



IMPACTS OF ANTI-DUMPING DUTIES ON FIRM'S PERFORMANCE: EVIDENCE FROM LISTED FIRMS IN SEAFOOD INDUSTRY IN VIETNAM

Nguyen Anh Phong^{1*}, Pham Cao Kieu Diem¹, Ho Thi Hong Nhung¹,
Hua Vu Ngan Ha¹, Nguyen Thi Thuy Trang¹

¹University of Economics and Law, Vietnam National University Ho Chi Minh City, Vietnam

ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.vi2.496</p> <p><i>Received:</i> February 06, 2024</p> <p><i>Accepted:</i> March 21, 2024</p> <p><i>Published:</i> March 25, 2024</p> <p>Keywords: Anti-dumping duties; Seafood industry; Export revenue; Tax rate; Firm's performance.</p> <p>JEL Classification Code: D22, D24, G32, L25</p>	<p>The study aims to examine the impact of the anti-dumping tax imposed by the United States under the simultaneous influence of financial factors on the performance of enterprises in the seafood export industry. The author selected data including 21 companies listed on the Vietnamese stock market in the period 2017-2022, and used GMM estimation technique to retest the influence of familiar factors such as lag of the firm's performance, size, leverage, liquidity ratio, sales growth rate to the firm's performance (measured by ROA), in addition, the paper also provides additional evidence on the impact of new factors: anti-dumping tax and export sales ratio. Research results show that (1) 6 out of 7 independent variables including ROA_{t-1}, <i>Size</i>, <i>Liq</i>, <i>g</i>, <i>ADr</i>, <i>Exp.re/ Tot.re</i> are statistically significant, (2) anti-dumping tax rate and geographic revenue structure are both recorded negative impacts on performance. The results of this study contribute academically by providing a new insight into the relationship between revenue and profit in the case of exporting to countries that apply anti-dumping tax and contribute practically by proposing some implications for foreign trade policy and corporate financial management strategy.</p>

*Corresponding author:

Email: phongna@uel.edu.vn

1. Introduction

Overview and research reasons

In the context of increasingly extensive trade between countries, participating in world trade associations and organizations has become a trend to eliminate tariff barriers. Vietnam is no exception, continuously proactively joining FTAs, WTO, etc. Although always pursuing “free trade”, countries still implement measures to “protect” their “young” domestic production in parallel. Anti-dumping tax is one of the most frequently used and popular tools. This is also a “concern” of Vietnam’s export industry over the past two decades when participating in the international market. Aware of reality, the authors recognized the importance of research in this field and chose to analyze listed Vietnamese seafood enterprises for the following reasons:

First, from 2016 to 2022, Vietnam has had 7 consecutive years of trade surplus, with a total export turnover of 371,304.2 billion USD (General Statistics Office, 2022), and is also the subject of relatively large anti-dumping lawsuits with a total of 123 anti-dumping investigations, of which 78 cases were concluded with dumping behavior and decided to impose taxes (WTO, 2022).

Second, according to statistics of the General Department of Customs (2022), seafood exports reached 10.92 billion USD, up 22.2% compared to plan (highest ever); ranked 8th among the most exported commodity industries in 2022. In terms of type, shrimp products account for the largest proportion (39.5% of the total industry value), followed by pangasius (accounting for over 22%) (Vietnam Import-Export Report, 2022). These are also two seafood products facing typical anti-dumping taxes over the past 2 decades (Advisory Council on Trade Remedies – VCCI, 2023).

Third, from the Vietnamese exporter’s side, raw seafood prices are low because they are

bought from farming households, and labor costs are also cheap, leading to low overall costs. This is both a competitive advantage and also creates “motivation” for companies’ dumping behavior to gain market share in the importing country. This may be the reason why Vietnamese seafood products will continue to be “named” in anti-dumping lawsuits in the near future.

Finally, the businesses that appear in the top 20 largest seafood exporters in Vietnam are all listed on the three exchanges HSX, HNX and UPCOM (VASEP, 2021), and are also businesses that are often chosen as mandatory defendants in anti-dumping investigations, so the observations sample chosen by the authors can represent the seafood industry.

Gap in the research topic:

Previous studies predominantly considered the impact of anti-dumping duties on the export value of enterprises or made comparisons across anti-dumping duties influences on all exporters in various industries. In Vietnam, the researchers have remained limited, mainly summarizing litigation experience. They tend to focus on a general scale for the entire export industry without delving into specific industry groups or products, creating a research gap for this article. In addition, little attention has been given to financial factors that also affect firm performance. By considering the financial aspect, we aim to enhance the proportion of export revenue to total revenue to provide opinions consistent with statistical results when businesses face anti-dumping taxes.

2. Literature review

2.1. Theories and basic concepts

Basis concepts of Anti-dumping duties

According to Clause 1, Article VI of GATT (1994): “The contracting parties recognize that dumping, by which products of one country

are introduced into the commerce of another country at less than the normal value of the products, is to be condemned if it causes or threatens material injury to an established industry in the territory of a contracting party or materially retards the establishment of a domestic industry.” In Vietnam, according to the Ordinance on Anti-Dumping of Goods Imported into Vietnam effective from October 1, 2004, it is stipulated in Clause 1, Article 3: “Goods originating from countries or territories subject to It is considered dumping when imported into Vietnam (hereinafter referred to as dumped goods into Vietnam) if those goods are sold at a price lower than the normal price according to the provisions of Clauses 2 and 3 of this Article. ”

According to the Vietnam Chamber of Commerce and Industry (VCCI), the United States Department of Commerce (DOC) determines whether a product is dumped or not through a dumping margin. The dumping margin is the difference between the normal price and the export price, based on the formula:

$$\text{Dumping margin} = \frac{\text{Normal price} - \text{export price}}{\text{Export price}}$$

Anti-dumping duties (USD/kg) is an additional import tax imposed on a specific type of goods imported from certain exporting countries which are concluded to have engaged in dumping (dumping margin \geq 2%) and causing significant damage to the domestic industry (definition by WTO). There are three anti-dumping duties applied during each period of review (POR) of appropriate objects: calculated rates, separated rates and country – wide rates. These data are published by VCCI in collaboration with the World Trade Organization (WTO) and DOC after each POR.

Basic concept of firm’s performance and proxy for it

From the 50s of the 20th century to the 21st century, many definitions of firm performance have been introduced. Warmington et al. (1977) argued that in an effective organization, the productivity rate, motivation level and satisfaction of members will be high while the turnover rate, costs, and labor unrest will be low or absent. Harrison and Freeman (1999) asserted that an organization that operates effectively with high standards of performance meets the requirements of its stakeholders. Bartoli and Blatrix (2015) believed that the definition of corporate performance is that corporate performance should be achieved through factors such as piloting, evaluation, efficiency, effectiveness and quality. It can be seen that there are many different concepts about business performance over each period, but in general, a company’s performance is the ratio between output results and input costs.

Firm performance measurement can be classified into two types including book value-based measurement and market value-based measurement (Nguyen et al., 2019). Measurement methods based on book value are often considered indicators of short-term profitability such as return on assets (ROA), return on equity (ROE),... On the other hand, measurements based on market value indicate shareholders’ long-term expectations about the company’s future performance (Nakano & Nguyen, 2012). Market value ratios include market value added (MVA), market value to book value (M/B), economic value added (EVA) or Tobin’s Q. This study uses ROA as a measure of business performance. According to Klapper & Love (2004), the ROA ratio is the most used tool to measure business performance.

Theory of contestable markets and profit maximization theory

The theory of contestable markets (Baumol, 1982) posits that the market cannot achieve perfect competition due to always having market defects: uneven access to production resources among manufacturers, barriers to market entry, monopoly, etc. When policymakers identify signs of “unfair competition”, such as dumping, it significantly affects the domestic industry, even standing on the brink of losing market share and gradually becoming unable to self-supply those goods domestically. They have enough incentive to implement defensive measures or “private judgments” about a market economy, which contradict and hinder competition, building the barriers to market entry. On the other hand, from exporters perspective, the profit maximization theory of (Baumol, 1959) explains the behavior of effortably finding strategies to maximize revenue, from there increasing profits. This explains why businesses try to access input raw materials to reduce costs and subsequently lower the selling price of their goods, but still gain profits. But from domestic manufacturers’ angles, this may be unfair competition or dumping compared to the general market.

Working capital management theory

Net operating working capital (NOWC) is calculated by current assets minus current liabilities (excluding notes payable). In working capital management, people attend in inventory management activities, short-term debt, cash, account receivables. When looking closely at the sample of 21 seafood export listed companies, the authors found that current assets accounted for more than half of the total asset structure. In particular, inventory accounts for the highest proportion (ranging from about 60% to nearly 90%) of current assets. Regarding debt, seafood exporters generally have a high debt ratio, especially short-term debt (notes payable),

even causing losses. Consequently, the authors commented that seafood enterprises have struggled with working capital management. Regarding objective causes, this consequence may be caused by high anti-dumping duties exceeding the selling price, then becoming an ineffective production cost. The use of debt by businesses instead of for production and business development purposes, they have to fulfill tax obligations. The backlog of goods in destination countries due to high inflation and reduced consumer purchasing power as reflected in the CPI causes even more difficulties for businesses, creating a difficult situation in managing working capital. Efficiency affects business profitability. Before this study, Bhattacharya (2021), Padachi (2006), and Sagan (1955) emphasized the importance of effective working capital management in improving business performance.

Dynamic Theory of Profit

Clark proposed the dynamic profit theory in 1900. According to him, “Profit is the difference between price and cost of production of goods”. He argued that the entire economic society is divided into organized society and unorganized society. Organized society is also divided into static state and dynamic state. Only in a dynamic state do profits increase. In a static state, the time factor does not exist, and the same economic characteristics are repeated year after year. So there isn’t any risk to the business. The price of the goods will be equal to the cost of production. Therefore, no profit arises at all. In a dynamic state, according to Clark, the 5 main factors that change in society are (1) population size, (2) capital supply, (3) production techniques, (4) form of industrial organization (5) human expectations. These changes affect the supply and demand of goods leading to the appearance of profits. Therefore, the current profit of a business is not only influenced by factors of the business’s characteristics but also by past profits or revenue.

2.2. Overview of previous studies

Studies that use anti-dumping duties rates (used to calculate the actual tax paid) as a proxy for the impact of anti-dumping duties on import-export activities

These kinds of studies mostly reached the same conclusion regarding the negative relationship between anti-dumping duty rates and the export value of firms. An exemplary study in this regard is (Chandra & Long, 2013), which emphasizes the negative impact on export quantity and the reduced competitiveness of Chinese firms. The highlight of the article is the mention of the heterogeneity of this anti-dumping measure on products of different qualities. While some firms respond to anti-dumping duties by reducing export quantity, others choose to improve quality as a strategy to maintain their market share. On the other hand, Oliveira (2014) takes the opposite aspect, arguing that exporters with lower profitability and operational efficiency are more likely to face higher anti-dumping duty rates. This conclusion further strengthens the inverse relationship between the export value of firms and anti-dumping duties.

Studies using structure of revenue by region (calculated by export revenue to total revenue) as a proxy for the impact on firm's performance

The authors focused on analyzing seafood export companies in Vietnam, since most of these businesses' revenue comes from exporting seafood products to foreign markets, we decided to choose the ratio of export sales to total sales represents the enterprise's revenue source. Currently, there are still not many studies examining the impact of the ratio on firm performance, but most scholars affirm the positive relationship between export activities and enterprise performance. They found that the more a firm exports, the less fluctuations in its profits and the lower the

likelihood of bankruptcy (Greenaway et al., 2007; Vannoorenberghe, 2012; Esposito, 2017). Export pressure forces businesses to produce quality products that can meet the standards of destination countries and compete with local companies, thereby reducing inefficiencies in these businesses (Chhibber & Majumdar, 1998). On the other hand, the study of Gonenc & Aybar (2006) brings a different result, that is, companies with a higher ratio of export revenue to total revenue do not have differential profits. significant for firms with a lower proportion of export sales.

Studies on the impact of financial debt financing level on firm's performance

Although there have been many studies in the world on the relationship between debt financing level (debt-to-equity ratio) and business performance, there is no consensus on general research results. On the one hand, debt financing is considered to be beneficial for firm operations (Yusuf & Aleemi, 2020), so a positive relationship is expected. Indeed, Shaik & Sharma (2021) demonstrated that debt-to-equity ratio is positively correlated with firm performance as measured by return on equity. According to Wang et al. (2021), a company's debt-to-equity ratio affects its economic performance in both the short and long term. Specifically, this ratio helps improve long-term performance but hinders the immediate business activities of the enterprise. On the other hand, high debt ratios can lead to significant financial constraints and negatively affect a company's performance. The study by Nazir et al. (2021) shows that debt financing has a negative and significant impact on a company's performance in terms of profitability. Aljaaidi & Bagais (2020) also had the same result when observing an inverse relationship between the use of debt capital and the value of the company.

Proxy for firm size and its relationships with firm performance

There are multiple methods for measuring firm size. We chose the logarithm of total assets as a representative measure. Previous studies (Vijayakumar et al., 2010; Halil et al., 2012) also adopted this approach. We reviewed and identified 3 distinct perspectives when it comes to the relationship between firm size (total assets) and enterprise performance. One group (Jonsson, 2007; Amato, 2007) contends that a negative relationship exists between size (total assets) and business profits. Besides, this group has uncovered evidence suggesting that scale is linked to ROA. Conversely, another one (Vijayakumar et al., 2010; Halil et al., 2012) has reached the opposite conclusion expressing a positive opinion. Their evaluation of business performance is based on the return on total assets (ROA) ratio and the total assets used represent the size of the business. Furthermore, they have chosen inventory on total assets as the control variable. A company with good assets as collateral will be able to borrow, which will make it easier for the company to find funding and increase its value (Setiadharmas & Machall, 2017). Research conducted by Nyamasege (2014) also showed results that asset structure positively affects corporate value. Research demonstrated how assets improve company performance and increase profits (Cuervo-Cazurra & Dau, 2009). The conclusion is that there is no relationship between size (total assets) and performance (Okwo, 2012).

Studies on the impact of liquidity ratios on firm performance

Generally, Liquidity ratios are used to measure the firm's ability to pay off short-term obligations or those due within one year. These consist of the current ratio (CR) and quick ratio (QR) (Chen & Lu, 2018). Qasim & Rehman Ramiz (2011) investigated the relationship between liquidity ratios and profitability, they

did research on 26 companies in Pakistan from 2004 to 2009. The result shows that the profitability ratios were affected significantly by the liquidity ratios. Moreover, most of the research on this branch supports the argument that there is a considerable positive relationship between liquid assets and performance (Ismail, 2016). Specifically, Wang (2002) showed that aggressive liquidity management would promote the firm's value and its operating performance. Madushanka & Jathurika (2018) studied 15 companies listed on the Colombo Stock Exchange over five years, 2012 – 2016. They found that the higher current ratio and quick ratio the higher the profitability. Yameen et al. (2019) studied the impact of liquidity on the profitability of 82 pharmaceutical companies for 10 years and also has a similar conclusion. However, on the contract, there is a negative influence on enterprise profitability, which means that any increase in liquidity will lead to a decreasing tendency in the company's asset utilization capability (Malik & Ahmed, 2013, Kaur & Silky, 2013).

Studies on the impact of sales growth rate on firm performance

Previous research articles are divided into two different perspectives mentioning the impacts of sales growth rate on firm performance. The first viewpoint, (Amidu, 2007; Pouraghajan et al., 2012; Gatsi et al., 2013,...) believed that there is a correlation between sales growth rate and firm performance. Supported by these studies were (Jang & Park, 2011; Davidsson et al., 2009) who provided more detailed insight, indicating a negative effect on business performance. It means revenue serves as the foundation for growth, but the growth rate prevents the company from making more profits because they expect stable revenue growth but want to maximize profits at the same time. Feng et al. (2017) consisted that firm performance is positively affected by sales growth rate, which playing an important role in improving firm

own performance. In contrast, the studies of (Makman & Gartner, 2002; Hoang et al., 2019) proposed another opinion that there is no correlation between them regardless of whether revenue grows rapidly or not.

2.3. Hypothesis

After considering the financial ratios, especially, the size of businesses within the same industry, the authors began to observe revenue, which can be used both to measure scale and as a stepping stone to profitability (Halil & Hasan, 2012). Consequently, we recommend:

Hypothesis H1: Export revenue to total revenue has a positive correlation with profit (firm's performance)

Currently, there are limited studies examining the influence of this ratio on firm's performance; most scholars confirm a positive relationship between export activities and performance. They discovered that the more a firm engages in exporting, the less volatile its profits and the lower the likelihood of bankruptcy (Greenaway et al. 2007; Vannoorenberghe, 2012). Export pressure forces businesses to produce high-quality products that can meet the standards of destination countries and compete with local companies, thereby reducing inefficiencies within these enterprises (Chhibber & Majumdar, 1998). Moreover, we also found a few observations that further strengthen this hypothesis. According to (Chen, 2011) for an export enterprise, export revenue significantly impacts on productivity and even affects the GDP of the province where that export enterprise is located. When examining a business's export revenue, we also consider external factors that can affect this "profit pedal". In light of this discovery, we recommend:

Hypothesis H2: Anti-dumping duties have a negative correlation with export revenue

Numerous studies have constantly come to the same conclusion about the negative

relationship between anti-dumping tax rates and the export value of enterprises. Typical of this conclusion is emphasized the adverse impact on export output and the diminishing competitive advantage of Chinese enterprises (Chandra & Long, 2013). On the contrary, Oliveira (2014) considered the opposite angle that businesses with poor profits and operational efficiency are more likely to face higher anti-dumping duties rate. This further reinforces the argument that an enterprise's export revenue has a negative correlation with anti-dumping duties. In addition, once an item of an exporting country is imposed in any destination country, it will cause a "spillover effect" on psychology and defensive barriers in other countries. It prevents these firms from trade transfers, even when goods have just been notified of dumping action (Prusa, 2001).

More generally, Hua et al., (2019) pointed out many other aspects of an exporter when facing anti-dumping duties, notably the stock price conclusion. They found that the enterprises imposed on anti-dumping duties tend to decrease when there is an announcement about participating in an anti-dumping investigation, this discovery shows the negative psychology of the market. Parallel to this the authors still affirm their opinion pointing about the negative correlation between anti-dumping tax and export value, thereby leading to a decrease in profits and productivity. Based on these arguments, we believe that there exists:

Hypothesis H3: There exists a negative relationship between anti-dumping tax rate and firm's performance (ROA)

3. Data, model and methodology

In this study, firm financial performance is calculated by the return on assets (ROA). The impact of anti-dumping duties rates on the performance of firms in the seafood industry is studied by the regression Model (*).

According to dynamic profit theory, a business's current performance will be affected by its past performance. Therefore, the authors used a dynamic approach, including the lag variable of ROA into the model as an independent variable. However, the dynamic approach leads to endogeneity issues.

3.1. Endogeneity test

Some problems encountered in the dynamic approach model are the appearance of endogeneity in the model. This phenomenon occurs in the dynamic approach due to the presence of the lagged variable of the dependent variable specific in the study as the lagged variable of ROA. The endogeneity issue occurs when at least one independent variable is correlated with the residuals of the model, and specifically in this research model, it is due to the correlation between the residuals and the lagged variable of the dependent variable. Endogenous variable bias can lead to inconsistent estimates and inaccurate inference, which can provide misleading conclusions and inappropriate theoretical explanations. Sometimes such bias can even lead to coefficients with the wrong sign (Ullah et al., 2018). Currently, there are many different methods to solve them, including the two-stage least squares method 2SLS (two-stage least squares) / three-stage least squares method (3SLS). and the two-step regression method GMM (Two-step System GMM or S-GMM) developed by Arellano & Bover (1995), and Blundell & Bond (1998). When endogenous variables appear in a model, using instrumental variables – IV is often considered. An instrumental variable is appropriate and effective if it satisfies the following two conditions:

- (1) Necessary condition: not having any correlation with the residuals
- (2) Sufficient condition: the instrumental variable must have an effect to the

endogenous variable and should not exhibit the reverse relationship

In this study, we found the presence of a correlation between the residual and the lag of the dependent variable causing endogeneity. Instead of using the lag of the dependent variable as an instrumental variable as previous studies have done, we determined to select two alterations: SIZE and g (Sales growth rate). Mathematically, return on assets (ROA) is calculated based on total assets. Economic aspect, this ratio includes the entire impact of effective asset management or not (Burja, 2011). This conclusion allows us to comprehend that the total existing assets of the previous year have a significant influence on the ROA, which measures the performance of the business in the current year. For growth rate, it is understood as sales growth from year to year. Comparing the previous year's and current year's revenue levels plays an important role in determining the demands and competitiveness of a business. If a high revenue growth rate, it will reflect the expected profits of the current year. Growth in sales compared to the previous year, high profits, and retained earnings will also be high (Rakasiwi et al., 2017).

3.2. The GMM method

In this study, the authors will use SGMM to solve (1) the endogenous issue (the lagged variable of the dependent variable ROA is considered to be an endogenous variable in previous research) (2) autocorrelation and (3) heteroskedasticity. The SGMM method gives reasonable results when it satisfies the Arellano – Bond autocorrelation test, the Hansen test to ensure the robustness of the instrumental variable and compares the number of instrumental variables and the number of groups. Hence, the coefficients are determined using the GMM regression method where instrumental variables are used to fix the

endogeneity issue (Hansen, 1982). The variables are described in Appendix 1 (*online*).

$$ROA_{it} = \beta_1 + \beta_2 ROA_{i,t-1} + \beta_3 (Exp.re/Tot.re)_{it} + \beta_4 ADr_{it} + \beta_5 g_{it} + \beta_6 DE_{it} + \beta_7 Size_{it} + \beta_8 Liq_{it} + \varepsilon_{it} \quad (*)$$

Research data

The data is collected during the period 2016-2022, including the financial statements of seafood companies listed on 3 stock exchanges HSX, HNX, UPCOM; minutes of review and final decision on anti-dumping tax for each exporter. However, the data is not compiled consistently and completely, it's sources are scattered from undercut news from reputable websites collected and compiled by the authors, such as: Vietnam Association of Seafood Exporters and Producers (VASEP), Portal Electronic information of the Ministry of Finance, Electronic information portal on Vietnam Free Trade Agreement (FTAP). The data fields are total revenue, export revenue, total assets, total debt, total equity, net profit and number of years of listing, which are fully summarized on financial and economic information channels. Vietnam, including: Cafef and Vietstock, data is available and can be accessed at websites <https://cafef.vn/> and <https://vietstock.vn/>.

4. Results and discussion

Descriptive statistics for the variables of the study (*see Appendix 2 online*). ROA represents the operating efficiency of Vietnamese listed companies in the seafood industry on average in the period 2017-2022 was -6.32%, the highest and lowest values were 34.42% and -534.7% respectively. Export revenue on total revenue ratio is the lowest at 0%, meaning that it has

stopped exporting, and the highest at 100%, meaning that they do not supply for domestic. The highest anti-dumping tax rate for a seafood exporting enterprise in the period 2017-2022 was possible to reach 216.6% while lowest is 0%, which is also the tax rate that businesses expect. The authors carefully reviewed the sample and found that businesses with negative ROA were mostly in years subject to high anti-dumping tax rates exceeding 100% of selling price and they also lacked strategies to diversify trade to other countries which did not impose taxes. On the other hand, ROA tends to improve when businesses reduce the export value in the years when AD duties are imposed by the countries applying this measure or increase the export value in the revenue structure but is in other countries that do not tax. These firms even withdraw from the old market in years when taxes are high.

The highest debt to equity ratio at 646.29% and the lowest at -778.2% come from 2 businesses whose total asset value is lower than the money invested by shareholders and capital contributors (negative equity) Table 2 also shows the average, highest, and lowest values for the remaining variables including Size, Liquidity, and Sale growth rate.

According to Appendix 2 (*online*), there is a significant difference between the greatest and lowest values in the variables (especially Size and DE). The model's diagnosis outcome is susceptible to the phenomena of variance change. The test findings indicate that variation modifies the model (Lee 1992, Kaufman 2013). As a result, estimates from traditional regression techniques like Pooled OLS, REM, or FEM may be wrong.

Table 1. Correlation matrix of variables

Variables	ROA	ROAt-1	Exp.re/ Total.re	ADr	Size	DE	Liquid
ROA	1.0000						
ROA _{t-1}	0.8957	1.0000					
Exp.re/ Total.re	0.3329	0.3253	1.0000				
ADr	-0.1717	-0.1848	-0.1565	1.0000			
Size	0.1325	0.1243	0.3263	0.0930	1.0000		
DE	0.1612	0.2054	0.1015	-0.0087	0.1375	1.0000	
Liquid	0.3564	0.3528	0.5106	-0.1293	0.3830	0.1164	1.0000
g	0.0747	0.0431	0.1406	-0.0802	0.2292	0.1292	0.1155

Table 1 highlights the correlation between the variables. The correlation data shows that most factors have a positive association with the dependent variable of ROA, except the anti-dumping tax rate variable. However, the relationship between these factors needs to be redefined in the quantitative analysis when all variables are included together in one model. The correlation between independent variables seems to be very low (all variables are less than 0.4). Therefore, it can be concluded that

the multicollinearity phenomenon between independent variables in the model is not serious. A noteworthy point is that while the anti-dumping tax rate variable is negatively correlated with the dependent variable ROA, the export revenue rate has a positive relationship. This difference may imply a trade diversion – to maintain their profits, exporting companies will redirect exports to other markets, instead of continuing to export to the previous one where they were charged high anti-dumping taxes.

Table 2. Results of testing stationarity of variables

Variables	Statistic	p-value	Stationary
ROA	-23.1286	0.0000	Yes
Exp.re / Tot.re	-580.0000	0.0000	Yes
ADr	-12.4473	0.0000	Yes
Size	-3.4783	0.0003	Yes
DE	-71.0621	0.0000	Yes
Liq	-23.2941	0.0000	Yes
g	-120.0000	0.0000	Yes

The results of the stationarity test are presented in Table 2, where all tested variables' t statistic values are significant at all common testing levels. As a result, we determine that

the series is stationary and reject the null hypothesis. Variables are stationary, hence the GMM technique of estimation works well.

Table 3. Model estimation results

	ROA	ROA	ROA	ROA	ROA
	(1)	(2)	(3)	(4)	(5)
Exp.re/Tot.re	0.360(*) [1.91]	1.674(***) [6.10]	0.701(***) [3.36]	0.360(***) [1.97]	-0.503(***) [-6.45]
ADr	-0.126 [-1.24]	-0.108 [-0.83]	-0.109 [-0.99]	-0.126 [-1.27]	-0.120(***) [-2.62]
Size	-0.00385 [-0.29]	0.00546 [0.37]	0.00156 [0.11]	-0.00385 [-0.29]	-0.0111(***) [-3.01]
DE	0.0487 [1.38]	-0.102(***) [-3.05]	-0.0104 [-0.30]	0.0487 [1.42]	-0.00357 [-0.14]
Liq	0.239(**) [2.41]	-0.0594 [-0.55]	0.11 [1.08]	0.239(**) [2.48]	0.623(***) [11.32]
g	0.0057 [0.03]	-0.175 [-1.19]	-0.0394 [-0.23]	0.0057 [0.03]	0.104(*) [1.78]
L.ROA					1.210(***) [90.53]
_cons	-0.487 [-1.47]	-1.068(***) [-3.11]	-0.640(***) [-1.93]	-0.487 [-1.52]	-0.149(***) [-3.32]
N	126	126	126	126	126
R – sq	0.183	0.34			

Note: *t* statistics in brackets; (*) $p < 0.1$, (**) $p < 0.05$, (***) $p < 0.01$.

(1) Pooled OLS method; (2) FEM method; (3) REM method; (4) GLS method; (5) GMM method. Quantitative results using the GMM method, with the endogenous variable being the Exp.re/Tot.re, ADr and instrument variables being the firm's size and sale growth rate.

Table 3 shows the regression results of the impact of anti-dumping duties and the proportion of export revenue on the total revenue structure on firm's performance (in case the enterprise is imposed). Except for the liquidity ratio and sales growth rate in the period 2017-2022, which have a positive impact on ROA, the remaining variables all have a negative impact, in which the debt to equity (DE) variable is not statistically significant.

Firstly, the Exp.re/Total.re variable has a negative correlation with ROA, which can be understood as having a negative impact on the firm performance. If this ratio increases by 1%, the return on total assets decreases by 0.5%. This result does not support hypothesis 1 but the result is consistent with Gonenc and Aybar

(2006). This implies that when a company is subject to anti-dumping duties, it tend to reduce export value by reducing export quantity, to respond to payable liabilities because the tax rate is imposed on the company's export value. Reducing export revenue of course leads to a significant drop in net profit (after tax). Furthermore, this result also provides information that decreasing export revenue is not due to poor consumption in the importing country's market but due to duties. Therefore, this result supports hypothesis 2.

Secondly, the anti-dumping tax rate also has a negative effect on ROA with a marginal impact of -0.12%. This result supports hypothesis 3 and it is similar to previous studies by Chandra & Long (2013). This means that the imposition

of an AD duty by the United States leads to a decline in the productivity of Vietnamese firms affected by the AD duty. It is important to note that the observed loss in profit is at the firm level. Moreover, as we can see in the correlation that has been shown in Table 1, the AD duty has a considerable impact on the relationship between other variables and the ROA.

Regarding firm size, as the result shows that the total asset of a firm has a negative relationship with the firm performance, in cases where the company is subject to anti-dumping tax. It is believed that small firms are likely to receive larger AD duties than large ones (Felbermayr & Sandkamp, 2019). However, like the authors presented above, when being taxed, the companies listed showed signs of reducing export which led to a decrease in after-tax profits significantly. Moreover, based on the ROA calculation formula, it is understandable that profits decrease while total assets remain almost unchanged, the ROA will also decline. This finding is consistent with those of Olawale et al. (2010), Hall and Weiss (1967).

The correlation statistic shows a positive effect between the ROA variable representing firm performance and the liquidity variable. This result is supported by some of similar previous studies (Goel et al., 2015; Vintilă & Nenu, 2016; Nguyen et al., 2019). According to Nguyen et al. (2019), a high liquidity ratio motivates the company's performance. In the same opinion, (Vintilă & Nenu, 2016), if a business maintains enough liquidity to finance working capital or even fixed assets, the WACC (weighted average cost of capital) will be reduced significantly, the effective cost management creating favorable conditions for operating efficiency. For the sales growth rate variable, research results show that high sales growth rate also increases firm performance. This result is similar to some previous studies (Amidu, 2007; Pouraghajan et al., 2012; Gatsi et al., 2013). If this rate increases 1% the ROA will

increase by 0.104. In other words, in the context of the imposition of AD tax, the exported sales decline but the total revenue still increases which will help to improve the profitability. Furthermore, increased revenue will also reduce the anti-dumping tax burden.

5. Conclusion and recommendations

5.1. Conclusion

The results of this study contribute to clarifying the influence of factors on the performance of seafood export enterprises in Vietnam. For these businesses, the export ratio plays an extremely important role when most of the company's revenue comes from this source. However, most current domestic and foreign studies simply research the impact of this factor on firm performance, without placing it in the context of businesses being subject to anti-dumping taxes, especially in the seafood industry – a product that is very susceptible to dumping lawsuits. At the same time, the research also provides empirical evidence on factors affecting business performance, especially a new factor, anti-dumping tax rate.

The objective of this study is to evaluate the impact of anti-dumping tax on the performance of listed companies in the seafood industry. The results show that except for leverage (debt-to-equity ratio), the remaining variables including previous year's performance, size, liquidity ratio, sales growth rate, anti-dumping tax rate and export sales ratio ($\text{Exp.re} / \text{Tot.re}$) are statistically significant.

The study also shows that anti-dumping duties reduce performance with or without financial factors. This impact is also consistent with the hypothesis and previous studies, once again reinforcing the assertion that high anti-dumping taxes imposed by foreign markets negatively affect the businesses performance, as in this article, the authors use the ROA. However, the relationship between export

revenue ratio and enterprise performance gives two contradictory results (positive when considered individually and negative when included in the same model with other factors). The final result run by the SGMM method is not only contrary to hypothesis 2 given in the article, but also contrary to previous research articles (most of which believe that increasing export revenue will create a springboard for profits). The reason is because previous studies often take the case that exporting enterprises do not face harsh tariff barriers caused by trade defense measures (such as anti-dumping taxes). This is also the reason explained throughout the study and is also a new insight into the relationship between revenue and profit in a particular case.

5.2. Recommendation

These results bring several implications for both trade policy and export businesses.

Firstly, trade policies should adopt long-term plans instead of short-term responses. The key export markets such as the US and EU still consider Vietnam like a “non-market economy”, which causes dumping margins to often be “inflated” during the investigation and final determinations. Therefore, economic policies should have efforts to reform domestically towards “a market economy”. Additionally, there should be gradual restructuring of key export industries instead of currently concentrating many resources on the products which are susceptible to lawsuits such as seafood. Moreover, economic policies reforming should have a new aspect instead of the tendency to separate “facing with foreign anti-dumping duties” and “imposing tax on imported goods”. Specifically, Vietnam currently still imposes high import taxes that

increase the price of domestic goods, creating conditions for accusations of market price distortion, and increasing the likelihood of lawsuits. Hence, the policies of tariffs need to be carefully considered to make an easy and stable access mentality for foreign exporters.

Secondly, businesses should proactively engage in reviews, and carefully keep records that often serve investigative purposes, build an experienced legal team, and make beneficial relationships with foreign importers. At the same time, there should be effective and fair policies to use labor resources. Besides, the enterprises gradually gain autonomy in the input stage, particularly exhibiting flexibility in planning strategies to identify and diversify export markets.

5.3. Limitations

Firstly, the research’s observations are still quite small so they cannot be concluded for all of the seafood industry in Vietnam. Secondly, the authors only use ROA to represent the dependent variable-firm’s performance. Future studies may consider using other representative variables to evaluate firm performance. Thirdly, the study has some limitations in measuring the anti-dumping tax rate variable (calculated by dividing AD duties by export price). However, some companies do not publicly announce their export prices (the authors replace them with the industry average price in that year), so it is impossible to accurately measure the anti-dumping tax rate. In addition, the authors have not mentioned the foreign ownership variable in the research model, even though in reality foreign-invested enterprises account for the majority of the country’s total export turnover (73.1 % in 2023 according to the General Statistics Office of Vietnam).

References

- Aljaaidi, K. S., & Bagais, O. A. (2020). Debt finance, inventory management and economic value of energy industry in Saudi Arabia: empirical investigation. *International Journal of Energy Economics and Policy*, 10(6), 347-353. <https://doi.org/10.32479/ijeep.10085>
- Amidu, M. (2007). Determinants of capital structure of banks in Ghana: an empirical approach. *Baltic Journal of Management*, 2(1), 67-79. <https://doi.org/10.1108/17465260710720255>
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68(1), 29-51. [https://doi.org/10.1016/0304-4076\(94\)01642-D](https://doi.org/10.1016/0304-4076(94)01642-D)
- Bartoli, A., & Blatrix, C. (2015). *Management dans les organisations publiques-4e édition: Défis et logiques d'action [Management in Public Organizations – 4th Edition: Challenges and Logics of Action]*. Dunod.
- Baumol W. (1959). *Business Behavior, Value, and Growth*. New York, Macmillan.
- Baumol, W. J. (1982). Contestable markets: an uprising in the theory of industry structure. *American Economic Review*, 72(1), 1-15. <http://www.jstor.org/stable/1808571>
- Bhattacharya, H. (2021). *Working capital management: Strategies and techniques*. PHI Learning Pvt. Ltd.
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143. [https://doi.org/10.1016/S0304-4076\(98\)00009-8](https://doi.org/10.1016/S0304-4076(98)00009-8)
- Burja, C. (2011). Factors influencing the companies' profitability. *Annales Universitatis Apulensis: Series Oeconomica*, 13(2), 215-224.
- Cuervo-Cazurra, A., & Dau, L. A. (2009). Promarket reforms and firm profitability in developing countries. *Academy of Management Journal*, 52(6), 1348-1368. <https://doi.org/10.5465/amj.2009.47085192>
- Chandra, P., & Long, C. (2013). Anti-dumping duties and their impact on exporters: Firm level evidence from China. *World Development*, 51, 169-186. <https://doi.org/10.1016/j.worlddev.2013.05.018>
- Chen, Z., & Lu, A. (2019). A market-based funding liquidity measure. *The Review of Asset Pricing Studies*, 9(2), 356-393. <https://doi.org/10.1093/rapstu/ray007>
- Chhibber, P., & Majumdar, S. K. (1998). State as investor and state as owner: consequences for firm performance in India. *Economic Development and Cultural Change*, 46(3), 561-580. <https://doi.org/10.1086/452358>
- Davidsson, P., Steffens, P., & Fitzsimmons, J. (2009). Growing profitable or growing from profits: putting the horse in front of the cart? *Journal of Business Venturing*, 24(4), 388-406. <https://doi.org/10.1016/j.jbusvent.2008.04.003>
- Esposito, P. (2017). Trade creation, trade diversion and imbalances in the EMU. *Economic Modelling*, 60, 462-472. <https://doi.org/10.1016/j.econmod.2016.09.014>
- Feng, M., Wang, X., & Kreuze, J. G. (2017). Corporate social responsibility and firm financial performance: Comparison analyses across industries and CSR categories. *American Journal of Business*, 32(3-4), 106-133. <https://doi.org/10.1108/AJB-05-2016-0015>
- Felbermayr, G., & Sandkamp, A. (2020). The trade effects of anti-dumping duties: Firm-level evidence from China. *European Economic Review*, 122, 103367. <https://doi.org/10.1016/j.euroecorev.2019.103367>
- Gatsi, J. G., Gadzo, S. G., & Kpportorgbi, H. K. (2013). The effect of corporate income tax on financial performance of listed manufacturing firms in Ghana. *Research Journal of Finance and Accounting*, 4(15), 118-124.
- Goel, U., Chadha, S., & Sharma, A. K. (2015). Operating liquidity and financial leverage: Evidences from Indian machinery industry. *Procedia-Social and Behavioral Sciences*, 189, 344-350. <https://doi.org/10.1016/j.sbspro.2015.03.230>
- Gonenc, H., & Aybar, C. B. (2006). Financial crisis and firm performance: empirical evidence from Turkey. *Corporate Governance: An International Review*, 14(4), 297-311. <https://doi.org/10.1111/j.1467-8683.2006.00508.x>
- Greenaway, D., Guariglia, A., & Kneller, R. (2007). Financial factors and exporting decisions. *Journal of International Economics*, 73(2), 377-395. <https://doi.org/10.1016/j.jinteco.2007.04.002>
- Hall, M., & Weiss, L. (1967). Firm Size and Profitability. *The Review of Economics and Statistics*, 49(3), 319-331. <https://doi.org/10.2307/1926642>
- Hansen, L. P. (1982). Large Sample Properties of Generalized Method of Moments Estimators. *Econometrica*, 50(4), 1029-1054. <https://doi.org/10.2307/1912775>
- Harrison, J. S., & Freeman, R. E. (1999). Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives. *Academy of Management Journal*, 42(5), 479-485. <https://doi.org/10.5465/256971>

- Hoang, T. V. H., Dang, N. H., Tran, M. D., Van Vu, T. T., & Pham, Q. T. (2019). Determinants Influencing Financial Performance of Listed Firms: Quantile Regression Approach. *Asian Economic and Financial Review*, 9(1), 78-90. <https://doi.org/10.18488/journal.aefr.2019.91.78.90>
- Hua, X., Jiang, Y., Sun, Q., & Xing, X. (2019). Do antidumping measures affect Chinese export-related firms? *Review of Quantitative Finance and Accounting*, 52, 871-900. <https://doi.org/10.1007/s11156-018-0729-2>
- Ismail, R. (2016). Impact of liquidity management on profitability of Pakistani firms: A case of KSE-100 Index. *International Journal of Innovation and Applied Studies*, 14(2), 304-314.
- Jang, S. S., & Park, K. (2011). Inter-relationship between firm growth and profitability. *International Journal of Hospitality Management*, 30(4), 1027-1035. <https://doi.org/10.1016/j.ijhm.2011.03.009>
- Kaufman, R. L. (2013). *Heteroskedasticity in regression: Detection and correction*. Sage Publications.
- Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, 10(5), 703-728. [https://doi.org/10.1016/S0929-1199\(03\)00046-4](https://doi.org/10.1016/S0929-1199(03)00046-4)
- Lee, B. J. (1992). A heteroskedasticity test robust to conditional mean misspecification. *Econometrica: Journal of the Econometric Society*, 159-171. <https://doi.org/10.2307/2951681>
- Madushanka, K. H., & Jathurika, M. (2018). The impact of liquidity ratios on profitability. *International Research Journal of Advanced Engineering and Science*, 3(4), 157-161.
- Markman, G. D., & Gartner, W. B. (2002). Is extraordinary growth profitable? A study of Inc. 500 high-growth companies. *Entrepreneurship Theory and Practice*, 27(1), 65-75. <https://doi.org/10.1111/1540-8520.t01-2-00004>
- Malik, Q. A., & Ahmed, S. F. (2013). Idiosyncratic effect of liquidity management strategies on corporate performance valuation-a study of chemical industry. *World Applied Sciences Journal*, 28(1), 114-119. 10.5829/idosi.wasj.2013.28.01.744
- Nakano, M., & Nguyen, P. (2012). Board size and corporate risk taking: further evidence from Japan. *Corporate Governance: An International Review*, 20(4), 369-387. <https://doi.org/10.1111/j.1467-8683.2012.00924.x>
- Nazir, A., Azam, M., & Khalid, M. U. (2021). Debt financing and firm performance: empirical evidence from the Pakistan Stock Exchange. *Asian Journal of Accounting Research*, 6(3), 324-334. <https://doi.org/10.1108/AJAR-03-2019-0019>
- Nguyen, P. A., Nguyen, A. H., Ngo, T. P., & Nguyen, P. V. (2019). The relationship between productivity and firm's performance: Evidence from listed firms in Vietnam stock exchange. *The Journal of Asian Finance, Economics and Business*, 6(3), 131-140. <https://doi.org/10.13106/jafeb.2019.vol6.no3.131>
- Nyamasege, D., Okibo, W. B., Nyang'au, A. S., Obasi Sang'ania, P., Omosa, H., & Momanyi, C. (2014). Effect of asset structure on value of a firm: a case of companies listed in Nairobi Securities Exchange. *Research Journal of Finance and Accounting*, 5(9), 97-102.
- Okwo, I. M., Okelue, U. D., & Nweze, A. U. (2012). Investment in fixed assets and firm profitability: Evidence from the Nigerian brewery industry. *European journal of business and management*, 4(20), 10-17.
- Olawale, L. S., Ilo, B. M., & Lawal, F. K. (2017). The effect of firm size on performance of firms in Nigeria. *Aestimatio: The IEB International Journal of Finance*, (15), 68-87. <https://doi.org/10.5605/IEB.15.4>
- Oliveira, G. A. S. (2014). Industrial determinants of anti-dumping in Brazil—Protection, competition and performance: An analysis with binary dependent variable and panel data. *Economia*, 15(2), 206-227. <https://doi.org/10.1016/j.econ.2014.07.003>
- Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, 2(2), 45-58.
- Pouraghajan, A., Malekian, E., Emamgholipour, M., Lotfollahpour, V., & Bagheri, M. M. (2012). The relationship between capital structure and firm performance evaluation measures: Evidence from the Tehran Stock Exchange. *International journal of Business and Commerce*, 1(9), 166-181.
- Prusa, T. J. (2001). On the spread and impact of anti-dumping. *Canadian Journal of Economics/Revue canadienne d'économique*, 34(3), 591-611. <https://doi.org/10.1111/0008-4085.00090>
- Sagan, J. (1955). Toward a theory of working capital management. *The Journal of Finance*, 10(2), 121-129. <https://doi.org/10.2307/2976040>
- Setiadharna, S., & Machali, M. (2017). The effect of asset structure and firm size on firm value with capital structure as intervening variable. *Journal of Business & Financial Affairs*, 6(4), 1-5. <https://doi.org/10.4172/2167-0234.1000298>

- Shaik, A., & Sharma, R. (2021). Leverage, capital and profitability of the banks: Evidence from Saudi Arabia. *Accounting*, 7(6), 1363-1370. <https://doi.org/10.5267/j.ac.2021.4.001>
- Rakasiwi, F. W., Pranaditya, A., & Andini, R. (2017). Pengaruh EPS, ukuran perusahaan, profitabilitas, leverage, sales growth dan kebijakan dividen terhadap nilai perusahaan pada industri makanan dan minuman yang terdaftar di Bursa Efek Indonesia tahun 2010-2015. *Journal of Accounting*, 3(3), 1-15.
- Ullah, S., Akhtar, P., & Zaefarian, G. (2018). Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data. *Industrial Marketing Management*, 71, 69-78. <https://doi.org/10.1016/j.indmarman.2017.11.010>
- Vannoorenberghe, G. (2012). Firm-level volatility and exports. *Journal of International Economics*, 86(1), 57-67. <https://doi.org/10.1016/j.jinteco.2011.08.013>
- Vijayakumar, N., Sridharan, P., & Rao, K. C. S. (2010). Determinants of FDI in BRICS Countries: A panel analysis. *International Journal of Business Science & Applied Management (IJBSAM)*, 5(3), 1-13.
- Vintilă, G., & Nenu, E. A. (2016). Liquidity and profitability analysis on the Romanian listed companies. *Journal of Eastern Europe Research in Business & Economics*, 2016, 1-8. <https://doi.org/10.5171/2016.161707>
- Wang, C., Zhang, S., Ullah, S., Ullah, R., & Ullah, F. (2021). Executive compensation and corporate performance of energy companies around the world. *Energy Strategy Reviews*, 38, 100749. <https://doi.org/10.1016/j.esr.2021.100749>
- Wang, Y. J. (2002). Liquidity management, operating performance, and corporate value: evidence from Japan and Taiwan. *Journal of Multinational Financial Management*, 12(2), 159-169. [https://doi.org/10.1016/S1042-444X\(01\)00047-0](https://doi.org/10.1016/S1042-444X(01)00047-0)
- Warmington, A., Lupton, T., & Gribbin, C. (1977). *Organizational Behaviour and Performance*. Palgrave Macmillan.
- World Trade Organization. (n.d.). *Center For WTO and International Trade Vietnam Chamber Of Commerce And Industry*. Retrieved March 1, 2024, from <https://trungtamwto.vn>
- Yameen, M., Farhan, N. H., & Tabash, M. I. (2019). The impact of liquidity on firms' performance: Empirical investigation from Indian pharmaceutical companies. *Academic Journal of Interdisciplinary Studies*, 8(3), 212-220.
- Yusuf, A., & Aleemi, A. R. (2020). iMPaCt of DeBt finanCing on firM PerforManCe: a Case of Business seCtor of Pakistan. *Journal of Business Strategies*, 14(1), 191-214. <http://greenwichjournals.com/index.php/businessstudies/article/view/422>