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Factors Affecting The Financial Performance Of Textile And Garment Companies Listed On The Vietnamese Stock Market

Nguyen Thi Ngoc Diem[1], Ngo My Phuong[2]
[1]Saigon University, Vietnam
Email ID: ntndiem@sgu.edu.vn
[2]Master's Student, Cohort 24.1, Saigon University, Vietnam
Email ID: nmphuong@sgu.edu.vn

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ABSTRACT

This paper examines and evaluates the impact of various factors on the financial performance of textile and garment enterprises listed on the Vietnamese Stock Market during the period 2013 - 2024. The research findings indicate that the financial performance of textile and garment firms is simultaneously influenced by both internal factors and the macroeconomic environment, in which capital structure characteristics, liquidity, growth rate, and firm age play significant roles. Based on these findings, the study proposes several recommendations aimed at improving the financial performance of Vietnamese textile and garment enterprises, thereby supporting more sustainable development of the industry.

Keywords: Financial performance; Textile and garment industry; ROA; ROS.

1. INTRODUCTION:

The textile and garment industry has long played a crucial role in the global economy, not only in terms of exports but also in generating employment for hundreds of millions of workers, particularly in developing countries. According to Statista (2024), the global textile and garment market size reached approximately USD 1.9 trillion, with Asia accounting for more than 60% of total export output. Vietnam is currently one of the world's three largest garment exporters, with export turnover reaching nearly USD 44 billion in 2024, according to data from the General Department of Customs. Vietnamese textile and garment enterprises are present in most major global markets and contribute nearly 12% of the country's total export value. The industry provides employment for nearly 3 million workers and plays a key role in the manufacturing and processing sector.

Notably, Vietnam is a member of several new - generation free trade agreements such as CPTPP, EVFTA, and RCEP. In addition, Vietnam maintains official relations with 189 out of 193 countries and territories worldwide. These factors enable Vietnamese textile and garment enterprises to benefit from new investment waves, develop new production capacities, and expand rapidly and extensively in global markets, thereby improving market access and reducing import tariffs on textile and garment products. Furthermore, on December 29, 2022, the Prime Minister approved Decision No. 1643/QD-TTg on the Development Strategy for Vietnam's Textile and Footwear Industry to 2030, with a vision toward 2035. The strategy sets localization targets of 51-55% of domestic demand during 2021 - 2025 and 56 - 60% during 2026 - 2030. These orientations reaffirm the textile and garment sector as a key pillar of Vietnam's economy in the coming years.

However, behind these impressive figures lie numerous challenges. Vietnamese textile and garment enterprises are facing declining orders, shrinking profit margins, rising raw material and logistics costs, and increasing pressure to comply with Environmental, Social, and Governance (ESG) standards. Domestically, despite being a major export industry, most textile and garment firms still depend heavily on imported raw materials (over 60%), creating pressure to achieve input material autonomy and increase localization rates. Moreover, the industry largely operates under the cut–make–trim (CMT) model, which limits value added, results in relatively low financial efficiency, and poses long-term risks. In addition, the sector faces intense competition from emerging countries with abundant labor forces such as Bangladesh, India, and Pakistan. A particularly significant challenge is global geopolitical tension, as the newly elected U.S. President has recently intensified tariff measures targeting countries with large trade surpluses with the United States. Vietnam ranks among the top surplus countries (over USD 123 billion), with textile and garment products consistently among the leading export categories to the U.S. market.

On the Vietnamese stock market, there are currently 25 listed textile and garment enterprises representing various segments, from fiber production and fabric weaving to garment manufacturing for export. In a context where the industry is continuously affected by both macroeconomic and microeconomic factors, assessing the financial performance of textile and garment firms is essential. Such assessment not only helps to accurately evaluate firms' internal capabilities but also identifies key determinants of financial performance, thereby supporting enterprises, investors, and policymakers in formulating appropriate strategies.

Against this backdrop, this study aims to analyze, evaluate, and measure the impact of selected internal and external factors on the financial performance of textile and garment enterprises, and to propose policy implications to

enhance financial performance in a sustainable manner for the industry in the coming period.

2. LITERATURE REVIEW

Geroski, Machin, and Walters (1997) conducted a study analyzing the relationship between firm growth and profitability based on data from 271 large listed companies in the United Kingdom during the period 1976 - 1982. The results revealed a positive, statistically significant, and persistent relationship between growth rate, firm size, and profitability.

Vătavu (2014) examined the determinants of profitability of 126 Romanian companies listed on the Bucharest Stock Exchange during 2003 - 2012. Using regression models, the study found that firm size has a positive effect on ROA, while financial leverage negatively affects financial performance. In addition, macroeconomic factors such as inflation during the research period were shown to have a significantly negative impact on firms' operating efficiency.

Alghusin (2015) investigated the impact of financial leverage, firm growth, the ratio of fixed assets to total assets, and firm size on profitability measured by return on assets (ROA). The sample consisted of 25 Jordanian industrial companies listed on the Amman Stock Exchange (ASE) over the period 1995 - 2005. The findings indicate that financial leverage negatively affects ROA, while firm size and the revenue to total assets ratio have a positive impact on ROA.

Odusanya, Yinusa, and Ilo (2018) analyzed factors affecting the profitability of non-financial firms in Nigeria using data from 114 listed companies during 1998 - 2012 and applying the GMM method. The results show that past profitability has a positive and significant impact on current financial performance, highlighting the importance of accumulated profits and reinvestment. Conversely, short term financial leverage, inflation, interest rates, and financial risk exert negative effects on firms' financial performance.

In a 2020 study, Phan Thu Hien and Nguyen Nhat Ha examined factors affecting the profitability of textile and garment companies listed on the Vietnamese stock market during 2009 - 2018. The findings indicate that firm size, firm age, revenue growth, liquidity, and total asset turnover positively influence profitability. In contrast, financial leverage and market concentration negatively affect profitability. The impacts of macroeconomic factors such as GDP growth and inflation were found to be statistically insignificant.

Nguyen Kim Quoc Trung, Ngo Nhat Phuong Diem, and Nguyen Thi Chi (2022) conducted a study to identify determinants of financial performance among listed companies in Vietnam. Using quantitative methods and linear regression models, the authors analyzed data from 120 listed firms over the period 2016 - 2020. Financial performance was measured by ROA. The results show that firm size, liquidity, revenue growth, and asset utilization efficiency have positive and statistically significant effects on financial performance, whereas financial leverage, represented by the debt ratio, has a negative impact.

Le Thi Bao Nhu and Nguyen Thi Thu Hau (2024) examined factors affecting the profitability of companies listed on the Vietnamese stock market. Applying quantitative methods and linear regression models, the study analyzed data from 150 listed firms during 2017 - 2022. Profitability was measured by ROA. The results reveal that firm size, revenue growth, and asset utilization efficiency (total asset turnover) have positive and statistically significant effects on profitability. In contrast, financial leverage, measured by the debt ratio, negatively affects ROA. Additionally, the study finds that short-term liquidity does not have a significant impact on firm profitability during the study period. Based on these findings, the authors recommend that firms optimize their financial structure, control debt levels, and improve operational efficiency to enhance profitability amid increasing market competition.

Based on a synthesis of previous studies, the author observes that exchange rate factors and foreign transaction activities have not been adequately examined. While exchange rates and foreign transactions are closely related and exert substantial influence on export-oriented industries such as textiles and garments, they have not been systematically incorporated into empirical analysis. In studies where these factors are mentioned, they are often treated as secondary variables or discussed only in the contextual background rather than being explicitly modeled in quantitative frameworks.

3. RESEARCH MODEL AND METHODOLOGY

3.1. Research Hypotheses

Firm size (SIZE):

According to numerous previous studies such as Agiomirgianakis et al. (2006), Alghusin (2015), Geroski et al. (1997), Vătavu (2014), Phan et al. (2021), Nguyen et al. (2022), and Le et al. (2024), firm size is a factor that positively affects profitability. Specifically, larger firms are often able to exploit economies of scale, including lower borrowing costs and higher trade discounts due to larger transaction volumes. At the same time, they are better positioned to specialize production and optimize labor organization, thereby reducing operating costs. Based on this theoretical foundation, the following hypothesis is proposed:

Hypothesis H1: Firm size has a positive effect on the profitability of textile and garment companies listed on the stock market.

Firm age (AGE):

Studies by Phan et al. (2021) and Nguyen et al. (2022) indicate that the longer a firm has been in operation, the higher its profitability tends to be. Long-established firms often possess strong brands and high market credibility, while also accumulating substantial managerial and production experience, which helps reduce costs and improve operational efficiency. Accordingly, the second hypothesis is formulated as follows:

Hypothesis H2: Firm age has a positive effect on the profitability of textile and garment companies listed on the stock market.

Revenue growth (GROWTH):

According to Geroski et al. (1997), Agiomirgianakis et al. (2006), Alghusin (2015), Phan et al. (2021), and Nguyen et al. (2022), firm growth is a key determinant of profitability. When revenue and assets grow, corporate profits also tend to increase, thereby enhancing profitability. Therefore, the following hypothesis is proposed:

Hypothesis H3: Revenue growth has a positive effect on the profitability of textile and garment companies listed on the stock market.

Liquidity (LIQ):

Chu et al. (2015) found that firm liquidity is positively associated with profitability. This suggests that when firms maintain strong liquidity positions, financial risk is reduced and business conditions become more stable, thereby contributing to higher profits. Hence, the following hypothesis is proposed:

Hypothesis H4: Liquidity has a positive effect on the profitability of textile and garment companies listed on the stock market.

Financial leverage (LEQ):

According to the pecking order theory of capital structure proposed by Myers and Majluf (1984), there exists an inverse relationship between financial leverage and profitability. Empirical studies by Agiomirgianakis et al. (2006), Alghusin (2015), Phan et al. (2021), Chu et al. (2015), Odusanya et al. (2018), as well as Vătavu (2014) and Le et al. (2024), have demonstrated that higher leverage levels are often associated with lower profitability. Therefore, the following hypothesis is formulated:

Hypothesis H5: Financial leverage has a negative effect on the profitability of textile and garment companies listed on the stock market.

Total asset turnover (AT):

Several studies, including Agiomirgianakis et al. (2006), Alarussi and Alhaderi (2018), Alghusin (2015), Chander and Aggarwal (2008), Nguyen, Ta, and Nguyen (2018), as well as Tan and Floros (2012), consistently confirm that asset utilization efficiency measured by total asset turnover is positively correlated with profitability. More efficient use of assets enables firms to generate higher profits per unit of invested assets. Accordingly:

Hypothesis H6: Total asset turnover has a positive effect on the profitability of textile and garment companies.

Market concentration (CM):

Market concentration, reflected by the dominance of a few large firms within the industry, may also influence profitability. Firms with strong market power are often able to control prices and maximize profits. However, according to Phan et al. (2021), high market concentration may reduce competition, create instability for smaller firms, and negatively affect the overall industry. Thus, the following hypothesis is proposed:

Hypothesis H7: Market concentration has a negative effect on the profitability of textile and garment companies listed on the stock market.

GDP growth (GDPG):

Nguyen et al. (2022) indicate that GDP growth has a positive impact on firm performance. When the economy expands, household income increases and consumer demand rises, creating favorable conditions for firms to expand production and increase profits. Therefore, the following hypothesis is proposed:

Hypothesis H8: GDP growth has a positive effect on the financial performance of textile and garment companies listed on the stock market.

Inflation rate (INF):

According to Vătavu (2014), Odusanya et al. (2018), Phan et al. (2021), Nguyen et al. (2022), and Le et al. (2024), inflation is a negative factor for financial performance. High inflation can increase input costs and cause price volatility in outputs, thereby adversely affecting business operations and reducing profitability. Accordingly:

Hypothesis H9: Inflation has a negative effect on the financial performance of textile and garment companies listed on the stock market.

Exchange rate (EXR):

The Vietnamese textile and garment industry exhibits a distinctive "dual" characteristic: it has a very high export ratio (accounting for more than 85% of total output) while simultaneously relying heavily on imported raw materials (over 60%). As a result, firms in this industry are subject to pronounced two-way effects from exchange rate fluctuations. Therefore:

Hypothesis H10: The exchange rate has both positive and negative effects on the financial performance of textile and garment companies listed on the stock market.

Finally, a dummy variable for foreign operations is incorporated into the research model to reflect differences in corporate strategies and levels of international integration, thereby assessing its impact on financial performance. The Vietnamese textile and garment industry is highly export-oriented, with most revenue generated from international markets. Many firms have expanded overseas through subsidiaries, representative offices, or partnerships with foreign entities. Foreign operations allow firms to access broader markets, diversify input sources, and mitigate domestic risks, particularly exchange rate risks. In contrast, firms operating solely in the domestic market often face greater limitations in terms of market access and resources.

Hypothesis H11: Foreign operations (NN) have a positive effect on the financial performance of textile and garment companies listed on the stock market.

3.2. Research Model

Based on previous studies on determinants of firm financial performance, the research model is specified as follows:

$$R_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 AGE_{it} + \beta_3 GROWTH_{it} + \beta_4 LIQ_{it} + \beta_5 LEQ_{it} + \beta_6 AT_{it} + \beta_7 CM_{it} + \beta_8 GDPG_{it} + \beta_9 INF_{it} + \beta_{10} EXR_{it} + \beta_{11} NN_{it}$$

Where:
R: Profitability indicator measuring financial performance (ROA, ROS)

SIZE: Firm size

AGE: Firm age

GROWTH: Revenue growth

LIQ: Liquidity

LEQ: Financial leverage

AT: Total asset turnover

CM: Market concentration

GDPG: GDP growth rate

INF: Inflation rate

EXR: Exchange rate

NN: Foreign operations

3.3. Research Methodology

Data processing and analysis were conducted using STATA version 17.0. The study employs three commonly used estimation techniques in panel data analysis: Pooled Ordinary Least Squares (Pooled OLS), Fixed Effects Model (FEM), and Random Effects Model (REM). To select the most appropriate model, several diagnostic tests were performed, including the F-test to distinguish between Pooled OLS and FEM, the Breusch Pagan Lagrange Multiplier test to compare Pooled OLS and REM, and the Hausman test to choose between FEM and REM. After identifying the optimal model, tests for autocorrelation and heteroskedasticity were conducted. In cases where these issues were detected, the model was adjusted using the Feasible Generalized Least Squares (FGLS) method to enhance the accuracy and reliability of the estimation results.

3.4. Data

This study uses secondary data collected from two reliable sources: Vietstock and the World Bank. Macroeconomic variables, including inflation rate, GDP growth rate, and exchange rate, were obtained from the World Bank and the General Statistics Office of Vietnam. Micro-level data consist of audited financial statements of 25 textile and garment firms currently listed on three major stock exchanges: the Ho Chi Minh Stock Exchange (HOSE), the Hanoi Stock Exchange (HNX), and the UPCoM market.

4. RESEARCH RESULTS

4.1. Factors Affecting ROA and ROS

Table 1. Regression results of factors affecting ROA

Independent variables	FEM		REM		Pooled OLS	
	Regression Coefficients	**Significance levels**	**Regression Coefficients**	**Significance levels**	**Regression Coefficients**	**Significance levels**
SIZE	0.0469	0.000	0.0374	0.000	0.0306	0.000
AGE	-0.0055	0.056	-0,0002	0.698	0.0000	0.897
GROWTH	0.7312	0.000	0.0786	0.000	0.0951	0.000
LIQ	-0.0018	0.163	-0.0025	0.044	-0.0025	0.069
LEQ	-0.2837	0.000	-0.2811	0.000	-0.2577	0.000
AT	0.0639	0.000	0.0634	0.000	0.0500	0.000
CM	0.1117	0.413	0.0516	0.700	0.0308	0.857
NN	0.0434	0.210	-0.0002	0.991	-0.0323	0.104
GDPG	-0.0848	0.431	-0.0192	0.842	-0.0202	0.869
INF	-0.0606	0.737	-0.0505	0.780	-0.0708	0.760
EXR	0.1092	0.522	-0.1375	0.126	-0.1525	0.141
Constant	-2.1127	0.175	0.4696	0.579	0.8277	0.400
Number of Observations	300		300		300	

Coefficient of Determination (R^2)	0.5453	0.5359	0.4957
F-statistic	28.78	320.60	25.74
Prob	0.0000	0.0000	0.0000

Source: Compiled results from STATA 17 software

Under the Pooled OLS model, the R-squared value is 0.4957, indicating that the independent variables explain 49.57% of the variation in ROA. Statistically significant variables include firm size (P-value = 0.000), revenue growth (P-value = 0.000), financial leverage (P-value = 0.000), and total asset turnover (P-value = 0.000). Among these, financial leverage has a negative regression coefficient (coefficient = - 0.2577), indicating a statistically significant negative impact on ROA. The remaining significant variables exert positive and statistically significant effects on ROA.

Under the Random Effects Model (REM), the R-squared value is 0.5359, suggesting that the independent variables explain 53.59% of the variation in ROA. Statistically significant variables include firm size (P-value = 0.000), revenue growth (P-value = 0.000), liquidity (P-value = 0.044), financial leverage (P-value = 0.000), and total asset turnover (P-value = 0.000). Among these, liquidity (coefficient = - 0.0025) and financial leverage (coefficient = - 0.2811) have negative regression coefficients, indicating statistically significant negative effects on ROA. The remaining variables show positive and statistically significant relationships with ROA.

Under the Fixed Effects Model (FEM), the R-squared value is 0.5453, indicating that the independent variables explain 54.53% of the variation in ROA. Statistically significant variables include firm size (P-value = 0.000), revenue growth(P-value = 0.000), financial leverage (P-value = 0.000), and total asset turnover (P-value = 0.000). Among these, financial leverage exhibits a negative regression coefficient (coefficient = - 0.2837), indicating a statistically significant negative impact on ROA. The remaining significant variables have positive and statistically significant effects on ROA.

Table 2. ***Regression results of factors affecting ROS***

Independent variables	**FEM**		**REM**		**Pooled OLS**	
	Regression Coefficients	**Significance levels**	**Regression Coefficients**	**Significance levels**	**Regression Coefficients**	**Significance levels**
SIZE	0.2526	0.012	-0.0442	0.238	-0.0610	0.025
AGE	-0.0018	0.942	0.0090	0.008	0.0085	0.000
GROWTH	0.1863	0.168	0.5175	0.000	0.6758	0.000
LIQ	-0.2257	0.000	-0.2491	0.000	-0.2429	0.000
LEQ	-1.1750	0.000	-1.4642	0.000	-1.5170	0.000
AT	0.2186	0.046	-0.0131	0.866	-0.0632	0.317
CM	-0.5107	0.672	-1.1602	0.377	-1.2637	0.379
NN	1.3709	0.000	0.0066	0.967	-0.1676	0.160
GDPG	-0.1834	0.847	-0.5591	0.552	-0.6662	0.515
INF	-0.3980	0.803	-0.8246	0.643	-1.1578	0.551
EXR	1.0052	0.504	0.7245	0.373	0.6739	0.436
Constant	-16.8149	0.221	-4.5116	0.559	-3.2568	0.692

Number of Observations	300	300	300
Coefficient of Determination (R^2)	0.7406	0.6960	0.6387
F-statistic	68.52	577.47	46.29
Prob	0.0000	0.0000	0.0000

Source: Compiled results from STATA 17 software

Under the Pooled OLS model, the R-squared value is 0.6387, indicating that the independent variables explain 63.87% of the variation in ROS. Statistically significant variables include firm size (P-value = 0.025), firm age (P-value = 0.000), revenue growth (P-value = 0.000), liquidity (P-value = 0.000), and financial leverage (P-value = 0.000). Among these, the regression coefficients for firm size, revenue growth, and financial leverage are -0.0610, - 0.2429, and -1.5170, respectively, indicating that these three factors have statistically significant negative effects on ROS. The remaining two variables firm age and liquidity have statistically significant positive effects on ROS, with regression coefficients of 0.0085 and 0.6758, respectively.

Under the Random Effects Model (REM), the R-squared value is 0.6960, suggesting that the independent variables explain 69.60% of the variation in ROS. Statistically significant variables include firm age (P-value = 0.008), revenue growth (P-value = 0.000), liquidity (P-value = 0.000), and financial leverage (P-value = 0.000). Among these, liquidityand financial leverage exhibit negative regression coefficients (-0.2991 and -1.4642, respectively), indicating statistically significant negative impacts on ROS. The remaining two variables have positive and statistically significant effects on ROS, with regression coefficients of 0.0090 and 0.5175, respectively.

Under the Fixed Effects Model (FEM), the R-squared value is 0.7406, indicating that the independent variables explain 74.06% of the variation in ROS. Statistically significant variables include firm size (P-value = 0.012), firm age (P-value = 0.000), financial leverage (P-value = 0.000), total asset turnover (P-value = 0.046), and foreign operations (P-value = 0.000). Among these, liquidity and financial leverage have negative regression coefficients (-0.2257 and -1.1750, respectively), indicating statistically significant negative effects on ROS. The remaining three variables exhibit statistically significant positive relationships with ROS, with regression coefficients of 0.2526, 0.1863, and 0.2185, respectively.

Table 3. ***Results of the F-test, Breusch–Pagan Lagrange Multiplier test, and Hausman test***

Kiểm định	**Chi - square**	**Prob**	**Selected method**
Dependent variable: ROA			
F-test		0.0000	FEM Better fit Pooled OLS
Breusch Pagan Lagrange	226.45	0.0000	REM Better fit Pooled OLS
Hausman	7.59	0.7492	REM Better fit FEM
Dependent variable: ROS			
F-test		0.0000	FEM Better fit Pooled OLS
Breusch Pagan Lagrange	50.50	0.0000	REM phù hợp hơn Pooled OLS
Hausman	59.44	0.0000	FEM phù hợp hơn REM

Source: Compiled results from STATA 17 software

For the model with ROA as the dependent variable, the value of Pro > F = 0.000 < 5% indicates that the Fixed Effects Model (FEM) is more appropriate than the Pooled OLS model. The Lagrange Multiplier test shows a P-value of 0.0000 < 5%, suggesting that the Random Effects Model (REM) is more suitable than the Pooled OLS model. Based on the Hausman test results, with a P-value of 0.7492 > 5%, the REM is preferred over the FEM. Accordingly, based on these test results, the REM is selected as the most appropriate model for the analysis with ROA as the dependent variable.

For the model with ROS as the dependent variable, the value of Pro > F = 0.000 < 5% indicates that the Fixed

Effects Model (FEM) is more appropriate than the Pooled OLS model. The Lagrange Multiplier test yields a P-value of 0.0000 < 5%, indicating that the REM is more suitable than the Pooled OLS model. However, the Hausman test result shows a P-value of 0.0000 < 5%, suggesting that the FEM is more appropriate than the REM. Therefore, based on these diagnostic tests, the FEM is selected as the most suitable model for the analysis with ROS as the dependent variable.

4.2. Diagnostic Tests for Model Violations

As both selected models exhibit heteroskedasticity and autocorrelation, the study applies the Feasible Generalized Least Squares (FGLS) estimation method to correct for these issues in both models and to obtain more accurate and reliable estimation results.

Table 4. Regression results using the FGLS model

Independent Variables	**Dependent variable ROA**		**Dependent variable ROS**	
	Regression Coefficients	**Significance Levels**	**Regression Coefficients**	**Significance Levels**
SIZE	0.0306	0.000	-0.0613	0.022
AGE	-0.0000	0.927	0.0085	0.000
GROWTH	0.0951	0.000	0.6758	0.000
LIQ	-0.0025	0.238	-0.2429	0.000
LEQ	-0.2577	0.000	-1.5170	0.000
AT	0.0500	0.000	-0.0632	0.307
CM	0.0308	0.888	-1.2637	0.368
NN	-0.0232	0.096	-0.1676	0.151
GDPG	-0.0202	0.928	-0.6662	0.506
INF	-0.0708	0.774	-1.1578	0.543
EXR	-0.1525	0.098	0.6739	0.426
Constant	0.8277	0.326	-3.2568	0.686
Number of Observations	300		300	
F-statistic	294.91		530.41	
Prob	0.0000		0.0000	

Source: Compiled results from STATA 17 software

The variables that are statistically significant with respect to ROA include firm size (SIZE) (P-value = 0.000), firm growth (GROWTH) (P-value = 0.000), financial leverage (LEQ) (P-value = 0.000), and liquidity (LIQ) (P-value = 0.0000). Among these variables, liquidity (LIQ) and financial leverage (LEQ) exhibit inverse relationships with ROA, while firm size (SIZE) and firm growth (GROWTH) have positive effects on ROA.

The variables that are statistically significant with respect to ROS include firm size (SIZE) (P-value = 0.022), firm age (AGE) (P-value = 0.000), firm growth (GROWTH) (P-value = 0.000), liquidity (LIQ) (P-value = 0.000), and financial leverage (LEQ) (P-value = 0.000). Among these, the variables that have negative effects on ROS are firm size (SIZE), liquidity (LIQ), and financial leverage (LEQ), while the remaining two variables firm age (AGE) and firm growth (GROWTH) have positive effects on ROS.

5. Conclusions and Policy Implications

This study was conducted to identify and measure the impacts of microeconomic and macroeconomic factors on the financial performance of textile and garment enterprises listed in Vietnam during the period 2013–2024, represented by two indicators: ROA and ROS. By applying panel data regression techniques and, in particular, employing the FGLS model to address heteroskedasticity and autocorrelation, the empirical results ensure robustness and yield clear economic implications. The regression outcomes provide a

comprehensive depiction of the drivers shaping financial performance in the textile and garment industry.

Firm size (SIZE) demonstrates a dual role: it has a positive effect on ROA but a negative effect on ROS. This finding reflects the distinction between asset utilization efficiency and profit margins, whereby large firms benefit from economies of scale in terms of asset efficiency while simultaneously facing substantial pressures from operating and managerial costs that erode profit margins. Revenue growth (GROWTH) shows a positive and statistically significant impact on both ROA and ROS, underscoring the pivotal role of market expansion and output growth in enhancing profitability. Firm age (AGE) exerts a positive effect on ROS, implying that accumulated operational experience and market stability constitute important foundations for sustaining profit margins. In contrast, liquidity (LIQ) has a negative effect on ROS, suggesting that excessively high liquidity may lead to inefficient capital utilization and reduced profitability relative to revenue.

Notably, financial leverage (LEQ) negatively affects ROA, which is consistent with increased risks stemming from interest expenses and debt repayment pressures. At the same time, it exhibits a mild negative effect on ROS, indicating that debt financing does not contribute to improving profit margins and may even diminish profitability from core business activities. This finding reinforces a well-established principle in financial theory that leverage only enhances firm performance when managed within an optimal threshold.

Meanwhile, market concentration (CM) and the dummy variable representing foreign operations (NN) do not exhibit statistically significant effects on either ROA or ROS. Similarly, macroeconomic factors such as GDP growth, inflation, and exchange rate fluctuations do not show statistically significant impacts on financial performance within the scope of this study. These results imply that, in the textile and garment industry, internal firm-specific factors—such as scale, financial structure, asset utilization efficiency, and growth capability—play a more decisive role in shaping financial performance than macroeconomic volatility.

Based on the six statistically significant determinants identified, the following policy recommendations are proposed to enhance financial performance in the textile and garment industry.

The results indicate that firm size (SIZE) has a strong and statistically significant positive impact on ROA. This finding supports the Trade-off Theory, confirming that large firms possess clear advantages in achieving economies of scale, thereby reducing production costs per unit. Larger scale also enhances corporate reputation and bargaining power, enabling firms to negotiate more favorable input prices and secure large, stable contracts in international markets.

Firms should proactively pursue inorganic growth strategies, such as mergers and acquisitions (M&A), particularly targeting high-potential or financially distressed firms, in order to rapidly expand production capacity and market share. At the same time, they should leverage scale advantages to invest in research and development (R&D) and adopt advanced technologies to strengthen competitive advantages in both quality and cost efficiency.

Firm age (AGE) has a positive effect on ROS, implying that the longer a firm operates, the higher its profitability relative to revenue. This reflects the accumulation of managerial experience, market knowledge, and organizational maturity, which together enhance operational efficiency.

Accordingly, textile and garment firms should actively capitalize on the values developed over time, particularly accumulated organizational knowledge and managerial expertise. Establishing knowledge management systems, conducting internal training based on practical experience, and standardizing operational processes are essential to sustaining efficiency and improving profit margins. In addition, firms should leverage brand reputation and long-standing relationships with customers and suppliers to enhance bargaining power and reduce input costs, thereby increasing ROS. However, to avoid the stagnation often associated with mature firms, continuous investment in technological innovation and encouragement of creativity are necessary to maintain competitiveness. Finally, utilizing historical data and accumulated market insights to optimize production and business planning will enable firms to further exploit time-based advantages and enhance revenue-based profitability.

Revenue growth (GROWTH) exhibits a statistically significant positive relationship with ROA, demonstrating that revenue expansion is a critical indicator of effective sales performance and strong market absorption of textile and garment products. High growth rates are typically associated with more efficient utilization of existing capacity, reducing the proportion of fixed costs in total costs and thereby improving profitability.

Firms should focus on value chain innovation and product portfolio diversification. Instead of relying solely on original equipment manufacturing (OEM), they should invest in original design manufacturing (ODM) and original brand manufacturing (OBM) to increase profit margins. Moreover, firms should capitalize on the global trend toward sustainable textiles and green fashion by using recycled or organic materials. This approach not only facilitates market expansion into developed economies but also supports sustainable revenue growth.

Financial leverage (LEQ) presents a clear complexity: it has a negative effect on ROA but a positive effect on ROE. The positive impact on ROE confirms the profit amplification mechanism of leverage, while the negative effect on ROA highlights the burden of interest costs and bankruptcy risk. This represents a classic trade-off between risk and return.

Firms must conduct scientific and regular assessments of optimal debt thresholds. Borrowing should only be undertaken when expected ROA exceeds the average cost of capital (WACC). It is recommended that firms diversify funding sources, prioritizing lower-cost capital (e.g., corporate bonds or trade credit) rather than relying exclusively on bank loans. Establishing early financial risk warning mechanisms is also essential to ensure that

debt ratios remain within safe limits and to prevent interest expenses from eroding core profitability (ROA).

Total asset turnover (AT) has a statistically significant positive effect on ROA, emphasizing the importance of efficient asset utilization, particularly in a capital-intensive industry such as textiles and garments. A high AT ratio indicates that firms effectively convert invested capital into revenue.

Firms should focus on optimizing operational cycles. For fixed assets, investment in automation technologies is necessary to shorten production time and increase capacity utilization. For current assets, advanced supply chain management (SCM) techniques such as Just-In-Time (JIT) should be implemented to minimize inventory levels, while improvements in trade credit management can accelerate the collection of receivables. Increasing asset turnover is the most direct way to enhance ROA...

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