Export Performance and Stock Return: A Case of Fishery Firms Listing in Vietnam Stock Markets

Quy Thi VO[1]

Abstract

The research aims to study the relationship between export performance and stock return of Vietnamese fishery companies. To conduct this study, quarterly data was collected for period from 2010-2018 of 13 fishery companies listing in Ho Chi Minh Stock Exchange (HOSE) and Ha Noi Stock Exchange (HNX). The export performance was measured by export intensity, export growth and export market coverage. In addition, interest rate, exchange rate, GDP, firm size, profitability, and financial leverage were considered as the control variables in the research model. Panel data analysis with Generalized Least Squares model was employed to estimate the predictive regression. The findings indicated that export intensity and export growth have a significant and positive relationship with stock returns. However, export market coverage has not a significant relationship with stock return at the 0.05 level. Profitability, financial leverage, and exchange rate have a positive relationship, while interest rate and GDP have no relation to stock return at the 0.05 significance level. The findings imply that investors should consider the export intensity instead of export growth and export market coverage as selecting stock of fishery exports firms to invest; managers should increase export intensity to increase company's stock price or firm market value.

Keywords : Export Performance, Stock Returns, Fishery Industry, HOSE, HNX

JEL Classification Code : L25, G10, G30

1. Introduction

Many studies have been conducted on the determinants of stock return. Researchers have found that economic factors (e.g. GDP, interest rate, and inflation rate) and company factors (e.g. profitability, financial leverage, and dividend policy) have a significant impact on stock returns. However, a few studies on the influence of export performance of exporters on their stock return. VN-index increased sharply and reached 1170 points as Vietnam became the member of WTO in 2007 and responded positively as Vietnamese government signed the Trans-Pacific Partnership (TPP) Agreement on 5, October 2015.

In the week from 30 September 2015 to 5 October 2015, VN-Index rose 24.5 points; the average trading volume of the market reached 208 million shares per day, a double increase of the average trading volume of previous weeks. Average trading value also increased twice, reaching 3,700 billion VND per day. The price of exporters' stocks increased dramatically such as TCM increasing 12.68%, TNC increasing 17.15%, HCV increasing 14.4%, etc. In general, Vietnamese stock markets seem to respond positively as Vietnamese economy integrated with global economy. Therefore, this research attempted to study the relationship between export performance and exporters' stock returns in Vietnamese stock markets from 2010 to 2018 with case of fishery industry.

2. Material and Methods

2.1. Export Performance and Stock Return

1 First Author and Corresponding Author, School of Business, International University VNU HCM, Vietnam. [Postal Address: Quarter 6, Linh Trung Ward, Thu Duc District, Ho Chi Minh City 700000, Vietnam] Email: vtquy@hcmiu.edu.vn

Export oriented strategy also called "export led growth" was suggested by Ricardo and Smith in the 19th century based on the theory of comparative advantage of country. The theory supports the exchange of products/services between countries in international trade. Exporters gain competitive advantages through economic of scale, according to Giles and William (2000). Singapore, Hong Kong, Taiwan, and South Korea have achieved the fast growth by applied successfully export oriented strategy, and become the Asian Tigers (Todaro & Smith, 2006). The followers are Malaysia, Thailand, Philippines, and Indonesia. Vietnam, Cambodia, and Myanmar are also trying to repeat the success of East and Southeast Asian countries.

Lal and Rajapatirana (1987) argued that exporting boosts company's sales and expand its markets to regional and worldwide beside the local markets leading to the improvement of company's performance. The reaching the economics of scale increases the company's profitability, in turns impacts positively on the company's stock price.

Export performance is the outcome of a firm's activities in export market (Zou, Taylor, & Osland, 1998). It is categorized in two broad groups of measures: Financial/ economic and non-financial/non-economic measures presented in Table 1 below.

Table 1: Measurements of export performance

Category	Authors (year)	Measures
Economic measures - Sales- related indicators - Profit-related indicators - Market-share related indicators	Bilkey (1982)	- Export profitability - Export profitability growth - Export profit margin - Export profit ratio
	Archarungroj and Hoshino (1998)	- Export market share - Export market coverage - Export market share growth - Profitability rate of export
	Haghighi et. al. (2008)	- Market share - Sales volume - Profitability
	Hosseini and Mirijahanmard (2011)	- Export sales growth - Export profitability - Export intensity
	Sousa (2004)	- Profitability of export - Growth in export sales
Non-economic measures	Ibeh and Wheeler (2005)	- Perceived export success - Achievement of export objectives - Satisfaction with export performance - Strategic export performance
	Sousa and Bradley (2008)	- Meeting expectation - How competitors rate firm's export performance

Even though many variables used as measures of export performance, some of them seem to be used considerably more than others. Of which, sales-related measures were most often used to assess export performance, examined by two in every three studies (Katsikeas, Leonidou, & Morgan, 2000). This study, therefore, inherits previous research by using sales-related and market-share related in economic measures as export intensity, export sales growth and export market coverage to measure export performance at firm-level.

Maurel (2008) showed that companies with higher export performance have higher profitability. Bernard and Jensen (1999) found that exporters have a better financial wealth than non-exporters. However, the findings of studies on relationship between export performances and stock return did not bring about the same results. Bakhtiari (2001) did not find a significant relationship between export earnings and stock price in food firms listed in Tehran Stock Exchange. However, Yodollah (2013) indicated a significant relationship between export revenues and stock return on

chemical firms in the same stock market.

2.2. Vietnam Fishery Industry Overview

With a coastline of 3.260 km and favorable natural condition for the development of aquaculture and fishing industry, the fishery has been contributed an important part in the development of Vietnamese economy. Vietnam has been the five largest seafood exporters in the world together with Indonesia and Thailand, and the third in fishery aquaculture and production, after India and China. The export turnover of Vietnamese seafood products has increased steadily from 2000-2018. However, from 2012 to 2015, the export value reduced significant because of the reducing demand of some major markets such as Japan and

EU. Then, it has recovered in the following years sharply. According to preliminary statistics of the General Department of Customs in 2017, Vietnamese enterprises have exported more than $8.3 billion of various aquatic products, up to 18% compared to the performance in 2016. As a result, seafood is the 6th largest sector of Vietnamese export products in 2017. More interestingly, by 2018, the total value of fishery products reached nearly VND 228 billion, up to 7.7% compared to 2017; export turnover set a record level of $9 billion, increasing of 8.4% over the previous year.

The selected firms as the sample of this study includes 13 fishery firms due to their available data, listed in HOSE and HNX before 2010. They are the leading exporters of Vietnam fishery industry. Their products are exporting to the United States, European countries, Japan, and South Korea. And now they have expanded their foreign markets to Middle East countries, African countries. The overview of their export performance from 2010 to 2018 was summarized in Table 2 below.

Table 2: Export performance of selected firms from 2010 to 2018

Year	Average Export Intensity	Average Export Growth	Average Export Market Coverage
2010	0.756	0.21	18.15
2011	0.736	0.07	16.35
2012	0.738	0.06	16.58
2013	0.738	0.09	17.27
2014	0.756	0.14	19.10
2015	0.699	(0.07)	19.12
2016	0.524	0.22	17.67
2017	0.527	0.05	15.50
2018	0.499	18.46	14.00

2.3. Methodology

To test the relationship between export performance and stock return, the research framework below was proposed.

2.3.1. Variables and Measurement

Dependent variable: Stock return (St) is calculated quarterly by the formula: $St = (P1 - P0)/P0$, where: P1: average adjusted closing stock price of quarter t; and P0: average adjusted closing stock price of quarter t-1.

Independent and control variables are:
- Export intensity (EI) = Total export revenue/ total sales
- Export growth (EG) = (Total export revenue quarter t – Total export revenue quarter (t-1))/Total export revenue quarter (t-1).
- Export market coverage (EM) measured by the number of countries which the firms is exporting their product to or export market coverage = total number of company's foreign markets.

Control variables:
- Profitability (PR) = Earnings after tax/ total asset

- Firm size (SIZE) = Ln (Total asset)
- Leverage (DE) = Total debt/ Total asset.
- Interest rate (IR) was collected from the website of Vietnam Commercial Bank (VCB).
- Exchange rate (EX) used is direct exchange rate (USD/VND), and collected from the website of Vietnam Commercial Bank (VCB).
- Gross domestic product (GDP) growth rate is nominal GDP collected from Thomson Reuters page, GDP = Ln (GPD)
- Market conditions (MC) is a dummy variable, used to capture the market conditions from 2010 to 2013 (with the value of 0), and from 2014 to 2018 (with the value of 1).
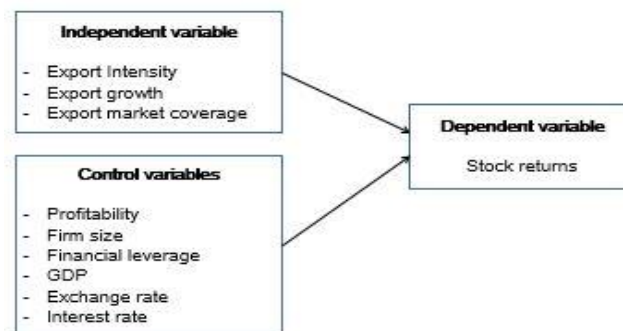
Figure 1: Research Framework

2.3.2. Model Specification

$St = \beta_1 + \beta_2 EI + \beta_3 EG + \beta_4 EM + \beta_5 PR + \beta_6 SIZE + \beta_7 DE + \beta_8 GDP + \beta_9 EX + \beta_{10} IR + \beta_{11} MC + \varepsilon$ (1)

Where:
St: Stock returns
EI: Export intensity
EG: Export growth
EM: Export market coverage
PR: Profitability
SIZE: Firm size
DE: Financial leverage
GDP: Ln (GDP)
EX: Exchange rate
IR: Interest rate
MC: Market conditions

2.3.3. Hypotheses

H1: Export intensity has a significant positive relationship with stock returns.
H2: Export growth has a significant positive relationship with stock return.
H3: Export market coverage has a significant positive relationship with stock returns.
H4: Profitability has a significant positive relationship with stock returns

H5: Firm size has a significant negative relationship with stock returns.
H6: Financial leverage has a significant negative relationship with stock returns.
H7: GDP has a significant positive relationship with stock returns.
H8: Exchange rate has a significant positive relationship with stock returns
H9: Interest rate has a significant negative relationship with stock returns

2.3.4. Data Collection

There are only 13 fishery firms listed in HOSE or HNX and have already published data from 2010. Financial data was collected from these firms' financial reports from 2010 to 2018 with total observation of 459 quarterly data points; GDP collected from Thomson Reuters; Interest rate and exchange rate collected from Vietcombank website. Stock price was collected from http://finance.vietstock.vn. Export revenue and export market of selected firms were collected from the report of Ministry of Industry and Trade.

2.3.5. Statistical Description

Descriptive statistics (Table 3) indicate that the average stock returns (St) of fishery firms are in the range from -74.68% to 142% with standard deviation (Std.Dev) of 19.63%.

Table 3: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
St	468	0.002251	0.196297	-0.74683	1.416425
EI	460	0.666144	0.259715	0	0.99558
EG	463	2.158469	44.11131	-1	949.1806
EM	468	17.0812	11.8765	0	55
PR	462	0.001025	0.213606	-4.55734	0.119905
DE	462	0.560556	1.031013	0	16.90234
SIZE	462	17.01594	7.407445	10.83491	30.42986
IR	468	0.073894	0.03506	0.0048	0.14
GDP	468	1663332	937592.8	362895	4192862
EX	468	21311.03	1027.778	18813	22825
MC	468	0.555556	0.497436	0	1

The average export intensity (EI) of selected fishery firms is 66.61% in the period from 2010 to 2018. The highest export intensity is 99.56%, the lowest is 0% (Q4/2015, ATA) and standard deviation is 25.97%. It showed that export revenues contributed the large portion of the companies' revenues. The average export growth (EG) is 215%, the highest export growth rate is 949%, the lowest is -100%, and standard deviation is 44.11%. With market coverage (EM), the average number of foreign markets that selected fishery firms exported to is 17, the highest number is 55, the lowest is zero due to ATA had no export revenues in fourth quarter of 2015 as well as did not publish data in the following years (except 2016).

3. Results and Discussion

3.1. Multicollinearity Test

As two or more independent variables in multiple regression models are highly correlated, it would cause multicollinearity problem that generates ineffective regressors. The matrix of correlation analysis between individual variables is the easiest way to figure out the multicollinearity problem.

The matrix of the correlation coefficient (Table 4) shows that there is a high correlation between SIZE and EX; MC and macro variables as IR and EX. The magnitude correlation between other variables less than 0.7; therefore, it is likely to occur multicollinearity in the model. In order to avoid this problem, we rewrite the model (1) without SIZE and MC. The variable MC is already capture in EX and IR. For instance, when the market starts to recover, the interest rates will be decreased to boost up productions. At the same time, VND will also be devaluated to stimulate exports. Therefore, the final model is as below:

$$St = \beta_1 + \beta_2 EI + \beta_3 EG + \beta_4 EM + \beta_5 PR + \beta_6 DE + \beta_7 GDP + \beta_8 EX + \beta_9 IR + \varepsilon \qquad (2)$$

Table 4: Correlation Matrix

	St	EI	EG	EM	PR	DE	SIZE	IR	GDP	EX	MC
St	1										
EI	0.0588	1									
EG	0.0458	0.0182	1								
EM	0.0614	0.1529	-0.0101	1							
PR	0.2053	0.1203	-0.0243	0.1624	1						
DE	-0.0048	-0.2987	-0.0605	-0.2159	-0.1273	1					
SIZE	0.042	-0.4169	0.0588	0.0218	-0.0427	0.2891	1				
IR	-0.0694	0.2907	-0.0253	-0.0131	0.1814	-0.1883	-0.702	1			
GDP	0.0075	0.0609	0.0096	0.0624	-0.0363	-0.0592	-0.2418	-0.0563	1		
EX	0.1215	-0.3185	0.0701	-0.025	-0.1266	0.2331	0.7081	-0.6389	0.1717	1	
MC	0.0903	-0.2634	0.042	0.0238	-0.1344	0.2057	0.6264	-0.8003	0.0879	0.7677	1

We also conduct VIF test to verify the multicollinearity problem in the model (2). The coefficient VIF of all variables are less than 2 and the average of VIF is equal 1.28 or there is no multicollinearity phenomenon existing in regression model.

3.2. Regression Results

To test the research hypotheses, we run regression with the three models as Pooled OLS, FEM and REM. To test assumptions of Pooled OLS model, we performed heteroskedasticity testing through White's test and autocorrelation by Wooldridge test. White's test showed result that Prob > chi 2 = 0.0000 < 0.05, we reject H0 or there is the existence of the heteroskedasticity phenomenon in the model. The autocorrelation testing resulted in Prob > F = 0.0192 < 0.05, or H0 was rejected, i.e. there is an autocorrelation problem in the model (Table 5).

Moreover, Pooled OLS method may be suspected because of not considering unobserved heterogeneity or characteristics of each enterprise; therefore, the FEM and REM was used. Finally, choosing model was done through the Hausman and Breusch-Pagan tests, and the results showed in Table 6 and Table 7 below:

As a result, the most appropriate regression result is Pooled OLS model. However, Pooled OLS doesn't fix the heteroskedasticity and autocorrelation problems. Therefore, Generalized Least Squares (GLS) was chosen to explain the relationship between export performance and stock returns as the objective of this study. It was used as the results for analysis.

The findings showed four variables being exports intensity, export growth, profitability, financial leverage, and exchange rate have a significant impact on stock return at 0.05 levels. Especially, all of them have a positive relationship with stock returns. Three other variables being export market coverage, GDP and interest rate have a statistically insignificant relationship with stock returns at the 5% level.

Table 5:   Summary of regression models and testing results

Variables	Pooled OLS	FEM	REM
EI	0.0707*	0.0758	0.0707*
	[1.86]	[1.46]	[1.86]
EG	0.000172	0.0002	0.000172
	[0.85]	[0.98]	[0.85]
EM	0.000326	-0.00154	0.000326
	[0.41]	[-0.84]	[0.41]
PR	2.360***	2.603***	2.360***
	[4.66]	[4.26]	[4.66]
DE	0.0088	-0.0317	0.0088
	[0.28]	[-0.76]	[0.28]
IR	-0.194	-0.27	-0.194
	[-0.58]	[-0.78]	[-0.58]
GDP	-4.05E-09	-3.48E-09	-4.05E-09
	[-0.42]	[-0.35]	[-0.42]
EX	0.0000295**	0.0000304**	0.0000295**
	[2.50]	[2.43]	[2.50]
_cons	-0.688**	-0.656**	-0.688**
	[-2.57]	[-2.29]	[-2.57]
White's test	Prob > chi2 = 0.0000		
Wooldridge test	Prob > F = 0.0192		
Hausman test	Prob>chi2 = 0.5296		
Time fixed effects test	Prob > F = 0.8259		
Breusch – Pagan test	Prob > Chi2 =1.0000		

Significant: * p<0.1, ** p<0.05, *** p<0.01

Table 6: Testing results for choosing the model

	Hausman	Time fixed effects	Breusch-Pagan
H0	FEM and REM do not differ substantially or REM is more efficient Than FEM	All coefficient of Model equal 0 or Pooled OLS is more Efficient than FEM	Pooled OLS Regression model is More appropriate than REM
Result	Chi2 (7) = 4.14	F (12,436) = 0.62	Chi2 (01) = 0.00
P-Value	Prob > Chi2 = 0.5296	Prob > F = 0.8259	Prob > Chi2 =1.0000
Conclusion	REM is more appropriate	Pooled OLS is more appropriate	Pooled OLS is more appropriate

Table 7: Generalized Least Squares regression model

Variables	GLS
EI	0.0979***
	[2.83]
EG	0.000180**
	[2.26]
EM	0.000917
	[1.13]
PR	1.721***
	[4.27]
DE	0.0569**
	[2.00]
IR	0.242
	[0.88]
GDP	-5.20E-09
	[-0.71]
EX	0.0000400***
	[4.25]
_cons	-0.990***
	[-4.58]

Significant: ** p<0.05, *** p<0.01

4. Conclusions and Implication

The main purpose of this study is to investigate the effect of export performance with measures namely, export intensity, export growth, export market coverage on stock returns of fishery industry and to determine the predictors of stock return. The study resulted in that export intensity and export growth have a significant relationship with stock return and showed positive effects. However, export market coverage has an insignificant relationship with stock return. This showed that the export intensity and export growth can be considered as an explanatory variable on stock return of fishery industry. Stock return will increase with increasing fishery firms' export intensity and growth.

The findings may be helpful for investors, firm managers and policy makers for their own purposes. Investors should consider the export intensity instead of export growth and export market coverage as buying stock of fishery exports firms. Manager should increase export intensity to attract more investors and increase their company's stock price. Besides that, policies makers should have suitable policies of interest rate and exchange rate to encourage and create favorable conditions for export activities.

The study has some limitations. The study just conduct on an industry with small sample is 13 companies in fishery industry in period from 2010-2018; therefore, the generality of the study's findings is limited. Further study should increase the sample size by extending to other exporting industries.

References

Archarungroj, P., & Hoshino, Y. (1998). The impact of firm size on export performance and attitudes: An empirical study on Thailand exporter. *Japanese Journal of Administrative Science*, *12*, 79–88.

Bernard, A. B., & Jensen, J. B. (1999). Exceptional exporter performance: Cause, effect or both. *Journal of Finance, 47*(1), 1–25.

Bakhtiari, F. (2001). Examining the relationship between the export earnings and stock prices in the food industry firms listed in Tehran Stock Exchange between 1373 and 1377. Tehran, Soroush, 2, 59.

Bilkey, W. J. (1982). Variables associated with export profitability. *Journal of International Business Studies, 13*(2), 39–55.

Giles, J., & William, C. (2000). *Export-led growth: A survey of the empirical literature and some non-causality results* (Econometrics Working Paper No. 9901). Victoria, BC: University of Victoria.

Haghighi, M., Firouzian, M., & Najafi, M. M. (2008). Identifying the determined factors of export performance in the food industry. *Journal of Business Management, 1*(1), 3–20.

Hosseini, S. Y., & Mirjahanmard, S. J. (2011). Companies export function: Identification of competitive advantage, implementing marketing tactics and export experience on export performance. *Journal of New Marketing Research, 1*, 155–180.

Ibeh, K. I. N., & Wheeler, C. N. (2005). A resource-centred interpretation of export performance. *International Entrepreneurship and Management Journal, 1*, 539–556.

Katsikeas, C. S., Leonidou, L. C., & Morgan, N. A. (2000). Firm-level export performance assessment: Review, evaluation, and development. *Journal of the Academy of Marketing Science, 28*(4), 493–511.

Lal, D., & Rajapatirana, S. (1987). Foreign trade regimes and economic growth in developing countries. *World Bank Research Observe, 2*, 189–217.

Maurel, C. (2008). *Financial approach to export performance in French Wine SMEs*. Proceedings of 4th

International Conference of the Academy of Wine Business Research.

Sousa, C. M. P. (2004). Export performance measurement: An evaluation of the empirical research in the literature. *Academy of Marketing Science Review, 9*, 1–22.

Sousa, C. M. P., & Bradley, F. (2008). Antecedents of international pricing adaptation and export performance. *Journal of World Business, 43*, 307–320.

Todaro, M. P., & Smith, S. C. (2006). *Economic development.* London, UK: Person-Addison Weasley. (pp.11–15).

Yodollah, K. (2013). The relationship between export performance, average stock returns of the exporting firms and the average stock returns of non-exporting firms in different industries in Tehran stock exchange between 1373 and 1381. *Journal of Basic and Applied Scientific Research, 3*(8), 45–48.

Zou, S., Taylor, C. R., & Osland, G. E. (1998). The EXPERF scale: A cross − national generalized export performance measures. *Journal of International Marketing, 6*(3), 37-58.