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# Firm-Level and Macroeconomic Influences on the Profitability of Textile Industries in Bangladesh: A Panel Data Approach

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**Research Article**

## Abstract

***Purpose:*** *The objective of this research is to investigate the firm-specific and macroeconomic factors that influence the profitability of textile industries in Bangladesh.*

***Methods:*** *In this study, the financial statements of thirty-eight textile firms from 2017 to 2023 were examined. The websites of the International Monetary Fund, the World Bank, and the Bangladesh Bank were utilized to gather macroeconomic statistics. The panel data were examined using a random-effect regression model.*

***Results:*** *The results show that firm-specific characteristics such as liquidity, managerial efficiency, capital intensity, and earnings after tax (EAT)as a ratio of total assets improve the ROA of textile industries in Bangladesh. However, firm-specific characteristics such as firm size have a detrimental influence on the profitability of Bangladesh's textile industry. Additionally, macroeconomic variables such as real interest rates have a substantial impact on the ROA of Bangladesh's textile sector. Additionally, the study found that firm age, board size, GDP growth rate, and exchange rate had no significant impact on the profitability of textile firms in Bangladesh.*

***Implications****: The study provides a valuable contribution to understanding the issues that affect the profitability of textile industries in Bangladesh and offers insights into the measures that can be taken to enhance their financial performance.*

***Originality:*** *This study is novel in its integration of firm-level and macroeconomic factors to evaluate profitability in Bangladesh's textile sector, utilizing recent panel data (2017–2023). It provides a comprehensive perspective through random-effects regression and emphasizes previously under-examined variables, such as the EAT ratio and real interest rates.*

**Keywords:** ROA, Bank-specific variables, Macro-economic factors, Random Effect Regression, Textile Industries, Bangladesh.

## 1. Introduction

Globalization has significantly transformed the textile and garment industry, with industrialized nations increasingly relying on developing nations for their manufacturing needs. This trend is primarily driven by the need for cost-effective manufacturing and the availability of large labor pools in emerging countries, notably Asia. Global supply networks have become more efficient, enabling increased manufacturing capacity and enhanced market access. However, this transition has raised concerns about environmental impact, social equality, and resource exploitation. The textile and clothing industry is now one of the most globalized, with manufacturing networks dominated by low-cost Asian nations like China,


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Bangladesh, India, and Vietnam (Akimova & Kuptsova, 2022). These nations have emerged as key participants thanks to their enormous labor pools and cost advantages, making it harder for other areas to compete. Bangladesh has maintained a competitive advantage in the RMG industry, thanks to its low labor costs, which have played a crucial role in attracting foreign clients (Hasan et al., 2025).

However, its status as one of the world's largest exporters is being threatened by Vietnam, which has experienced tremendous growth in the industry. These obstacles include a lack of export diversification, infrastructure concerns, and the necessity for environmentally friendly methods. According to the most recent World Trade Organization (WTO) figures, Bangladesh was the world's second-largest garment exporter in 2021, having reclaimed second place from Vietnam in 2020. Bangladesh's garment exports climbed by 30.30 percent from July to January 2021-22, according to the most recent Export Promotion Bureau (EPB) data. Knitwear exports climbed by 32.89 percent, reaching $13.27 billion. In contrast, woven clothing exports climbed by 27.23% to $10.71 billion. As of 2023, the industry generates more than 80% of total export earnings and employs over 4 million people, with the majority of these being women (BGMEA, 2023). Despite its importance, the profitability of textile enterprises remains subject to both internal and external factors. Bangladesh's RMG exports are disproportionately concentrated in the EU and the United States, making it vulnerable to market volatility and trade policy changes in these regions (Hossain et al., 2019). Therefore, understanding the factors that contribute to profitability is vital for maintaining growth and competitiveness in an increasingly dynamic global market.

From a theoretical perspective, this study is grounded in the Resource-Based View (RBV) and Structure-Conduct-Performance (SCP) frameworks. The RBV posits that internal resources, such as firm liquidity, capital intensity, and management efficiency, are key to achieving a competitive advantage and profitability (Barney, 2005). In contrast, the SCP model emphasizes the role of external market structures and macroeconomic conditions—such as inflation, interest rates, and GDP growth—in shaping firm behavior and performance (Bain, 1951). By integrating both perspectives, the current study presents a comprehensive approach to examining the multifaceted factors that influence firm profitability. This theoretical integration facilitates a deeper understanding of how internal capabilities and external forces interact to influence the financial performance of textile industries in emerging economies, such as Bangladesh.

In a practical sense, the findings of this study are significant for stakeholders in the textile industry, including investors, legislators, and managers. Profitability is the most important measure of a company's long-term viability and wealth creation (Buallay et al., 2024). Identifying which firm-level characteristics (e.g., size, efficiency, and asset utilization) and macroeconomic conditions (e.g., interest rates, inflation) drive or impede profitability enables managers to optimize strategic decisions, such as cost management, capital allocation, and pricing strategies (Chudy-Laskowska et al., 2024). Furthermore, understanding the influence of firm-level features and macroeconomic conditions on profitability may help investors identify enterprises with high financial performance potential (Febriana & Wahyuningsih, 2024; Mehak et al., 2024). Understanding these dynamics enables policymakers to devise favorable fiscal, monetary, and industrial policies that enhance the resilience and global competitiveness of the textile industry in the face of increased regional rivalry and macroeconomic shocks.

Moreover, empirical studies on the joint impact of firm-specific and macroeconomic factors on profitability in the context of Bangladesh's textile industry are limited, particularly those employing robust panel data techniques. Prior studies have either focused solely on internal factors (Mitra et al., 2017) or macro-level influences (Shimu et al., 2018), leaving a research gap in comprehensive, data-driven analyses. Moreover, the study of the joint impact of firm-specific and macroeconomic factors on profitability in Bangladesh's textile industry is crucial for understanding the sector's dynamics and aligning


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with national development goals. Thus, the objective of this research is to investigate the firm-specific and macroeconomic factors that influence the profitability of textile industries in Bangladesh.
This research employs a random effects regression model to analyze panel data from 2017 to 2023, filling a gap in the literature by integrating both internal and external factors. This approach not only informs firm-level financial strategies but also supports Bangladesh's Vision 2041 and sustainable industrialization, aligning with SDG 9.

## 2. Literature Review

Profitability is a key indicator of a company's success, and it is essential for attracting investors and ensuring long-term viability. It represents the company's potential to generate a return on investment and is an important aspect of corporate value (Lukanima, 2023). Furthermore, Liuspita and Purwanto (2019) define profitability as a company's financial success after paying all income-related costs. Many studies, including Rezina, Ashraf, and Khan (2020); Khan et al. (2020); Zaid & Ahmad (2020); Mahmud et al. (2021); Nanda and Panada (2019); Liuspita and Purwanto (2019); Ifeduni and Charles (2018), and Hoque et al. (2022), employed ROA and ROE as profitability indicators. This ratio indicates how effectively a corporation utilizes its assets to generate profit. It is a commonly used indicator in profitability analysis to evaluate asset usage efficiency (Noviyani et al., 2022). ROE, on the other hand, measures how well a firm uses its shareholders' equity to create profit. It is an important metric for investors since it represents the return on investment (Purba & Sinaga, 2024).
Empirical research on the drivers of profitability in various manufacturing enterprises worldwide has yielded conflicting and contradictory conclusions. For example, Sharma (2022) investigated the factors affecting the profitability of the ceramic sector in Bangladesh and concluded that liquidity, company size, sales growth, capital intensity, and managerial efficiency all had a statistically significant effect on profitability. Pervan et al. (2019) employed the GMM model to examine the impact of various variables on firm profitability in Croatian manufacturing sectors. They observed that a company's age, labor expenses, industry concentration, GDP growth, and inflation all had a significant influence on profitability. Additionally, Rezina et al. (2020) examined the impact of firm-specific and macroeconomic variables on the profitability of the Bangladeshi cement industry. The results showed that business size, age, GDP growth rate, and real interest rate had a beneficial influence. In contrast, the expense-to-revenue ratio, debt, and inflation all hurt profitability. Hossain (2020) attempted to identify the primary variables affecting profitability in DSE manufacturing enterprises. According to the findings, liquidity and leverage have a statistically significant negative influence on earnings. Nonetheless, managerial effectiveness, sales development, and capital strength all have a statistically significant impact on profitability. The research also indicated that working capital, business size, inflation rate, and GDP growth do not have a substantial influence on profitability.
Due to its economic significance and potential for expansion, Bangladesh's textile industry has also garnered considerable research interest. Recent studies on the RMG and textile industries in Bangladesh (Asad et al., 2022; Amin, 2024; Chowdhury & Keya, 2022; Haque et al., 2021; Hasan et al., 2018; Chowdhury & Zabeen, 2020; Mostafiz et al., 2021; Tasnim, 2021) have primarily focused on gender discrimination in the workplace, problems and challenges, global competitiveness, sustainability, and training and development issues in the RMG sector. Very few studies have been conducted on the profitability determinants of Bangladesh's textile and ready-made garment industries. Recent research by Mahmud et al. (2021) on the profitability determinants of the textile industry in Bangladesh revealed that age, debt-to-equity ratio, growth, cost-effectiveness, and asset turnover have a significant impact on profitability. However, the analysis was limited by a small sample of textile firms and relied on outdated data spanning from 2011 to 2019. This study did not consider important variables such as capital intensity, firm age, real interest rate, export growth rate, and GDP growth rate.


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The textile industry's profitability in Bangladesh is a critical area of research due to its significant contribution to the national GDP, employment, and export earnings. Nonetheless, the existing research on the drivers of profitability in this business is often hindered by methodological and data limitations, resulting in a fragmented understanding. Many earlier studies have failed to capture the post-COVID-19 shifts in the global and local economic landscapes because they relied on outdated data and a small number of enterprises, particularly from 2011 to 2019. To overcome these constraints, this research utilizes current panel data from 2017 to 2023 to examine a larger sample of 18 top-performing textile manufacturers listed on the Dhaka Stock Exchange (DSE). This era encompasses the worldwide epidemic, as well as governmental responses and structural changes. Furthermore, the study is unique in that it considers a broader range of company-specific characteristics, including liquidity, efficiency, firm size, capital intensity, and macroeconomic indicators such as real interest rates, GDP growth, and exchange rates. This study offers a more comprehensive and up-to-date understanding of profitability factors by employing a random effects regression model within a robust empirical framework. The study aims to help formulate sustainable development strategies, influence investor behavior, and educate management decision-making in Bangladesh's textile industry.

## 3. Methodology of the study

### 3.1 Sampling

Data were compiled from the financial statements of thirty-eight Bangladeshi textile businesses listed on the DSE between 2017 and 2023. The total dataset comprises 266 income years from 38 textile enterprises in Bangladesh. The primary data sources for this study were secondary. Macroeconomic data were collected from the Bangladesh Bank, the World Bank, and the International Monetary Fund.

### 3.2 Model Development

The specification of firm-specific and macroeconomic determinants of the profitability of textile industries in Bangladesh has been formulated using the following equations:

$$ROA = \alpha + \beta_1(LIQ) + \beta_2(FS) + \beta_3(ME) + \beta_4(CI) + \beta_5(AGE) + \beta_6(EATC) + \beta_7(B.Size) + \beta_8(GDPR) + \beta_9(RIR) + \beta_{10}(EGR) + \varepsilon$$

Here,

ROA = Return on assets
LIQ= Liquidity
FS= Firm Size
ME= Management Efficiency.
CI=Capital Intensity
Age= Firm Age
EATC= EAT as a ratio of Total Assets.
B. Size= Board Size
GDPR= GDP growth Rate
RIR=Real Interest Rate
EGR=Export Growth Rate
$\beta_{0,1,2,\ldots,10}$= Coefficients; and ε = Error term.

### 3.3 Data Analysis

The quantities and values in this research were analyzed and reported using STATA 17 software. The paradigm for autocorrelation is defined by researchers using the Skewness and Kurtosis tests for normalcy, the Breusch-Pagan test for heteroscedasticity, and the Breusch-Godfrey LM test. The factors influencing


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the profitability of textile industries in Bangladesh are subsequently determined using the Prais-Winsten regression model.

## 4. Results

### 4.1 Normality Test

The Skewness/Kurtosis test table applies the Jarque-Bera technique to determine the normality of variables. A p-value less than 0.05 indicates a statistically significant departure from normality. The majority of the variables in this analysis (n = 266) reject the null hypothesis of normality ($p < 0.05$), indicating that they are not normally distributed. However, variables such as ROA ($p = 0.015$), FS ($p = 0.012$), and AGE ($p = 0.228$) are more closely aligned with normality, whereas EGR ($p = 0.880$) meets the normality criteria. These findings inform the selection of statistical methods; non-parametric approaches may be better suited to non-normal data. Adjusted chi-square values corroborate these results.

**Table 1**: **Skewness/Kurtosis Tests**

| Variable | Obs | Pr(skewness) | Pr(kurtosis) | Adj chi2(2) | Prob>chi2 |
|---|---|---|---|---|---|
| ROA | 266 | 0.625 | 0.003 | 8.340 | 0.015 |
| LIQ | 266 | 0.000 | 0.000 | 66.110 | 0.000 |
| FS | 266 | 0.002 | 0.438 | 8.780 | 0.012 |
| ME | 266 | 0.000 | 0.000 | 59.580 | 0.000 |
| CI | 266 | 0.000 | 0.000 | 78.380 | 0.000 |
| AGE | 266 | 0.692 | 0.098 | 2.960 | 0.228 |
| EATC | 266 | 0.000 | 0.000 | 74.030 | 0.000 |
| BS | 266 | 0.112 | 0.000 | 14.260 | 0.001 |
| GDP | 266 | 0.000 | 0.000 | 76.850 | 0.000 |
| RIR | 266 | 0.008 | 0.001 | 14.830 | 0.001 |
| EGR | 266 | 0.943 | 0.617 | 0.260 | 0.880 |

### 4.2 Descriptive Statistics

The summary statistics provide an overview of the distribution and characteristics of the variables used in the study. The dependent variable, ROA, has a mean of 2.8%, signifying moderate profitability, with a maximum of 14.4% and a low of –8.6%. Liquidity and Capital Intensity exhibit considerable variety, indicating diverse financial arrangements across enterprises. The mean logarithmic value of Firm Size is consistently 21.71. Management Efficiency and Earnings After Tax to Capital exhibit substantial variability. The Board Size, GDP growth, Real Interest Rate, and Exchange Rate Growth demonstrate less fluctuation, indicating more stable macroeconomic circumstances during the study period.

**Table 2: Variables' Summary Statistics**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| ROA | 266 | 0.028 | 0.033 | -0.086 | 0.144 |
| LIQ | 266 | 1.87 | 1.269 | 0.587 | 9.097 |
| FS | 266 | 21.715 | 1.001 | 19.292 | 23.563 |
| ME | 266 | 0.683 | 0.516 | 0.107 | 2.949 |
| CI | 266 | 2.062 | 1.303 | 0.339 | 9.353 |
| AGE | 266 | 3.08 | 0.47 | 1.946 | 4.007 |
| EATC | 266 | 0.045 | 0.079 | -0.463 | 0.227 |
| BS | 266 | 1.891 | 0.265 | 1.609 | 2.639 |
| GDP | 266 | 0.048 | 0.045 | -0.136 | 0.079 |
| RIR | 266 | 0.04 | 0.109 | -0.181 | 0.355 |
| EGR | 266 | 0.087 | 0.149 | -0.181 | 0.355 |


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### 4.3 Correlation of the Variables

The easiest and most common way to determine if two or more variables are related is to use the correlation matrix of the independent variable. When two independent variables correlate at 0.80 or higher, they are considered strongly associated.

**Table 3: Correlation Coefficients**

| Variables | ROA | LIQ | FS | ME | CI | AGE | EATC | BS | GDP | RIR | EGR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ROA | 1.000 | | | | | | | | | | |
| LIQ | 0.362 | 1.000 | | | | | | | | | |
| FS | -0.016 | 0.019 | 1.000 | | | | | | | | |
| ME | 0.194 | -0.066 | -0.278 | 1.000 | | | | | | | |
| CI | -0.491 | -0.104 | -0.009 | -0.611 | 1.000 | | | | | | |
| AGE | -0.326 | -0.224 | -0.490 | 0.209 | 0.152 | 1.000 | | | | | |
| EATC | 0.833 | 0.248 | 0.171 | 0.025 | -0.519 | -0.430 | 1.000 | | | | |
| BS | 0.151 | 0.027 | 0.324 | -0.221 | 0.091 | 0.042 | 0.251 | 1.000 | | | |
| GDP | -0.019 | -0.072 | -0.123 | 0.109 | -0.012 | 0.201 | -0.040 | 0.165 | 1.000 | | |
| RIR | -0.071 | -0.011 | 0.146 | -0.060 | -0.021 | -0.009 | 0.050 | -0.075 | -0.294 | 1.000 | |
| EGR | 0.077 | -0.051 | 0.052 | 0.067 | -0.156 | 0.064 | 0.148 | 0.106 | 0.069 | 0.445 | 1.000 |

The correlation matrix illustrates the associations among the studied variables. None of the independent variables correlates at 0.80, indicating the absence of significant multicollinearity issues. EATC exhibits the strongest positive correlation with ROA, at 0.833, indicating a robust relationship with profitability. Liquidity (0.362) and Management Efficiency (0.194) exhibit moderate positive relationships with ROA, whereas Capital Intensity (–0.491) and Firm Age (–0.326) display negative connections. The findings indicate that multicollinearity is not an issue, allowing for the reliable use of the variables in the regression analysis.

### 4.4 Test of Multicollinearity

A VIF test is also conducted to determine if the data set exhibits any issues with multicollinearity. The following table presents a summary of the results:

**Table 4: Variance Inflation Factors (VIF) and Tolerance Level**

| Variable | VIF | 1/VIF |
|---|---|---|
| CI | 2.88 | 0.347487 |
| EATC | 2.30 | 0.435528 |
| ME | 2.23 | 0.448556 |
| AGE | 2.02 | 0.493873 |
| FS | 1.80 | 0.555921 |
| BS | 1.59 | 0.629299 |
| RIR | 1.51 | 0.660648 |
| EGR | 1.40 | 0.715222 |
| GDP | 1.23 | 0.814100 |
| LIQ | 1.11 | 0.902282 |
| Mean VIF | 1.81 | |

The VIF of each independent variable is less than ten (cut-off VIF), and the mean VIF is also less than ten. Furthermore, no tolerance values lower than 0.10 are acceptable. As a result, the model has no multicollinearity.

### 4.5 The Test of Heteroscedasticity

The heteroscedasticity issue in the model is checked using the Breusch-Pagan test in this research. The hypothesis is as follows:


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**Table 5: Test of Heteroscedasticity**

| H0: Constant variance | |
|---|---|
| chi2(1) | 3.76 |
| Prob > chi2 | 0.0526 |

The chi-squared value has a probability of 0.0526, which is greater than the 0.05 significance level, indicating that it is statistically significant. As a result, the null hypothesis with constant variance cannot be rejected. As a result, the suggested model does not exhibit a heteroscedasticity problem.

### 4.6 Test of Autocorrelation

This study uses the Breusch-Godfrey LM autocorrelation test to determine autocorrelation. The hypothesis for testing the model for the autocorrelation problem is as follows:

$H_0 =$ There is no autocorrelation problem.

**Table 6: Test of Autocorrelation**

| Wooldridge test for autocorrelation in panel data<br>*H0: no first-order autocorrelation* | |
|---|---|
| **F( 1, 17)** | 12.136 |
| **Prob > F** | 0.0028 |

**Table 7: Breusch-Godfrey LM test**

| | **Var** | **SD = sqrt(Var)** |
|---|---|---|
| **ROA** | .0010822 | .0328966 |
| **E** | .0001784 | .0133564 |
| **u** | .0000441 | .0066378 |
| **chibar2(01)** | | 7.34 |
| **Prob > chibar2** | | 0.0034 |

The chi2 probability, which is less than 0.05, is 0.0034. Consequently, the null hypothesis that there is no autocorrelation is rejected. As a result, the data set exhibits an autocorrelation problem.

### 4.7 Regression Results

| **ROA** | **Coefficient** | **std. err.** | **z** | **P>\|z\|** | **95% conf.** | **interval** |
|---|---|---|---|---|---|---|
| LIQ | 0.004399 | 0.0009272 | 4.74 | 0.000 | 0.0025817 | 0.0062164 |
| FS | -0.003834 | 0.0012445 | -3.08 | 0.002 | -0.0062731 | -0.0013948 |
| ME | 0.0141578 | 0.003871 | 3.66 | 0.000 | 0.0065708 | 0.0217448 |
| CI | 0.0025324 | 0.0022207 | 1.14 | 0.254 | -0.00182 | 0.0068848 |
| AGE | -0.0030207 | 0.0037078 | -0.81 | 0.415 | -0.0102878 | 0.0042464 |
| EATC | 0.3482081 | 0.0308009 | 11.31 | 0.000 | 0.2878396 | 0.4085767 |
| BS | 0.001678 | 0.0064024 | 0.26 | 0.793 | -0.0108704 | 0.0142265 |
| GDP | -0.0239034 | 0.0225601 | -1.06 | 0.289 | -0.0681205 | 0.0203137 |
| RIR | -0.0283101 | 0.0113204 | -2.50 | 0.012 | -0.0504977 | -0.0061226 |
| EGR | 0.0032112 | 0.0102557 | 0.31 | 0.754 | -0.0168897 | 0.0233121 |
| CONS | 0.0803805 | 0.0284536 | 2.82 | 0.005 | 0.0246125 | 0.1361485 |
| Estimated covariances | | 171 | | Number of groups | | 18 |
| Estimated autocorrelations | | 0 | | R-squared | | 0.7780 |
| Estimated coefficients | | 11 | | Wald chi2(10) | | 907.79 |
| Number of obs | | 266 | | Prob > chi2 | | 0.0000 |


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There is no multicollinearity or heteroscedasticity issue with the model. The above-estimated findings demonstrate that the data set is autocorrelated. Therefore, the panel-corrected standard errors (PCSE) model, which automatically corrects heteroscedasticity and autocorrelation concerns, is used in this study. The following are the results of the test:

The multiple regressions are statistically significant because the chi-squared value of 889.85 has a significance level of 0%, less than the significance level of 5%. The regression analysis results demonstrate the statistical significance of the numerous regressions. The R-squared figure indicates that firm-specific and macroeconomic variables may account for 77.80 percent of the variation in the ROA of textile industries in Bangladesh. Liquidity ratio, firm size, management efficiency, EAT as a ratio of Total Assets, and Real interest rate are statistically significant in predicting the profitability of textile industries in Bangladesh at a 5% significance level. Moreover, capital intensity, firm age, Board size, GDP, and Export growth rate are not statistically significant in predicting profitability. According to the regression results mentioned above, the study model becomes

$$ROA = \alpha + \beta_1(LIQ) + \beta_2(FS) + \beta_4(ME) + \beta_5(CI) + \beta_6(EATC) + \beta_9(RIR)$$

$$ROA = 0.0803805 + 0.004399 * (LIQ) - 0.003834 * (FS) + 0.0141578 * (ME) + 0.0025324 * (CI) + 0.3482081 * (EATC) - 0.0283101 * (RIR)$$

The regression model, constant = 0.0803805, reveals that if all the independent variables (Liquidity ratio, Firm size, Management efficiency, EAT as a ratio of total assets, and real interest rate) are set to zero, ROA will be equal to 0.0803805.

## 5. Discussions

The favorable impact of liquidity on the return on assets of Bangladesh's textile businesses implies that effective liquidity management may boost profitability. Firms with more liquidity often earn higher returns on their assets, showing a solid financial position and operational efficiency. The findings are consistent with those of Hoque et al. (2025) and Nguyen et al. (2024). As a result, Bangladesh's textile manufacturers should prioritize maintaining sufficient cash to sustain operations and capitalize on investment opportunities. The data also show that firm size has a considerable negative influence on the return on assets (ROA) of Bangladesh's textile sectors, which contradicts Abeyrathna and Priyadarshana's (2019) findings. This suggests various practical implications. Smaller textile enterprises must adopt approaches that enhance operational efficiency and resource allocation to achieve profitability. Customized financial management solutions may potentially mitigate the negative repercussions associated with firm scale. Furthermore, authorities and industry stakeholders must consider implementing supportive measures, including enhancing access to funding and promoting the adoption of innovative technology. These initiatives may enhance the competitiveness of smaller enterprises, allowing them to improve their financial performance and contribute more effectively to the overall expansion of the textile industry.

Furthermore, the data suggest that managerial efficiency is crucial for enhancing the return on assets in Bangladesh's textile industry. This means that organizations with more effective and competent management procedures tend to have better profitability levels (Sreenivasulu & Mamilla, 2024). As a result, textile sector stakeholders should focus on enhancing management skills, adopting efficient operational procedures, and fostering an innovative and adaptable culture within their organizations. Firms may improve their performance and increase their ROA by investing in management development programs and implementing best practices, assuring long-term sustainability and market competitiveness. It has also been observed that firm-specific characteristics, such as capital intensity, have a favorable impact on the return on assets (ROA) of Bangladesh's textile industry, suggesting that capital asset investment yields higher returns in this sector (Huq & Ichihashi, 2023). As a result, it is advised that textile firms prioritize investments in new equipment and technology to boost production and efficiency, hence increasing ROA.


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Additionally, promoting policies that facilitate access to capital for such investments could further bolster the industry's performance. Moreover, fostering a conducive environment for technological innovation and skill development would help capitalize on the benefits of increased capital intensity, ensuring sustainable growth and competitiveness in Bangladesh's textile sector.

The study also revealed that EAT as a ratio of total assets positively influences profitability in Bangladesh's textile industries, underscoring the importance of efficient asset utilization and profitability management within these firms. The result aligns with prior studies (Mahmud et al., 2021). Therefore, to capitalize on this relationship, textile companies should prioritize strategies that enhance their earnings while effectively managing their assets. This may involve optimizing production processes, improving cost management, and investing in innovative technologies to boost productivity. Additionally, fostering a culture of financial discipline and transparency can help sustainably leverage these firm-specific factors for improved financial performance and competitiveness within the industry. The results also suggest that, in the context of Bangladesh's textile industry, real interest rates have a positive and significant influence on the return on assets (ROA). The result is consistent with that of Ali and Rahman (2022). This implies that as real interest rates increase, the ROA of textile industries in Bangladesh tends to improve. To capitalize on this relationship, policymakers and industry stakeholders could focus on strategies to manage interest rate fluctuations effectively, such as implementing monetary policies that maintain stable and favorable real interest rates. Additionally, textile companies could explore opportunities for strategic financial management, including optimizing their borrowing and investment decisions to align with prevailing interest rate conditions, thus enhancing their profitability and overall financial performance.

The finding that firm-specific factors like firm age and board size have no impact on the profitability of textile industries in Bangladesh suggests a need for deeper investigation into the dynamics affecting financial performance within this sector. While traditional metrics may not directly influence profitability, other variables such as operational efficiency, market positioning, and strategic management could play significant roles. So, it is recommended that textile firms should focus on exploring these alternative factors, possibly through comprehensive performance analyses, benchmarking studies against industry peers, and implementing tailored strategies to enhance competitiveness and profitability. Furthermore, ongoing monitoring and adaptation of corporate governance practices may also prove beneficial in ensuring effective decision-making and resource allocation within textile firms in Bangladesh. The study also revealed that macroeconomic factors, such as the GDP growth rate and exchange rate, have no significant impact on the return on assets (ROA) of textile industries in Bangladesh, suggesting a unique resilience or insulation of the textile sector from broader economic fluctuations. It suggests that other microeconomic or industry-specific variables may be driving ROA. So, it is recommended that textile firms should focus on exploring these internal factors, such as supply chain management, technological advancements, and market positioning, to sustain and enhance ROA despite external economic conditions. Additionally, further research into the specific dynamics of the textile industry in Bangladesh would be valuable for identifying the precise determinants of ROA and tailoring strategies accordingly.

## 6. Implications of the Study

### 6.1.Theoretical Implications

The theoretical implications of the research lie in its thorough examination of the factors influencing profitability in Bangladesh's textile sector. Firstly, it enhances current literature by clarifying the influence of firm-specific characteristics, including liquidity, managerial efficiency, and capital intensity, on return on assets. Secondly, it highlights the intricate relationship between firm size and profitability, suggesting a negative correlation. Additionally, it elucidates the substantial impact of macroeconomic variables, especially the real interest rate, on ROA. By clarifying these intricate dynamics, the study enhances the theoretical understanding of profitability in the textile industry, providing essential insights for researchers to improve financial performance in this vital sector.


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### 6.2. Managerial and Policy Implications

The study suggests that textile industry managers in Bangladesh should focus on enhancing liquidity, improving management efficiency, and optimizing capital intensity to bolster profitability. Additionally, prioritizing effective utilization of assets relative to earnings and considering the impact of firm size on profitability are essential considerations. Managers can also benefit from closely monitoring real interest rates, as they have a significant impact on profitability. For managerial implications, the findings highlight the importance of strategic decision-making in navigating the complex interplay between firm-specific and macroeconomic factors. Furthermore, policymakers could utilize these insights to formulate targeted interventions that aim to improve the financial performance of the textile industry. Strategies may involve creating an enabling environment for firms to enhance liquidity, facilitating efficient management practices, and providing support to manage capital intensity effectively. Overall, this research offers valuable guidance for both industry practitioners and policymakers to improve the financial performance of the textile industry in Bangladesh. Moreover, the findings of this research provide valuable insight into the factors that the BGMEA, BKMEA, and the government of Bangladesh must consider to improve firm performance in Bangladesh's ready garments and textile industries, which is critical for the continued existence of competitive global marketplaces.

## 7. Conclusion

Bangladesh's textile industry, a pillar of the economy, is under pressure from increased competition, notably from Vietnam and Myanmar. To sustain its competitive advantage and achieve the ambitious Vision 2041, Bangladesh must address several critical issues in its garment sector. The government can play a crucial role in facilitating this change by taking deliberate initiatives to enhance the sector's global competitiveness and sustainability. Bangladesh's garment industry must address its problems promptly to maintain its position in the global market, and the government can support this effort by implementing major initiatives. These studies help highlight the key challenges that the textile sector faces, notably in terms of profitability. By ensuring the profitability of the textile sector, Bangladesh can enhance its export capacity and generate foreign currency, thereby improving its economic position. Furthermore, the textile sector creates numerous job opportunities in both rural and urban areas, particularly for low-skilled individuals. Profitable textile enterprises can create and expand employment opportunities, thereby reducing unemployment and poverty. Furthermore, the profitability of the textile sector has the potential to improve the socioeconomic status of workers and local communities. As more individuals find employment and income opportunities, poverty rates decline and living standards improve. This helps promote inclusive development, reduce economic disparities, and foster a more equitable society. Overall, the profitability of Bangladesh's textile industries is crucial to the country's economic progress, as it generates export revenue, creates job opportunities, promotes industrial diversification, strengthens supply chains, drives technological advancements, and fosters inclusive growth. The study's results highlight the complex interaction between internal operational dynamics and external economic variables that influences the financial performance of textile enterprises in Bangladesh. Understanding these dynamics provides valuable insights for stakeholders aiming to improve the financial resilience and performance of the country's textile industry, suggesting targeted interventions in areas such as liquidity management, operational efficiency, and response to macroeconomic trends to maximize profitability and sustainability.

## 7. Limitations and Future Research Directions

The study's limitations include possible bias stemming from its restricted scope, as it analyzes only thirty-eight textile enterprises, which may not adequately reflect the overall sector. Furthermore, the dependence on financial statements from 2017 to 2023 may not reflect current market dynamics or shifts in industry trends. Furthermore, although macroeconomic data from reputable sources such as the International


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Monetary Fund and the World Bank were utilized, the research may overlook subtle geographical or sector-specific factors that could impact profitability. Subsequent studies may rectify these shortcomings by using a bigger and more heterogeneous sample size, integrating real-time data to reflect current market circumstances, and conducting comprehensive assessments of regional disparities within the textile sector. Moreover, examining the influence of developing technologies, sustainability efforts, and global market dynamics on the profitability of textile companies might provide significant insights for industry stakeholders and policymakers.

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