

FACTORS AFFECTING EARNINGS MANAGEMENT OF EXPORTING SEAFOOD ENTERPRISES ON THE VIETNAMESE STOCK MARKET

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ABSTRACT

This study investigates the determinants of earnings management among seafood export enterprises on the Vietnamese stock market. The study employs panel data from 18 listed seafood export firms during the period 2019-2024, yielding 108 firm-year observations, with earnings management measured using the Modified Jones model. The results show that firm size, profitability, operating cash flow, and audit quality are negatively associated with earnings management, while financial leverage, inventory, accounts receivable, and export revenue ratio exhibit positive effects on earnings management. The research findings provide further empirical evidence on factors affecting earnings management in the group of seafood export enterprises and serve as a reference for businesses, investors, and regulatory agencies.

Keyword: *Earnings management; Seafood export enterprises; Modified Jones model; financial reporting.*

1. INTRODUCTION

Earnings management has attracted considerable attention in accounting research because it directly affects the transparency and reliability of financial reporting as well as investors' decision-making. For listed seafood export enterprises, pressure from international market fluctuations, exchange rates, and trade barriers can lead to increased earnings management in order to maintain business performance and meet stakeholder expectations.

Although many studies have examined factors influencing the level of earnings management, empirical evidence focusing specifically on Vietnam's seafood export industry remains limited, particularly in the absence of assessments of industry-specific factors such as the proportion of export revenue. Therefore, this study analyzes the factors affecting earnings management among listed seafood export enterprises in Vietnam during the period 2019-2024, thereby supplementing empirical evidence and proposing implications to enhance the transparency of financial reporting.

2. LITERATURE REVIEW AND RESEARCH MODEL

Earnings management has been approached by many studies through accrual-based models, among which the Modified Jones model by Dechow et al. (1995) is widely used due to its ability to separate discretionary and non-discretionary accruals. Based on this, prior studies have identified several determinants of earnings management that can be classified into three main groups.

The first group relates to operating performance, including profitability and operating cash flow. Kothari et al. (2005) documented a significant association between firm performance and discretionary accruals, while Liu and Tsai (2015) found that firms with stronger operating cash flows tend to engage in less earnings management. These findings suggest that firms with stable profitability and cash-generating capacity have fewer incentives to rely on accounting estimates to influence reported earnings.

The second group concerns financial structure and working capital, including financial leverage, inventory, and accounts receivable. Nalarreason et al. (2019) reported a positive relationship between financial leverage and earnings

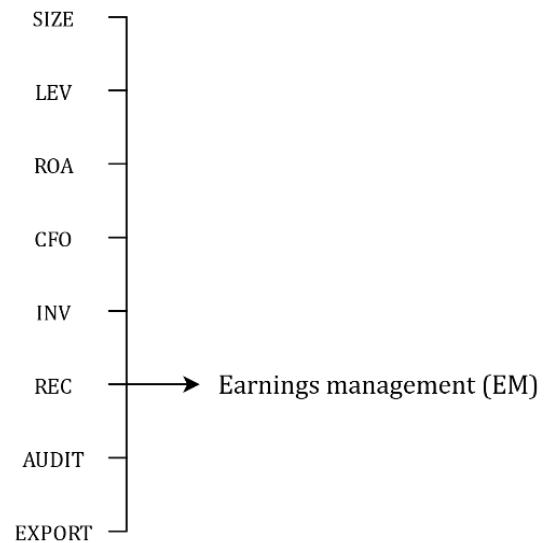
management, which may arise from managerial pressure to comply with debt covenants and maintain access to external financing. Richardson et al. (2005) argued that inventory and accounts receivable involve a relatively high degree of accounting estimation and managerial judgment. These items may therefore create greater opportunities for earnings management through revenue recognition, inventory valuation, and allowance estimation.

The third group reflects monitoring mechanisms and firm characteristics, particularly firm size and audit quality. Becker et al. (1998) found that firms audited by large audit firms tend to exhibit lower levels of earnings management. Similarly, Roodposhti and Chashmi (2011) documented a negative relationship between firm size and earnings management, suggesting that larger firms are subject to greater scrutiny from investors, regulators, and other stakeholders.

In Vietnam, research has primarily focused on listed companies in general. The results are generally similar to international studies on the impact of firm size, financial leverage, profitability, cash flow, and audit quality. However, empirical evidence on seafood export enterprises remains limited, particularly with respect to the effect of export revenue ratio.

Accordingly, this study examines eight determinants of earnings management: firm size (SIZE), financial leverage (LEV), profitability (ROA), operating cash flow (CFO), inventory (INV), accounts receivable (REC), audit quality (AUDIT), and export revenue ratio (EXPORT). The inclusion of EXPORT is intended to capture the distinctive characteristics of seafood export enterprises, which are highly exposed to exchange rate fluctuations, foreign-market demand, trade barriers, and international payment cycles.

Figure 1. Proposed research model



3. RESEARCH METHODOLOGY

This study employs secondary data collected from 18 seafood export enterprises on the Vietnamese stock market during the period 2019-2024. The companies were selected based on the availability of complete audited financial statements, annual reports, and other necessary information for calculating the research variables throughout the survey period. After data screening, the research sample consists of 108 company-year observations.

Earnings management is measured through discretionary accrual. According to the Modified Jones model by Dechow et al. (1995), building upon previous studies, the following regression model is estimated:

$$|DA| = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{LEV} + \beta_3 \text{ROA} + \beta_4 \text{CFO} + \beta_5 \text{INV} + \beta_6 \text{REC} + \beta_7 \text{AUDIT} + \beta_8 \text{EXPORT} + \varepsilon$$

In this case, the dependent variable is the absolute value of the discretionary accrual ($|DA|$), reflecting the level of earnings management of the firm.

The data were analyzed using IBM SPSS Statistics 26. Descriptive statistics were first employed to summarize the characteristics of the sample, followed by Pearson correlation analysis to examine the linear relationships among variables. Ordinary Least Squares (OLS) regression was then applied to test the proposed hypotheses. Diagnostic tests, including multicollinearity, heteroskedasticity, and autocorrelation tests,

were conducted to ensure the validity and robustness of the regression model.

4. Results and discussion

4.1 Descriptive statistics and correlation analysis

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EM	108	0,005	0,200	0,095	0,062
SIZE	108	12,144	16,320	14,050	1,253
LEV	108	0,030	1,646	0,543	0,309
ROA	108	-0,416	0,178	0,035	0,082
CFO	108	-0,400	0,225	0,036	0,071
EXPORT	108	0,001	1,000	0,636	0,269
INV	108	0,027	0,732	0,362	0,188
REC	108	0,000	0,541	0,178	0,116
AUDIT	108	0,000	1,000	0,278	0,450
Valid N (listwise)	108				

Table 2 presents the descriptive statistical for the 108 observations during the period 2019-2024. The results indicate that the mean value of EM is 0.095, with a standard deviation of 0.062, reflecting considerable variation in the level of earnings management among the sampled firms. The range of EM varies from 0.005 to 0.200, indicating that while some firms exhibit relatively low levels of earnings management, others demonstrate substantially higher levels.

For the independent variables, firm size (SIZE) has a mean value of 14.050, reflecting the differences in the scale of seafood export enterprises. The average export revenue ratio (EXPORT) is 0.636, indicating that export activities account for a substantial proportion of total revenue for most firms in the sample. Meanwhile, the mean value of audit quality (AUDIT) is 0.278, reflecting the relatively low percentage of businesses audited by Big4 firms.

Table 3 : Pearson Correlation Matrix

Correlations									
	EM	SIZE	LEV	ROA	CFO	INV	REC	AUDIT	EXPORT
EM	Pearson Correlation	1	-.451**	.412**	-.393**	-.509**	.510**	.269**	-.425**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.005	.000
	N	108	108	108	108	108	108	108	108
SIZE	Pearson Correlation		1	-.276**	.311**	.156	-.413**	.194*	.557**
	Sig. (2-tailed)			.000	.001	.107	.000	.045	.000
	N	108	108	108	108	108	108	108	108
LEV	Pearson Correlation			1	-.463**	-.091	.081	.449**	.039
	Sig. (2-tailed)				.000	.348	.405	.000	.687
	N	108	108	108	108	108	108	108	108

ROA	Pearson Correlation	-.393**	.311**	-.463**	1	.273**	-.099	-.103	-.117	.295**
	Sig. (2-tailed)	.000	.001	.000		.004	.307	.289	.227	.002
	N	108	108	108	108	108	108	108	10	108
CFO	Pearson Correlation	-.509**	.156	-.091	.273**	1	-.280**	-.263**	.250**	-.036
	Sig. (2-tailed)	.000	.107	.348	.004		.003	.006	.009	.708
	N	108	108	108	108	108	108	108	108	108
INV	Pearson Correlation	.510**	-.413**	.081	-.099	-.280**	1	-.178	-.490**	.416**
	Sig. (2-tailed)	.000	.000	.405	.307	.003		.065	.000	.000
	N	108	108	108	108	108	108	108	108	108
REC	Pearson Correlation	.269**	.194*	.449**	-.103	-.263**	-.178	1	.071	-.159
	Sig. (2-tailed)	.005	.045	.000	.289	.006	.065		.464	.099
	N	108	108	108	108	108	108	108	108	108

AUDIT	Pearson Correlation	-.425**	.557**	.039	-.117	.250**	-.490**	.071	1	-.122
	Sig. (2-tailed)	.000	.000	.687	.227	.009	.000	.464		.208
	N	108	108	108	108	108	108	108	108	108
EXPORT	Pearson Correlation	.109	.191*	-.299**	.295**	-.036	.416**	-.159	-.122	1
	Sig. (2-tailed)	.263	.048	.002	.002	.708	.000	.099	.208	
	N	108	108	108	108	108	108	108	108	108

Source: Authors' calculations

Table 3 presents the results of the Pearson correlation analysis among the variables in the research model. The findings show that most

independent variables are correlated with EM in the expected directions. Specifically, ROA and CFO have a negative correlation with EM, while LEV, INV, REC, and EXPORT have a positive correlation.

Furthermore, the correlation coefficients among the independent variables are relatively low, indicating no serious signs of multicollinearity. However, correlation coefficients only reflect the linear relationship between variables and cannot establish a causal relationship. Therefore, the study continues to use a multiple linear regression model to test the research hypotheses.

4.2. Regression Diagnostics

Table 4: Heteroskedasticity Test Results

Test	LM/Chi-square	Sig.	F	Sig. F
Breusch-Pagan	10,736	0,633	0,798	0,661
White	96,990	0,240	1,902	0,056

Table 5: Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.801	.641	.592	0,03954	1,939

Table 6: Model Fit Assessment

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.263	13	.020	12,921	.000
Residual	.147	94	.002		
Total	.410	107			

Before interpreting the regression results, several diagnostic tests were conducted to assess whether the proposed model satisfied the underlying assumptions of OLS regression. The results presented in the preceding tables indicate that all VIF values are below 10, and while all Tolerance values exceed 0.1, indicating that the model does not exhibit multicollinearity. Furthermore, both the Breusch-Pagan and White tests have Sig. values greater than 0.05, indicating no evidence of heteroskedasticity. The Durbin-Watson coefficient is 1.939, within the acceptable range, indicating that the residuals of the model do not exhibit autocorrelation.

The overall regression model is statistically significant, as indicated by the F-test ($p < 0.001$). Moreover, the adjusted R^2 is 0.592, indicating that approximately 59.2% of the variation in earnings management is explained by the independent variables included in the model. Overall, these results confirm that the proposed regression model satisfies the key assumptions of OLS estimation and is therefore appropriate for testing the research hypotheses.

4.3. Regression Results and Discussion

Table 7. Regression results of factors affecting the level of earnings management.

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,152	,066		2,307	,023					
	SIZE	-,010	,005	-,195	-1,997	,049	-,451	-,202	-,123	,401	2,493
	LEV	,035	,018	,175	1,992	,049	,412	,201	,123	,493	2,027
	ROA	-,177	,063	-,233	-2,818	,006	-,393	-,279	-,174	,557	1,796
	CFO	-,197	,065	-,228	-3,036	,003	-,509	-,299	-,188	,679	1,473
	INV	,062	,030	,188	2,076	,041	,510	,209	,128	,466	2,146
	REC	,125	,045	,235	2,787	,006	,269	,276	,172	,539	1,857
	AUDIT	-,027	,012	-,194	-2,137	,035	-,425	-,215	-,132	,465	2,151
	EXPORT	,045	,019	,198	2,427	,017	,109	,243	,150	,576	1,736
	Y2020	,004	,013	,022	,270	,788	,011	,028	,017	,576	1,737
	Y2021	,005	,013	,033	,405	,687	,030	,042	,025	,575	1,739
	Y2022	,017	,013	,104	1,278	,204	,021	,131	,079	,581	1,722
	Y2023	,017	,013	,102	1,247	,216	,069	,128	,077	,576	1,737
	Y2024	-,002	,013	-,010	-,121	,904	-,042	-,012	-,007	,585	1,709

Source: Authors' calculations.

The regression results indicate that the proposed model is statistically significant, and all independent variables are significant at the 5% significance level. Specifically, firm size (SIZE), profitability (ROA), operating cash flow (CFO), and audit quality (AUDIT) are negatively associated with earnings management. In contrast, financial leverage (LEV), export revenue ratio (EXPORT), inventory (INV), and accounts receivable (REC) exhibit positive relationships with earnings management.

The findings suggest that earnings management among listed seafood export enterprises is jointly influenced by three major groups of factors. The first group relates to firm performance, represented by profitability (ROA) and operating cash flow (CFO). Firms with stronger profitability and more stable operating cash flows generally face less pressure to manipulate reported earnings, as their financial performance is more likely to reflect actual business operations. The second group comprises financial characteristics, including financial leverage, inventory, and accounts receivable. These factors may either increase financial pressure or provide greater managerial discretion in accounting estimates, thereby creating opportunities for earnings management. The third group concerns monitoring mechanisms and operational characteristics, represented by firm size, audit quality, and the export revenue ratio.

These findings are consistent with the operating environment of Vietnam's seafood export industry during the 2019–2024 period. Following the

COVID-19 pandemic, many firms experienced declining export orders from major international markets, while logistics costs, raw material prices, and financing costs increased substantially. These challenges intensified the pressure to maintain stable financial performance, particularly for firms with a high dependence on export markets or longer accounts receivable collection periods. Consequently, accounting items such as inventory, accounts receivable, and export revenue became important factors associated with earnings management.

Overall, the findings are consistent with those reported in previous studies, confirming the important roles of firm size, operating performance, operating cash flow, and audit quality in constraining earnings management. In addition, this study provides further empirical evidence on the influence of export revenue ratio on earnings management among listed seafood export enterprises in Vietnam.

5. CONCLUSION AND IMPLICATIONS

This study investigates the determinants of earnings management among seafood export enterprises listed on the Vietnamese stock market during the period 2019–2024. Based on a sample of 18 listed firms comprising 108 firm-year observations, the study develops a multiple regression model incorporating eight independent variables and measures earnings management using the Modified Jones model.

The empirical findings demonstrate that financial characteristics, operating performance, and monitoring mechanisms all influence the level of

earnings management. Specifically, operating performance, operating cash flow, firm size, and audit quality are associated with lower levels of earnings management, whereas financial pressure, working capital characteristics, and dependence on export markets are associated with higher levels of earnings management.

These findings contribute additional empirical evidence to the literature on earnings management in Vietnam's listed seafood export enterprises. They also suggest that the quality of reported earnings should be evaluated from multiple perspectives, including operating performance, financial characteristics, and the firm's business environment, rather than relying solely on accounting profit.

Based on the research findings, several practical implications can be drawn. First, firms should strengthen internal controls over accounting items that involve substantial managerial judgment, particularly inventory and accounts receivable. At the same time, improving operating performance and enhancing the ability to generate operating cash flows may help reduce incentives for earnings management. For firms with a high proportion of export revenue, greater attention should be paid to managing risks associated with exchange rate fluctuations, export market conditions, and accounts receivable collection cycles in order to improve the quality and reliability of financial reporting.

For investors and auditors, the assessment of financial reporting quality should not rely solely on reported net income. Instead, greater attention should be given to operating cash flows, inventory, accounts receivable, and capital structure in order to identify potential indications of earnings management. In addition, regulatory authorities should continue to strengthen monitoring mechanisms and improve disclosure requirements for listed companies, particularly those with a high degree of dependence on international export markets.

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