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Effects of Market Risk on the Financial Performance of Food and Beverage Companies Listed on the Vietnam Stock Exchange

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Abstract

This study investigated the effects of market risk on the financial performance of 47 food and beverage companies listed on the Vietnam Stock Exchange, including the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX), over the period of 2008-2022. Forty-seven companies were selected based on industry classification criteria and relevance in the research period. The return on assets, return on equity, and net profit margin were used to represent the financial performance, and the gearing ratio, book-to-market ratio, and financial leverage as the market risk factors. This research used the OLS model, fixed effect model (FEM), and random effect model (REM) for the panel data. The results showed that the impact of the variables was different in the different models. The book to market ratio and gearing ratio had significant negative influences on the companies' financial performance while the degree of financial leverage and inflation rate showed positive consequences due to the moderate level of inflation in Vietnam over the period of 2008-2022. Usually, the cash ratio and company size showed a proportional relationship to financial performance, while the ratio of debt to revenue and debt to assets had an inverse relationship, meaning an increase will make the business efficiency decrease. Based on the research results, this study provided some recommendations to improve food and beverage companies' financial performance, and also provided some information for broader research for non-financial companies listed on the Vietnam Stock Exchange.

Keywords

Market risk, financial performance, food and beverage, Vietnam

Introduction

Financial performance reflects the degree of success or failure of a business when it uses its resources to generate revenue and profit. Additionally, this is a tool for investors, creditors, and

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related entities to evaluate a company's operations to make investment and credit decisions. There are many previous studies that have used indicators such as return on assets, return on equity, and net profit margin to measure the financial performance of a business (Badawi, 2017; Oduobuasi *et al*., 2020). The food and beverage industry is one of the most important sectors of Vietnamese economy, not only because of its contribution to the GDP but also in creating millions of jobs for workers. With Vietnam's large population, rich culinary culture, and potential domestic market, this industry is on a strong development path and has attracted great investments both domestically and internationally. According to forecasts by BMI Research, the food and beverage branch of Vietnam will maintain a 10.9% compound annual growth rate for the period of 2017-2019. BMI has also predicted that the growth of the dairy industry is expected to be nearly 10% and the alcoholic beverages industry approximately 11.1%, and resident demand will focus on these sectors due to their essential commodities characteristic. However, the more diversified and variegated the socio-economic activities, the more potential risks there are. Risk occurs randomly, causing damage to related entities (Taleb, 2007), and represents unexpected events (Eugene & Joel, 2007). In financial terminology, risk can be understood as a change in actual compared to predicted outputs, and risk includes the possibility of losing a part or all of the initial investment capital. Common risks to businesses include liquidity risk, credit risk, market risk, and other kinds of non-financial risks. Specifically, market risk, which is represented in the systemic risks, can't be eliminated through portfolio diversification, and tends to affect the whole market at the same time. Most research and studies on market risk and financial performance have focused on the financial banking sector with the factors of how market risk comprises the exchange rate risk, interest rate risk, and stock price risk (Nimalathasan & Puwanenthiren, 2012; Ngalawa & Ngare, 2013; Muriithi *et al.,* 2016; Abdellahi *et al.,* 2017; Badawi, 2017). According to Circular 13/2018/TT-NHNN, market risk is the risk caused by adverse fluctuation in interest rates, exchange rates, gold prices, stock prices, and commodity prices on the market. However, due to its systematic characteristic, market risk also greatly affects the financial performance of non-financial enterprises. Many studies have examined the impact of market risk on the financial performance of non-financial companies by using different econometric methods based on financial performance and risk indicators represented on corporate financial statements (Kassi *et al.,* 2019). There have been previous studies that have used a number of common factors representing market risk, including the degree of financial leverage *(*Bhatti *et al.*, 2010; Alaghi, 2011; Dimisyqiyani *et al.*, 2015; Muriithi *et al.*, 2016; Kassi *et al.*, 2019*);* the book to market ratio *(*Fama & French, 1993; Lakonishok *et al.*, 1994; Chen *et al.*, 2005; Kassi *et al.,* 2019); the gearing ratio (Briston, 1981; Linsley & Shrive, 2006; Akhtar *et al.*, 2011; Siyanbola *et al.*, 2015; Kassi *et al.*, 2019); and inflation (Huybens & Smith, 1999; Khan *et al.*, 2001; Ozturk, 2012).

The period of 2020-2022 was a time when the world in general and Vietnam in particular were seriously affected by the Covid-19 pandemic. Covid-19 forced Vietnamese people to tighten spending, and consumers cut back on purchasing beer, wine, and soft drink products. Instead, they choose to buy and store products that have a long shelf life and that have the ability to improve health. Therefore, if food and beverage companies want to ensure their financial performance, they must make decisions such as developing new products and changing their product structure to fit the consumers' demands. In this case, these market risks, including the degree of financial leverage, the book to market ratio, the gearing ratio, and inflation, will affect the decision making of each business, therefore affecting financial performance.

For businesses, changes in interest rates will change interest costs. The difference between earnings before interest and taxes (EBIT) and earnings before taxes (EBT) shows the magnitude of interest expense (degree of financial leverage), which is considered a factor affecting the financial performance based on the business's decision of borrowing in conditions

of changing interest rates. Stock price risk is the risk caused by adverse fluctuations in stock prices on the market (market value) to the value of stocks (book value). The book to market ratio evaluates a company's book value about its current market value. The book value is determined based on accounting data, while the market value is based on market capitalization. In some cases, the market to book ratio can be used with the same meaning. If the market value is greater than the book value, the company is appreciated by the market, and vice versa. This ratio can be used as the factor of market risk affecting expected income and investment decisions, therefore, on financial performance. Economic theories have demonstrated that inflation does not always cause a contrary impact on the economy. James Tobin and Robert Mundell, the two economist winners of the Nobel Memorial Prize in 1981 and 1999, respectively, have argued that moderate inflation would make real interest rates become lower, hence companies should increase their borrowing to expand their businesses (Mundell-Tobin effect). Many studies have shown that the effect of the inflation rate on economic growth generally and a company's financial performance specifically is positive or negative depending on the magnitude of the inflation and the sustainability of the economy (Huybens & Smith, 1999; Khan *et al.*, 2001; Ozturk, 2012).

This study was conducted to analyze the impact of market risk on financial performance in the case of the food and beverage companies listed on the Vietnam Stock Exchange, including the Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX), in the period of 2008-2022. This research aimed to provide a scientific basis for the food and beverage companies to propose appropriate recommendations to improve the financial performance of food and beverage companies listed on the Vietnam Stock Exchange, thereby serving as material for research on non-financial companies in the future.

Methodology

Data collection

Currently, on the Vietnam Stock Exchange, there is no official Government organization that has the responsibility of arranging listed corporations into industries. Therefore, this analysis used the NAICS (North American Industry Classification System) and ICB (Industry Classification Benmark) standards to select food and beverage companies listed on the Vietnam Stock Exchange, for a result of 61 companies. After that, out of the 61 food and beverage institutions listed on the Vietnam Stock Exchange, this study selected 47 companies with appropriate data and information in the 2008-2022 research period.

Description of variables

The return on assets, return on equity, and net profit margins were used to represent the financial performance (Badawi, 2017; Oduobuasi *et al*., 2020). The independent variable was divided into two groups: (1) Market risk variables, which involved the degree of financial leverage, book to market ratio, gearing ratio, and inflation; and (2) Control variables, which included the cash ratio, debt to revenue ratio, company size, and tangibility ratio (**Table 1**). These variables were selected on the basis of previous research.

Empirical model

To determine the effect of market risk on financial performance, this research used the return on assets, the return on equity, and the net profit margins as dependent variables (Siyanbola *et al.*, 2015; Muriithi *et al.*, 2016; Abdellahi *et al.*, 2017; Kassi *et al.*, 2019) under the hypothesis that these variables are stationary variables:

$ROA_{it}=\gamma_0+ \gamma_1DFL_{it}+ \gamma_2BPR_{it}+ \gamma_3GEAR_{it}+ \gamma_4INF_{it} + \gamma_5CASH_{it}+ \gamma_6DOR_{it}+ \gamma_7DOA_{it}+ \gamma_8SIZE_{it}+ \gamma_9TANG_{it}+ \alpha_{1i}+ \varepsilon_{1it}$ (Model 1)

$ROE_{it} = \theta_0 + \theta_1DFL_{it}+ \theta_2BPR_{it}+ \theta_3GEAR_{it}+ \theta_4INF_{it}+ \theta_5CASH_{it}+ \theta_6DOR_{it}+ \theta_7DOA_{it}+ \theta_8SIZE_{it} + \theta_9TANG_{it}+ \alpha_{2i}+ \varepsilon_{2it}$ (Model 2)

$PROF_{it}=\lambda_0+ \lambda_1DFL_{it}+ \lambda_2BPR_{it}+ \lambda_3GEAR_{it}+ \lambda_4INF_{it} + \lambda_5CASH_{it}+ \lambda_6DOR_{it}+ \lambda_7DOA_{it}+ \lambda_8SIZE_{it}+ \lambda_9TANG_{it}+ \alpha_{3i}+ \varepsilon_{3it}$ (Model 3)

where ROA is the return on assets; ROE is the return on equity; PORF is the net profit margins; DFL is the degree of financial leverage; BPR is the book to market ratio;

GEAR is the gearing ratio; INF is the annual inflation; CASH is the cash ratio; DOR is the debt to revenue ratio; DOA is the debt to total assets; SIZE is the company size; and TANG is the tangibility ratio.

Empirical Procedures

This study examined the impact of market risk on a company's financial performance by the following steps:

Step 1: Test for unit roots or stationarity in the panel datasets according to the Im et al. (2003) test (IPS), and Fisher-type (Choi 2001) with the null hypothesis that all panels contain a unit root.

H_0: Panels contain unit roots

H_1: Panels are stationary

Step 2: Run the OLS model, REM (random effect model), and FEM (fixed effect model).

Step 3: Select the appropriate model for this research. The Hausman test was used to determine the acceptable estimation method between the FE and RE models (Gujarati, 2004; Baltagi, 2008). The hypothesis assumed that there was no correlation between the characteristics errors of the independent and explanatory variables. If there is no correlation between the regressors and effects, then the FE and RE models are both relevant, but FE is irrelevant. By contrast, FE is consistent and RE is inconsistent. The LM test (Breusch & Pagan, 1980) for heteroskedasticity will choose the OLS model if variance is equal to zero; otherwise RE will be picked. In the case of preferring the FE model from the Hausman test, the Chow test (Chow, 1960) will determine the appropriate model between OLS and FE, in which, if individual influences are equal to zero, the OLS model is better.

Table 1. Description of variables

Variables	Description	Previous research	Expected sign
Dependent variable			
ROA	Return on asset = Net income/ Total assets	Badawi (2017); Oduobuasi *et al*. (2020)	
ROE	Return on equity = Net income/ Equity	Badawi (2017); Oduobuasi *et al*. (2020)	
PFOF	Net profit margins = Net income/ Net sale	Badawi (2017); Oduobuasi *et al*. (2020)	
Independent variables			
Market risk			
DFL	The degree of financial leverage = Earnings before interest and taxes/ Earnings before taxes	Bhatti *et al.* (2010); Alaghi (2011); Dimisyqiyani *et al.* (2015); Muriithi *et al.* (2016); Kassi *et al.* (2019)	+/-
BPR	Book to market ratio = Book value/ Market value	Fama & French (1993); Lakonishok *et al.* (1994); Chen *et al.* (2005); Kassi *et al.* (2019)	-
GEAR	Gearing ratio = Total debts/ Equity	Briston (1981); Linsley & Shrive (2006); Akhtar *et al.* (2011) and Siyanbola *et al.* (2015); Kassi *et al.* (2019)	+/-
INF	The annual inflation rate in Vietnam in the period of 2008-2022	Huybens & Smith (1999); Khan *et al.* (2001); Ozturk (2012)	+/-
Control variables			
CASH	Cash ratio = Cash and Cash equivalents/ Total assets	Abushammala & Sulaiman (2014); Akinyomi (2014); Bhutto *et al.* (2015); Nenu *et al.* (2018); Kassi *et al.* (2019)	+
DOR	Debt to revenue ratio = Total debts/ Revenue	Demyanyk *et al.* (2011); Lawes & Kingwell (2012); Brown *et al.* (2015); Kassi *et al.* (2019)	+/-
DOA	Debt to asset ratio = Total debts/ Total assets	Gill & Obradoich (2012); Salim & Yadav (2012); Davydov (2016); Vy & Nguyet (2017); Amraoui *et al.* (2017); Kassi *et al.* (2019)	+/-
SIZE	Company size = Ln(Total assets)	Ilaboya & Ohiokha (2016); Amraoui *et al.* (2017); Bayoud *et al.* (2018); Kassi *et al.* (2019)	+
TANG	Tangibility ratio = Tangible fixed assets/ Total assets	Vătavu (2015); Razaq & Akinlo (2017)	-

Step 4: If the selected model shows the heteroskedasticity phenomenon, the robust standard errors will give a correct estimation of the standard error, accepting the presence of heteroskedasticity.

Results and Discussion

Descriptive Statistics

Table 2 presents the descriptive statistics of all the variables with 700 observations (corresponding to 47 companies over 15 years). The average values of all the variables were greater than zero indicating a positive tendency. In particular, ROA, ROE, and PROF increased by 7.2%, 25.7% and 5.6%, respectively. The minimum values of the variables related to the income target were less than zero. However, the variations among the maximum values were huge.

Table 2. Descriptive statistics

Variables	Obs.	Mean	Std.Dev	Min	Max
Dependent variables					
ROA	700	0.072	0.095	-0.645	0.783
ROE	700	0.257	3.378	-3.674	89.100
PROF	700	0.056	0.113	-0.918	1.677
Market risk variables					
DFL	700	1.785	2.802	-31.026	24.197
BPR	700	1.345	1.217	-1.537	9.877
GEAR	700	3.728	63.859	-21.097	1,689.877
INF	700	0.067	0.055	0.006	0.199
Control variables					
CASH	700	0.116	0.130	0.000	0.696
DOR	700	0.489	0.561	0.025	9.687
DOA	700	0.479	0.216	0.034	1.516
SIZE	700	27.559	1.629	24.449	32.582
TANG	700	0.189	0.125	0.004	0.736

Table 3. Correlation analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) ROA	1.000											
(2) ROE	0.026	1.000										
(3) PROF	0.760	0.017	1.000									
(4) DFL	-0.150	-0.007	-0.084	1.000								
(5) BPR	-0.250	-0.057	-0.186	0.208	1.000							
(6) GEAR	-0.014	-0.693	-0.085	0.005	-0.035	1.000						
(7) INF	0.142	0.028	0.088	-0.001	0.054	-0.034	1.000					
(8) CASH	0.348	0.020	0.213	-0.166	-0.194	-0.040	0.057	1.000				
(9) DOR	-0.383	-0.011	-0.348	0.138	0.114	0.035	-0.134	-0.272	1.000			
(10) DOA	-0.542	-0.084	-0.458	0.238	0.049	0.106	-0.111	-0.378	0.476	1.000		
(11) SIZE	0.068	0.043	0.250	-0.012	-0.098	-0.040	-0.186	-0.092	0.173	0.058	1.000	
(12)TANG	-0.025	-0.087	-0.056	-0.012	0.045	0.004	0.041	-0.121	-0.038	-0.014	0.017	1.000

Table 4. Results of the unit roots test

Variables	Im-Pesaran-Shin (IPS) test	Fisher-type test
Dependent variables		
ROA	-4.695***	-7.808***
ROE	-4.338***	-7.514***
PROF	-2.280***	-5.835***
Market risk variables		
DFL		-12.016***
BPR	-5.225***	-7.664***
GEAR	-1.860**	-3.561***
INF	-10.166***	-14.463***

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

Correlation Analysis

Table 3 illustrates the correlation matrix. The correlations between pairs of independent variables and the three dependent variables, ROA, ROE, and PROF, showed that there was no multicollinearity phenomenon among the variables (the maximum value 0.760 occurred between ROA and PROF, which was less than 0.8). From this table, it's possible to assume a positive relationship between the dependent variables and INF, CASH, and SIZE; and a negative relationship with DFL, BPR, GEAR, DOR, DOA, and TANG. The different results appeared due to each dependent variable.

Results of the regression analysis: OLS, FEM, and REM

Table 4 shows the results of the unit roots test. For this test, it's not necessary to test for all the variables, so this research focused on the dependent variables and market risk variables. With the t-statistic in **Table 4**, this study rejected the null hypothesis and deduced that all the series were stationary. Therefore, the next steps were followed.

Table 5 shows the three regression results for determining the impact on financial performance using the OLS, FE, and RE models. Based on the Hausman test result, a p-value larger than the significance level of 1% made this analysis chose the RE model to represent the relationship between market risk and financial performance. The LM test in all the models proceeded to reject the constant variance hypothesis. Therefore, in this study, the RE model was selected and remedied by using robust standard errors.

Effects of market risk on the financial performance of food and beverage companies listed on the Vietnam Stock exchange: RE model by using robust standard errors

Table 6 reveals the results of the robustness test for the effects on financial performance measured by return on assets (ROA), return on equity (ROE), and net profit margin (PROF). The degree of financial leverage (DFL) had significant propitious effects on the return on assets (ROA) and the net profit margins (PROF) (Bhatti *et al.*, 2010; Alaghi, 2011). The coefficients of 0.001 and 0.002 imply that if the DFL ratio is increased by 1%, the ROA and PROF will increase by 0.001% and 0.002%, respectfully. This supports the point of view on loans for business activities.

The book to market ratio (BPR) and financial performance showed an inverse relationship (Endri *et al.*, 2019; Kassi *et al.*, 2019). The coefficients of -0.010, -0.050, and -0.010 mean that if the BPR ratio increases by 1%, the ROA, ROE, and PROF will decrease by -0.010%, -0.050%, and -0.010%, respectively. An increase in this ratio means that the evaluation of investors expressed on the market price tends to be in the downward direction, hence reducing business efficiency. The gearing ratio (GEAR), which describes the interrelation between total debts and total equity, illustrates the positive impact on return on assets (ROA),

Table 5. The effect of market risk on financial performance

	Model 1 ROA			Model 2 ROE			Model 3 PROF		
Variables	OLS model	FE model	RE model	OLS model	FE model	RE model	OLS model	FE model	RE model
Constant	-0.039	-0.201	-0.098	0.208	0.975	0.223	*-0.428***	-0.162	*-0.408****
DFL	0.001	0.001	0.001	-0.002	0.000	-0.002	*0.003***	*0.002**	*0.002***
BPR	*-0.015****	*-0.009****	*-0.010****	*-0.050****	*-0.042****	*-0.050****	*-0.011****	*-0.007**	*-0.010****
GEAR	0.000	0.000	0.000	*0.053****	*0.052****	*0.052****	*0.000**	-0.000	0.000
INF	*0.182****	*0.223****	*0.198****	0.185	0.110	0.194	*0.180****	0.114	*0.169****
CASH	*0.090****	*0.0781****	*0.084****	*0.226**	0.216	*0.235**	0.017	0.015	0.168
DOR	*-0.024****	*-0.018***	*-0.020****	*-0.090****	*-0.101****	*-0.091****	*-0.041****	*-0.063****	*-0.051****
DOA	*-0.189****	*-0.196****	*-0.193****	*-0.144**	0.105	-0.108	*-0.198****	*-0.175****	*-0.190****
SIZE	*0.008****	*0.014***	*0.010****	0.170	-0.033	-0.002	*0.022****	*0.013**	*0.021****
TANG	-0.014	*-0.095****	*-0.068***	0.170	0.093	0.157	*-0.063***	*-0.146****	*-0.094****
R-squared	0.394	0.541	0.584	0.987	0.973	0.982	0.357	0.544	0.671
LM test	0.000			0.000			0.000		
Hausman *P*-value			9.20 (0.419)			12.57 (0.1830)			20.24 (0.010)

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

Source: Collected and organized by authors.

return on equity (ROE), and net profit margin (PROF) (Akhtar *et al.*, 2011; Siyanbola *et al.*, 2015), connoting that the usefulness of debts is higher than the proficiency of equity. The impact directions of financial leverage (DFL) and gearing ratio (GEAR) demonstrate the effectiveness of food and beverage companies in using debt during the research period. With large fluctuations in inflation rates in the period of 2008-2022 (although the average inflation rate was 6.65%, there were very high rates in 2008 (19.89%) and 2011 (18.58%)), the inflation rate shows the same directional relationship with the return on assets (ROA) (Huybens & Smith, 1999; Khan *et al.*, 2001; Ozturk, 2012).

The control variables represent the different impacts on the financial performance. The cash ratio (CASH) demonstrated a positive relationship with return on assets (ROA) and return on equity (ROE) (Abushammala & Sulaiman, 2014; Akinyomi, 2014; Nenu *et al.*, 2018), accordingly, as holding assets in the form of cash helps businesses use funds flexibly in volatile economic conditions, thereby making financial performance tend to increase. The debt to revenue ratio (DOR) displayed a negative effect on net profit margin (PROF) (Demyanyk *et al.*, 2011; Lawes & Kingwell, 2012; Brown *et al.*, 2015; Kassi *et al.*, 2019). Increasing the size of debt compared to equity will lead to an increase in ROA, but the growth rate of debt is greater than the growth rate of revenue, leading to an inverse relationship between the debt to revenue ratio (DOR) and the net profit margin (PROF). Besides, debt on assets (DOA) indicates a critical relationship on the return on assets (ROA) and net profit margin (PROF) (Salim & Yadav, 2012; Vy & Nguyet, 2017; Amraoui *et al.*, 2017). These results confirm once again the conclusion about supporting loans for business activities while focusing on the management of other debts. It can be seen that the increased scale of debt not only creates opportunities for businesses to expand production and business activities, but also generates large capital costs, reducing the efficiency of their business operations. Company size (SIZE) had significant positive effects on the return on assets (ROA) and net profit margin (PROF) (Ilaboya & Ohiokha, 2016; Bayoud *et al.*, 2018; Kassi *et al.*, 2019), demonstrating the need to expand scale if companies want to increase their financial

performance. Finally, the tangibility ratio (TANG) showed negative effects on the return on assets (ROA) and net profit margin (PROF) (Vătavu, 2015; Razaq & Akinlo, 2017). According to **Table 2**, with the average ratio of fixed assets to total assets being 18.9% and the highest being 73.6%, the common characteristic of food and beverage companies is big proportion of fixed assets. Therefore, investing to replace or buy new fixed assets is never an easy decision for businesses. Under the impact of market risk variables, increasing the fixed assets ratio will cause a decline in financial performance.

Conclusions and Recommendations

This study examined the effects of market risk on the financial performance of 47 food and beverage companies listed on Vietnam's Stock Exchange in the period of 2008–2022. Three variables, the return on assets (ROA), the return on equity (ROE), and net profit margins (ROS), were used to represent the companies' financial performance. Market risk can be expressed through four variables, namely the degree of financial leverage, book to market ratio, gearing ratio, and annual inflation. This research also used a combination of control variables, namely the cash ratio, debt on revenue ratio, debt on assets ratio, company size, and tangibility ratio. The authors inspected the stationarity of the panel data set for dependent variables and market risk variables, and then selected the appropriate model for this study and revised the results in case of the heteroskedasticity phenomenon. The book to market ratio, debt to revenue ratio, debt to assets ratio, and tangibility ratio showed negative relationships, while the degree of financial leverage, gearing ratio, annual inflation, cash ratio, and company size represented positive relationships on financial performance in the particular model, generally.

With the advantage of manufacturing and trading essential goods and services, businesses in the food and beverage industry can develop stably even when affected by objective factors such as epidemics and natural disasters. However, to improve financial performance, businesses need to take advantages while minimizing the negative impacts of market risk factors on their production and business activities. Companies can increase the size of their loans and save interest costs due to the Government's preferential interest rate policy to revive the economy after Covid-19. However, because of declines in consumption and changes in consumption trends, companies need to pay attention to the purpose of using capital and comparing the growth rate of revenue to the growth rate of costs. This study proposes that companies should use capital to research and launch new products to meet consumer needs, while taking advantage of existing machinery and equipment without investing in fixed assets.

Table 6. Robustness test result for the RE model

Variables	Model 1 ROA Robust RE	Model 2 ROE Robust RE	Model 3 PROF Robust RE
Constant	-0.098	-0.223	*-0.408***
DFL	*0.001***	-0.001	*0.002****
BPR	*-0.010****	*-0.050***	*-0.010***
GEAR	*0.0001****	*0.052****	*0.0001****
INF	*0.198****	0.194	*0.169***
CASH	*0.084***	*0.235****	0.017
DOR	-0.020	-0.091	*-0.051****
DOA	*-0.193****	-0.108	*-0.191****
SIZE	*0.010****	-0.002	*0.021****
TANG	*-0.068**	0.157	*-0.094**
R-squared	0.584	0.982	0.671

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

Source: Collected and organized by authors.

This research only studyied the effects of some common representative factors of market risk in food and beverage companies. In the future, the authors hope to collect more data to research all market risk factors affecting the financial performance of non-financial companies listed on the Vietnam Stock Exchange.

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