance Econ Bus. 2020;7(6):495-508. https://doi.org/10.13106/jafeb.2020.vol7.no6.495

20. Khiem NM, Takahashi Y, Yasuma H, Dong KTP, Hai TN, Kimura N. A novel machine learning approach to predict the export price of seafood products based on competitive information: The case of the export of Vietnamese shrimp to the US market. PLoS One. 2022;17(9):e0275290. https://doi.org/10.1371/journal.pone.0275290

21. Shleifer A, Vishny RW. A survey of corporate governance. J Finance. 1997;52(2):737-83. https://doi.

org/10.1111/j.1540-6261.1997.tb04820.x

22. Zainul Abidin AF, Hashim HA, Ariff AM, Al-ahdal WM. Ethical commitment, institutional investors and financial performance: Malaysian evidence. Int J Finance Econ. 2024;29(1):1042-56. https://doi.org/10.1002/ijfe.2720

23. Khanna T, Palepu K. Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. J Finance. 2000;55(2):867-91. https://doi.org/10.1111/0022-1082.00229

24. Sen PK. Accuracy of disclosure environment and subsidies for foreign investments. J Account Audit Finance. 2023;38(1):29-51. https://doi.org/10.1177/0148558X20962900

25. Leonidou LC, Katsikeas CS, Samiee S. Marketing strategy determinants of export performance: A meta-analysis. J Bus Res. 2002;55(1):51-67. https://doi.org/10.1016/S0148-2963(00)00133-8

26. Clarkson PM, Li Y, Richardson GD, Vasvari FP. Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. Account Organ Soc. 2008;33(4-5):303-27. https://doi.org/10.1016/j.aos.2007.05.003

27. Gujarati DN, Porter DC. Basic econometrics. 5th ed. Boston: McGraw-Hill/Irwin; 2009.

28. Hair JF Jr, Black WC, Babin BJ, Anderson RE. Multivariate data analysis: A global perspective. 7th ed. Upper Saddle River: Pearson Prentice Hall; 2010.

29. Arellano M, Bover O. Another look at the instrumental variable estimation of error-components models. J Econom. 1995;68(1):29-51. https://doi.org/10.1016/0304-4076(94)01642-D

30. Blundell R, Bond S. Initial conditions and moment restrictions in dynamic panel data models. J Econom. 1998;87(1):115-43. https://doi.org/10.1016/S0304-4076(98)00009-8

31. Driscoll JC, Kraay AC. Consistent covariance matrix estimation with spatially dependent panel data. Rev Econ Stat. 1998;80(4):549-60. https://doi.org/10.1162/003465398557825

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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