



The Impact of Financial Structure on Corporate Performance: Evidence from Selected EAGLEs Economies

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Abstract: Financial structure selections are regarded as one of a company's most strategic and crucial choices. By effectively and appropriately implementing these choices, a business may achieve its ultimate objective: maximizing value. This study looks at how manufacturing firms in the sample EAGLE rising nations of China, India, Brazil, Indonesia, and Turkey performed between 2010 and 2019 in relation to financial structure. The financial structure indicators in this study are the short- and long-term debt ratios. In contrast, the corporate profitability indicators are the return on equity, return on assets, and earnings before interest, tax, depreciation, and amortization margin. Sales growth and firm size are included as control variables to account for firm-specific characteristics that may influence corporate performance. The study employs panel data analysis to examine the relationship between financial structure and firm performance across the selected emerging economies. The study's findings indicate that during the study period, financial leverage had a substantial detrimental effect on the performance of manufacturing firms operating in the aforementioned sample EAGLE emerging nations. In other words, a rise in debt reduces the worth of the corresponding businesses. The performance of the aforementioned companies during the study period is substantially positively connected with the control variables, which are sales growth and company size. The findings provide empirical evidence on the importance of maintaining an appropriate financial structure to improve profitability and sustain firm value in emerging markets. These findings offer practical insights for managers, investors, policymakers, and academic researchers.

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INTRODUCTION

When firms are established, they may pursue multiple objectives; however, enhancing firm value and maximizing shareholders' wealth are widely recognized as the central motivations behind business activities (Jensen & Meckling, 1976; Brigham & Ehrhardt, 2017). Recent

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studies continue to affirm that firm value maximization remains the primary objective of corporate financial management (Vo & Ellis, 2022; Nguyen et al., 2023). Financial scholars argue that one of the most effective ways to achieve this objective is through the design of an appropriate financial structure, as financing decisions directly influence the cost of capital and, consequently, the overall value of the firm (Modigliani & Miller, 1958; Myers, 1984). Contemporary empirical evidence also suggests that financing decisions significantly affect firm performance and market value, particularly in emerging economies (Vo & Ellis, 2022; Alipour et al., 2024).

In determining their financial structure, companies may rely on equity financing, debt financing, or a mixture of both sources depending on organizational goals and financial strategies (Rajan & Zingales, 1995). Recent studies indicate that firms adjust their financing choices according to market conditions, institutional quality, and firm-specific characteristics (Dang et al., 2021; Nguyen et al., 2023). Many firms tend to prefer debt financing because of its relatively lower cost and its flexibility in shaping an optimal capital mix (Frank & Goyal, 2009). However, excessive leverage may negatively influence profitability and firm value (Alipour et al., 2024).

Nevertheless, determining the most suitable financial structure remains a critical challenge for corporate decision-makers (Harris & Raviv, 1991). Some organizations emphasize internal financing as a mechanism for value enhancement (Myers & Majluf, 1984), while others advocate short- or long-term borrowing based on trade-off considerations (Kraus & Litzenberger, 1973). Still, others recommend a balanced combination of multiple funding sources (Titman & Wessels, 1988). Recent evidence suggests that no single financing strategy is universally optimal, as the effectiveness of financial structure depends on firm characteristics, industry conditions, and macroeconomic environments (Vo & Ellis, 2022; Dang et al., 2021; Nguyen et al., 2023). These differing perspectives indicate the continued absence of a universally accepted approach to financial structure decisions.

Recent research shows that financial structure affects firm performance depending on economic conditions, institutional quality, and market development. While debt can support growth and provide financial benefits, excessive leverage may increase risk and reduce profitability. Therefore, financing decisions should be evaluated according to each country's economic and institutional context (Baloch et al., 2023; Taani, 2022; Pham & Nguyen, 2023).

This study seeks to address the following primary research questions:

1. Is there a statistically significant relationship between financial leverage and corporate profitability in each of the selected EAGLE emerging countries?
2. If such a relationship exists, what is the direction and magnitude of the relationship between financial leverage and corporate profitability in each of the selected EAGLE emerging countries?
3. Does financial leverage exert a consistent effect on corporate profitability across all selected EAGLE emerging countries, or does its impact vary among these markets?

The following hypotheses are formulated to address the research questions of this study.

Corporate profitability is measured using Return on Assets (ROA), Return on Equity (ROE), and EBITDA Margin. At the same time, financial leverage is represented by Short-Term Debt (STD) and Long-Term Debt (LTD). Sales Growth and Firm Size are included as control variables.

H0₁: Financial leverage has no statistically significant relationship with corporate profitability in each of the selected EAGLE emerging countries.

H1₁: Financial leverage has a statistically significant relationship with corporate profitability in each of the selected EAGLE emerging countries.

H0₂: Short-term debt and long-term debt have no statistically significant effect on corporate profitability in each of the selected EAGLE emerging countries.

H1₂: Short-term debt and long-term debt have a statistically significant effect on corporate profitability in each of the selected EAGLE emerging countries.

H0₃: Sales growth and firm size do not have a statistically significant effect on corporate profitability in the selected EAGLE emerging countries.

H1₃: Sales growth and firm size have a statistically significant effect on corporate profitability in the selected EAGLE emerging countries.

Most empirical studies on financial leverage and corporate performance have increasingly examined the role of capital structure decisions in emerging markets, where financial systems, institutional environments, and corporate governance mechanisms differ significantly from developed economies. Recent studies indicate that leverage–performance relationships vary across emerging economies due to differences in market development, regulatory frameworks, and firm-specific characteristics (Sdiq & Abdullah, 2022; Nguyen et al., 2023). Moreover, recent evidence suggests that while debt financing can support firm growth and investment opportunities, excessive leverage may negatively affect profitability and firm value, particularly in emerging markets (Khan & Qasem, 2024; Loncan et al., 2024). However, comparative studies covering groups of emerging economies remain relatively limited, highlighting the need for further investigation across diverse emerging markets such as the EAGLE economies.

Addressing this gap, the present study explores the impact of Financial Structure on the performance of companies operating within five EAGLE emerging economies—China, India, Brazil, Indonesia, and Turkey. The findings aim to provide practical financial guidance for corporate managers, advisors, investors, and other stakeholders regarding the optimal balance between debt and equity financing, while also helping investors and financial analysts identify which Financial Structure combinations are more likely to enhance firm value and Corporate profitability across the selected emerging markets.

Theoretical Framework

The influence of financial leverage on corporate profitability has attracted considerable attention in the corporate finance literature. Several theoretical perspectives explain how financing decisions affect firm performance, with the most prominent being the Modigliani–Miller Theory, Trade-Off Theory, Pecking Order Theory, and Agency Theory. The pioneering work of Modigliani and Miller (1958) established that, under ideal market conditions characterized by perfect information, no taxes, and no transaction or bankruptcy costs, a firm's value is unaffected by its financing mix. This proposition was later revised when Modigliani and Miller (1963) incorporated corporate taxes into their framework, demonstrating that debt financing can enhance firm value through the tax deductibility of interest payments. Building on this concept, the Trade-Off Theory suggests that firms seek an optimal capital structure by balancing the tax advantages of debt against the potential costs of financial distress and bankruptcy (Kraus & Litzenberger, 1973). As a result, moderate debt levels may improve firm performance, whereas excessive leverage may diminish profitability. An alternative perspective is offered by the Pecking Order Theory, which argues that financing choices are primarily driven by information asymmetry between managers and outside investors (Myers & Majluf, 1984). Under this theory, firms generally finance investments first through retained earnings, then debt, and finally equity issuance. Consequently, highly profitable firms are expected to depend less on external borrowing. Agency Theory (Jensen & Meckling, 1976) further explains that debt may improve corporate performance by reducing managerial discretion and strengthening external monitoring. However, excessive borrowing may also increase conflicts between shareholders and creditors and expose firms to greater financial risk. Collectively, these theories provide contrasting expectations regarding the relationship between financial leverage and corporate profitability.

Empirical evidence concerning the effect of financial leverage on corporate profitability remains inconclusive. Several studies have reported that leverage contributes positively to firm performance, arguing that debt financing promotes operational efficiency and enables firms to benefit from tax advantages (Vijayakumaran, 2017; Safiudin & Adesina, 2015). Conversely, other researchers have found that high leverage negatively affects profitability because larger debt obligations increase financial risk and financing costs (Mwangi, 2013; Narayanasary, 2015; Vătavu, 2015; Nassar, 2016; Nguyen Thu, 2016). In addition, Harris and Raviv (1991) and Cole et al. (2015) emphasize that the effect of leverage is not uniform across firms, as industry characteristics, institutional settings, and economic conditions may influence the direction and magnitude of this relationship.

Although capital structure has been extensively investigated, much of the existing evidence is drawn from developed economies where financial systems are relatively mature (Booth et al., 2001). Comparatively, research conducted in emerging markets remains more limited despite their increasing contribution to global economic growth (Bekaert & Harvey, 2003). Furthermore, previous studies have predominantly examined individual countries, with relatively few comparative analyses focusing on groups of emerging economies (De Jong

et al., 2008; Zeitun & Tian, 2007). Consequently, there is still limited evidence regarding the relationship between financial leverage and corporate profitability across EAGLE emerging economies.

RESEARCH METHOD

Study Design

This study adopted a quantitative explanatory research design using balanced panel data to examine the effect of financial structure on the corporate profitability of manufacturing firms operating in five EAGLE emerging economies (China, India, Brazil, Indonesia, and Turkey) over the period 2010–2019. An explanatory research design is appropriate because the primary objective of the study is to determine the causal relationship between financial leverage and corporate profitability while controlling for firm-specific characteristics such as sales growth and firm size. Unlike exploratory or descriptive research, explanatory research seeks to identify and explain cause-and-effect relationships among variables through empirical testing of hypotheses (Creswell & Creswell, 2018; Saunders et al., 2019).

Panel data methodology was selected because it combines both cross-sectional and time-series observations, allowing the researcher to capture variations across firms and over time simultaneously. Compared with pure cross-sectional or time-series analyses, panel data provide several methodological advantages, including greater variability in the data, increased degrees of freedom, reduced multicollinearity, improved estimation efficiency, and better control for unobservable firm-specific heterogeneity (Baltagi, 2021; Wooldridge, 2019). Furthermore, panel regression techniques enable researchers to isolate the effect of financial structure on corporate profitability while accounting for unobserved characteristics that remain constant over time but differ across firms. Consequently, this research design is considered the most appropriate approach for addressing the study objectives and testing the proposed hypotheses in a multi-country setting.

Sampling Method

The target population of this study consisted of 3,780 manufacturing companies operating in the selected EAGLE emerging economies. Since obtaining complete and consistent financial information for every company over the entire ten-year study period was not feasible, a stratified sampling technique was employed. Manufacturing firms were first classified into their respective industrial sectors to ensure that all major manufacturing industries were proportionally represented. Subsequently, approximately 20% of high-capitalization firms from each sector were selected, resulting in a final sample of 756 companies.

Stratified sampling was chosen because manufacturing firms differ considerably in terms of industrial characteristics, capital intensity, financing patterns, and profitability. Dividing the population into relatively homogeneous strata before sample selection improves the representativeness of the sample and reduces sampling error compared with simple random sampling (Cochran, 1977; Saunders et al., 2019). Moreover, selecting firms proportionally

from each manufacturing sector minimizes the possibility that certain industries will be overrepresented or underrepresented, thereby improving the generalizability and reliability of the empirical findings.

The selection of high-capitalization firms was also justified because these companies are more likely to maintain complete, audited, and publicly available financial statements throughout the study period. Continuous financial reporting is essential for balanced panel data analysis and helps minimize missing observations that could reduce the reliability of econometric estimates. Similar sampling approaches have been widely employed in corporate finance and panel data studies where data availability and reporting consistency are critical selection criteria (Baltagi, 2021; Wooldridge, 2019).

Data Collection Method

Secondary financial data were collected from the Morningstar and Finbox financial databases and subsequently verified using the audited annual reports of the sampled companies. These databases are widely recognized sources of standardized financial information. They are extensively used in empirical corporate finance research because they provide reliable, comprehensive, and comparable firm-level financial data across countries. Cross-verification with audited annual reports further enhanced the accuracy, completeness, and reliability of the dataset.

Data Collection Procedure

Financial information covering the period 2010–2019 was extracted from the selected databases and carefully screened to ensure completeness, consistency, and comparability across firms and countries. Companies with incomplete financial statements, missing observations, or inconsistent reporting during the study period were excluded to maintain a balanced panel dataset and improve the robustness of the econometric analysis. After data cleaning, the financial information was organized into a panel dataset suitable for statistical analysis.

Data Analysis

The data were analyzed using Stata 16.0. Initially, descriptive statistics and Pearson correlation analysis were performed to summarize the characteristics of the variables and examine preliminary relationships among them. Before estimating the regression models, several diagnostic tests were conducted to ensure compliance with the assumptions of panel data analysis. The Im–Pesaran–Shin (IPS) unit root test was used to assess stationarity, while the Variance Inflation Factor (VIF) was employed to detect multicollinearity among explanatory variables. The Breusch–Pagan Lagrange Multiplier (LM) test, F-test, and Hausman specification test were subsequently used to determine the most appropriate panel estimation model (pooled OLS, fixed effects, or random effects). Finally, because panel datasets commonly exhibit heteroscedasticity and serial correlation, robust standard errors were applied to produce consistent and reliable coefficient estimates (Baltagi, 2021; Wooldridge, 2019).

Validity and Reliability of the Study

By using data from reliable financial databases and verified corporate reports, choosing variables based on existing research, and performing diagnostic tests such as the IPS, VIF, Hausman, Modified Wald, and Wooldridge tests, the study ensured validity and reliability. Strong standard errors further improved the regression estimates' dependability.

Data Processing and Research Model Specification

In this study, data analysis was conducted in three stages using Stata 16.0. First, descriptive analysis provided an overview of the research context. Second, correlation analysis examined relationships between variables. Third, multiple regression models assessed the impact of financial leverage on Corporate profitability. Before regression, the IPS unit-root test and VIF were applied to ensure data were free from unit-root and multicollinearity issues. To select the appropriate regression model (OLS, Fixed Effect, or Random Effect), Breusch-Pagan LM, F, and Hausman tests were used. Robust standard errors were applied to address heteroscedasticity and autocorrelation. Panel regression equations were then estimated using data from financial databases and annual company reports to evaluate the effect of Financial Structure on Corporate profitability.

$$ROA = \beta_0 + \beta_1 STDA + \beta_2 LTDA + \beta_3 GRW + \beta_4 SIZE + \epsilon$$

$$ROE = \beta_0 + \beta_1 STDA + \beta_2 LTDA + \beta_3 GRW + \beta_4 SIZE + \epsilon$$

$$EBITDA.M = \beta_0 + \beta_1 STDA + \beta_2 LTDA + \beta_3 GRW + \beta_4 SIZE + \epsilon$$

Whereas

LTDA displays the ratio of long-term debt (LTD) to total assets (TA),

STDA displays the ratio of short-term debt (STD) to total assets (TA).

GRW: Indicates a rise in sales over the previous year. (Sales from the previous year minus the current year) / (Sales from the previous year)* 100

SIZE: displays the company's size and sales history.

The error term is ϵ .

FINDINGS

Table 1 presents the descriptive statistics for manufacturing firms operating in the five selected EAGLE emerging economies (China, India, Brazil, Indonesia, and Turkey) over the 2010–2019 period.

For Chinese manufacturing firms, short-term debt (STD) and long-term debt (LTD) account for an average of 38.49% and 10.72% of total assets, respectively. The mean profitability indicators reveal average ROA, ROE, and EBITDA margin values of 4.41%, 8.58%, and 15.35%, suggesting satisfactory operating performance throughout the study period. The control variables report average values of 16.58% for sales growth and 8.47 for firm size. Among all

variables, sales growth, STD, and ROE exhibit the greatest variability, with standard deviations of 23.79, 16.60, and 13.22, respectively.

Indian manufacturing firms finance approximately 38.12% of their assets through short-term debt and 18.14% through long-term debt. The average profitability measures—ROA (5.64%), ROE (12.55%), and EBITDA margin (14.02%)—indicate relatively strong financial performance. Sales growth averages 12.95%, ranging from –31.73% to 71.40%, reflecting considerable variation in firms' growth rates. Moreover, the relatively small dispersion in firm size suggests that although the sampled firms operate across different manufacturing industries, they are broadly comparable in scale.

Brazilian firms display a different financing pattern, with average short-term and long-term debt ratios of 26.16% and 27.94%, respectively, implying that more than half of their assets are financed through debt. Average profitability remains relatively modest, with ROA of 3.19%, ROE of 5.52%, and an EBITDA margin of 15.62%. The mean values for sales growth and firm size are 8.05% and 7.35, respectively.

In Indonesia, manufacturing firms maintain average short-term and long-term debt ratios of 33.76% and 19.30%, respectively. The corresponding mean values of ROA (5.56%), ROE (7.75%), and EBITDA margin (9.38%) indicate satisfactory corporate performance during the sample period. Sales growth averages 10.34%, demonstrating continued expansion in business activities, while the firm-size statistics suggest that most companies maintained relatively stable organizational growth throughout the study period.

Turkish manufacturing firms finance an average of 36.52% of their assets through short-term debt and 21.27% through long-term debt. Average profitability indicators include ROA of 4.01%, ROE of 8.16%, and an EBITDA margin of 13.32%, reflecting moderate financial performance. The control variables also show positive trends, with mean sales growth of 17.96% and average firm size of 6.82. The highest levels of variation are observed for ROE, sales growth, and short-term debt, with standard deviations of 22.16, 19.30, and 16.23, respectively.

Overall, the descriptive statistics reveal noticeable differences in financing structures and profitability across the five EAGLE economies. Although the degree of debt financing varies among countries, all sampled firms report positive average profitability and sales growth, providing an appropriate basis for the subsequent correlation and panel regression analyses.

Table 1: Descriptive Statistics by Country (2010–2019)

Countries	Variable	Mean	Std. Dev.	Min	Max
China	ROA	4.41	5.65	-19.06	20.93
	ROE	8.58	13.22	-61.08	43.57
	EBITDA Margin	15.35	12.21	-29.08	61.60
	STD	38.49	16.60	4.29	83.87
	LTD	10.72	9.12	-6.94	66.10

India	Sales Growth	16.58	23.79	-21.25	73.48
	Firm Size	8.47	1.55	2.996	14.74
	ROA	5.64	6.32	-13.93	26.38
	ROE	12.55	15.07	-53.13	56.45
	EBITDA Margin	14.02	9.33	-20.40	49.39
	STD	38.12	15.01	8.48	84.15
	LTD	18.14	12.60	0.56	57.69
Brazil	Sales Growth	12.95	19.29	-31.73	71.40
	Firm Size	9.32	1.64	3.89	15.25
	ROA	3.19	9.40	-51.76	27.99
	ROE	5.52	20.11	-73.62	44.43
	EBITDA Margin	15.62	13.84	-16.50	58.96
	STD	26.16	17.15	2.97	82.15
	LTD	27.94	17.84	6.50	60.31
Indonesia	Sales Growth	8.05	17.86	-36.83	67.20
	Firm Size	7.35	1.99	3.14	11.41
	ROA	5.56	7.93	-27.39	37.25
	ROE	7.75	22.03	-69.01	35.99
	EBITDA Margin	9.38	12.13	-26.15	60.64
	STD	33.76	16.26	8.31	82.01
	LTD	19.30	14.65	0.74	58.01
Turkey	Sales Growth	10.34	18.00	-31.43	63.83
	Firm Size	13.54	3.68	5.06	19.29
	ROA	4.01	7.72	-31.07	32.78
	ROE	8.16	22.16	-72.01	48.18
	EBITDA Margin	13.32	13.23	-46.75	87.84
	STD	36.52	16.23	6.37	79.86
	LTD	21.27	12.34	1.19	61.54
	Sales Growth	17.96	19.30	-15.31	73.85
	Firm Size	6.82	1.73	1.39	11.94

Note. ROA = Return on Assets; ROE = Return on Equity; EBITDA.M = Earnings Before Interest, Tax, Depreciation and Amortization Margin; STD = Short-Term Debt; LTD = Long-Term Debt.

Correlation Analysis

Table 2 presents the Pearson correlation coefficients between financial structure and corporate profitability for manufacturing firms in the five selected EAGLE emerging economies (China, India, Brazil, Indonesia, and Turkey) during the period 2010–2019. The correlation results reveal a consistent inverse relationship between financial leverage and corporate profitability across the sampled countries.

In China and India, both short-term debt (STD) and long-term debt (LTD) are negatively associated with the profitability indicators (ROA, ROE, and EBITDA margin), suggesting that

firms with higher debt ratios tend to achieve lower financial performance.

In contrast, the control variables—sales growth and firm size—generally exhibit positive correlations with profitability, indicating that expanding firms and those with greater organizational scale are more likely to perform better.

A similar pattern is observed in Brazil, where long-term debt is negatively correlated with all profitability measures, while short-term debt shows negative associations with ROA and EBITDA margin. Sales growth continues to demonstrate a positive relationship with firm performance.

Likewise, Indonesian manufacturing firms display negative correlations between both debt measures and profitability, whereas sales growth and firm size are positively related to financial performance.

The Turkish sample also follows the same general trend, with financial leverage exhibiting negative correlations with profitability indicators, while the control variables maintain positive associations.

Overall, the correlation analysis suggests that higher levels of both short-term and long-term debt are generally associated with lower corporate profitability across the five EAGLE economies. Conversely, firms with stronger sales growth and larger organizational size tend to report better financial performance. The consistency of these relationships across the sampled countries provides preliminary evidence that financial leverage may adversely affect firm performance, whereas internal growth and firm scale contribute positively to profitability. These findings provide initial support for the subsequent panel regression analysis, which further examines the magnitude and statistical significance of these relationships.

The correlation coefficients are generally moderate in magnitude, indicating meaningful but not excessively strong relationships among the study variables. The negative association between both short-term and long-term debt and profitability is consistently observed across the sampled countries, although the strength of the relationships varies. In contrast, sales growth and firm size maintain positive correlations with most profitability indicators, suggesting that firm expansion contributes to improved financial performance. Overall, the correlation matrix provides preliminary empirical evidence supporting the expected relationships and justifies using panel regression analysis to examine their statistical significance and economic effects further.

Table 2. Pearson Correlation Coefficients (China, India, Brazil, Indonesia, Chile) 2010-2019

Countries	ROA	ROE	EBITDA.M	STD	LTD	S.GTH	F.Size
ROA	1.00						
ROE	.87***	1.00					
EBITDA.M	.58***	.51***	1.00				
STD	-.32***	-.14***	-.38***	1.00			
LTD	-.23***	-.12***	.05***	-.02	1.00		

China	Sales Growth	.32***	.32***	.12***	-.001	-.005	1.00	
	Firm Size	.03	.14***	-.21***	.30***	.20***	.04**	1.00
	ROA	1.000						
	ROE	.846***	1.000					
	EBITDA.M	.511***	.411***	1.000				
	STD	-.300***	-.137***	-.428***	1.000			
	LTD	-.290***	-.163***	-.008	-.158***	1.000		
	Sales Growth	.240***	.276**	.092***	.041**	-.002	1.000	
India	Firm Size	.106***	.115***	.122***	-.087***	.141***	.022	1.000
	ROA	1.000						
	ROE	.600***	1.000					
	EBITDA.M	.540***	.325**	1.000				
	STD	-.110**	.044	-.200***	1.000			
	LTD	-.430***	-.270***	-.100*	.120**	1.000		
	Sales Growth	.130**	.167***	.217***	-.110**	-.041	1.000	
	Firm Size	.039	.043	.070	-.090*	-.170**	.062	1.000
Indonesia	ROA	1.000						
	ROE	.810***	1.000					
	EBITDA.M	.751***	.640***	1.000				
	STD	-.430***	-.340***	-.490***	1.000			
	LTD	-.320***	-.350***	-.250***	-.190***	1.000		
	Sales Growth	.260***	.240***	.140***	-.018	.053	1.000	
	Firm Size	.220***	.074	.100**	-.053	-.090*	-.050	1.0000
	ROA	1.000						
Turkey	ROE	.850***	1.000					
	EBITDA.M	.657***	.511***	1.000				
	STD	-.268***	-.110**	-.372***	1.000			
	LTD	-.233***	-.160***	-.068	-.12***	1.000		
	Sales Growth	.241***	.254***	-.078*	-.041	-.018	1.000	
	Firm Size	.350***	.350***	.222***	.058	.049	-.032	1.000
	ROA	1.000						
	ROE	.850***	1.000					

Note: * significant at 0.10, ** significant at 0.05 and *** significant at the 0.01 level.

Before doing regression analysis, we used the Variance Inflation Factor and Im-Pesaran-Shin unit root tests for each company in the sample nations to assess the data's stationarity and multicollinearity.

It may be concluded that the data utilized in regression analysis are stationary and devoid of multicollinearity because the results of the aforementioned tests demonstrate that neither the P-Value nor the mean VIF of any nation is greater than 5%.

We also identify the serial correlation issue that arises from time series and the heteroscedasticity issue that arises from cross-sectional data using the Modified Wald and Wooldridge tests.

Therefore, we used Robust Standard error regression to eliminate these issues and produce trustworthy results.

Regression Analysis

The regression findings of the influence of financial structure on the performance of Chinese manufacturing enterprises from 2010 to 2010 are displayed in Table 3.

The short-term debt (STD) ratio has a substantial detrimental impact on Chinese enterprises' performance for ROA, ROE, and EBITDA margin, as the table below illustrates.

Similarly, there is a strong negative correlation between the Long-Term Debt (LTD) ratio and the performance metrics of the enterprises in question.

Among the control variables, the performance of Chinese enterprises is strongly positively correlated with sales growth, and the ROA and ROE of these companies are significantly positively correlated with their size.

The results of this study report that the level of debt and operating performance of Chinese firms are inversely related; increasing the debt in the Financial Structure of these firms causes their value to decrease.

Moreover, the correlation coefficients indicate that the relationships among the study variables are generally consistent across the five selected EAGLE economies despite differences in their economic environments.

The relatively stable pattern of negative correlations between debt financing and profitability suggests that excessive financial leverage may adversely influence firm performance.

Conversely, the positive associations of sales growth and firm size with profitability imply that firms with stronger growth prospects and larger operational capacity are more likely to achieve superior financial outcomes.

These findings provide additional preliminary evidence supporting the theoretical expectations of the study and reinforce the suitability of the variables for the subsequent panel regression analysis.

Table 3: Fixed Effect (Robust) regression model – China (2010–2019)

Explanatory Variables	ROA (Fixed Effect)	p	ROE (Fixed Effect)	p	EBITDA Margin (Fixed Effect)	p
STD	-0.162 (-10.18)	.000	-0.306 (-6.73)	.000	-0.263 (-6.80)	.000
LTD	-0.156 (-9.87)	.000	-0.256 (-5.83)	.000	-0.118 (-2.58)	.010
Sales Growth	0.068 (18.04)	.000	0.165 (16.87)	.000	0.047 (4.99)	.000
Firm Size	0.523 (2.73)	.007	1.682 (3.36)	.001	0.372 (0.91)	.363
Constant	6.754 (4.35)	.000	6.081 (1.60)	.110	22.796 (6.45)	.000
F-Statistic	115.57	.000	87.70	.000	18.20	.000
R²	0.359		0.186		0.182	
F-Statistic (FE)	5.50	.000	3.70	.000	7.66	.000
Hausman Test (RE, FE)	27.42	.000	39.61	.000	55.62	.000
Number of Companies	361		361		361	
Observations	3,610		3,610		3,610	
Duration	2010–2019		2010–2019		2010–2019	

Note: * significant at 0.10, ** significant at 0.05, and *** significant at the 0.01 level.

Table 4 below shows the impact of financial leverage on the performance of Indian industrial companies during (2010-2019). The results of the study demonstrate a strong negative association between the level of debt and the performance of Indian companies. Based on the study results, as the level of short- and long-term debt increases in the Financial Structure, the performance of the mentioned firms decreases in ROA, ROE, and EBITDA margin. Regarding control variables, sales growth has a significantly positive association with the performance of the mentioned companies during the study period, while firm size has no significant relationship with the performance variables.

Table 4: Fixed effect (Robust) regression model –India (2010–2019)

Explanatory Variables	ROA (Fixed Effect)		p	ROE (Fixed Effect)		p	EBITDA Margin (Fixed Effect)	p
STD	-0.163	.000	-0.238	.004	-0.229	.000		
	(-8.28)		(-2.90)		(-7.09)			
LTD	-0.196	.000	-0.320	.000	-0.140	.000		
	(-9.52)		(-5.06)		(-4.54)			
Sales Growth	0.061	.000	0.168	.000	0.042	.000		
	(9.09)		(9.81)		(4.05)			
Firm Size	0.419	.348	0.236	.808	0.004	.995		
	(0.94)		(0.24)		(0.01)			
Constant	10.702	.018	23.013		.023	24.646	.000	
	(2.38)		(2.28)		(3.69)			
F-Statistic	56.79	.0000	27.68		.0000	17.82	.0000	
R ²	0.385		0.177			0.256		
F-Statistic (FE)	7.95	.0000	5.01	.0000	9.16	.0000		
Hausman Test	66.70	.0000	57.20		.0000	15.47	.0038	
Number of Companies	272		272			272		
Observations	2,720		2,720			2,720		
Duration	2010–2019		2010–2019		2010–2019			

Note: * significant at 0.10, ** significant at 0.05, and *** significant at the 0.01 level.

Table 5 below shows the effects of financial leverage on the performance of Brazilian companies operating in the manufacturing sector during the period 2010-2019.

The results show that long-term debt has a significantly negative effect on the performance of Brazilian manufacturing firms. In contrast, short-term debt has no significant impact on the performance of these firms during the study period.

Similarly, sales growth has a significantly positive relationship with the performance of these firms.

With these results in mind, Brazilian firms can form their preferred financial structure by combining short-term debt and equity capital.

Furthermore, the findings suggest that excessive reliance on long-term debt may increase financing costs and financial risk, thereby reducing firms' profitability. In contrast, the positive effect of sales growth indicates that expanding business activities contributes to improved financial performance.

These results are generally consistent with the theoretical expectations of capital structure and imply that Brazilian manufacturing firms should carefully balance debt financing with equity to achieve sustainable profitability and long-term financial stability.

Table 5: Fixed and Random (Robust) regression model – Brazil (2011-2019)

Variables	ROA (RE)	p	ROE (RE)	p	EBITDAM (FE)	p
STD	-0.0758 (-0.84)	.402	0.0098 (0.12)	.906	-0.0166 (-0.19)	.849
LTD	-0.2025 (-3.31)	.001	-0.3646 (-3.45)	.001	-0.2341 (-2.91)	.006
Sales Growth	0.0693 (2.82)	.005	0.2087 (4.16)	.000	0.0929 (1.94)	.061
Firm Size	0.7010 (1.06)	.288	0.4476 (0.37)	.715	2.7239 (0.74)	.464
Constant	5.1207 (1.53)	.126	10.4795 (1.16)	.246	1.8223 (0.07)	.942
Wald Statistic	28.04	.000	39.51	.000	—	—
F Statistic	—	—	—	—	4.60	.0046
F Statistic (FE)	—	—	—	—	11.11	.000
R ²	.2068		.1110		.0346	
Breusch–Pagan LM	285.94	.000	154.46	.000	—	—
Hausman Test	4.21	.3787	5.54	.2359	27.66	.000
Number of Firms	34		34		34	
Observations	340		340		340	
Period	2010–2019		2010–2019		2010–2019	

Note: * significant at 0.10, ** significant at 0.05 and *** significant at the 0.01 level.

Table 6 below points out the effect of Financial Structure on the Corporate profitability of Indonesian manufacturing companies throughout 2010-2019. According to the results of the study, financial leverage of Indonesian manufacturing companies has a significant negative effect on the performance of these firms during the study period. This means that as the level of debt in the Financial Structure of these companies increases, their operating performance decreases, causing their profitability to suffer. Therefore, Indonesian manufacturing companies, to increase their operating performance, should use their internal financing resources instead of relying on debt capital. Moreover, the findings indicate that excessive dependence on debt financing may increase financial obligations and interest expenses, ultimately reducing corporate profitability. The results also suggest that maintaining a balanced capital structure is essential for improving financial performance and ensuring long-term sustainability. Consequently, managers of Indonesian manufacturing firms should adopt prudent financing policies that minimize unnecessary borrowing while strengthening internal sources of finance to support future growth and operational efficiency.

Table 6: Fixed and Random (Robust) regression model – Indonesia (2010–2019)

Variables	ROA (FE)	p	ROE (RE)	p	EBITDAM (FE)	p
STD	-0.1448 (-2.84)	.007	-0.3884 (-3.89)	.000	-0.1420 (-1.67)	.103
LTD	-0.2563 (-5.01)	.000	-0.6652 (-4.65)	.000	-0.3222 (-5.29)	.000
Sales Growth	0.0719 (3.63)	.001	0.2126 (4.80)	.000	0.0691 (2.81)	.007
Firm Size	2.1759 (1.32)	.195	0.3768 (0.64)	.521	6.0783 (3.14)	.003
Constant	-14.8052 (-0.64)	.528	26.4017 (2.78)	.005	-62.6056 (-2.23)	.031
F Statistic	8.18	.0001	—	—	10.49	.0000
Wald Statistic	—	—	44.38	.0000	—	—
R ²	.2699		.3327		.0386	
Breusch–Pagan LM	—	—	406.35	.0000	—	—
F Statistic (FE)	6.58	.0000		—	16.78	.0000
Hausman Test	13.09	.0109	6.20	.1847	106.95	.0000
Number of Firms	43		43		43	
Observations	430		430		430	
Period	2010–2019		2010–2019		2010–2019	

Note: * significant at 0.10, ** significant at 0.05, and *** significant at the 0.01 level.

Below table 7 shows the impact of Financial Structure on the operating performance of Turkish manufacturing companies for the period of 2010-2019. According to the regression results, each of the performance measures of ROA, ROE, and EBITDA margin of Turkish manufacturing companies is negatively associated with financial leverage. At the same time, sales growth and firm size are positively related to the performance of these firms. This means that increasing the level of short- and long-term debt in the Financial Structure of these firms decreases performance and causes firm value to decline. Therefore, Turkish industrial firms should devote a big proportion of their Financial Structure to internal financing sources to improve their operating performance and increase the value of their companies.

Table 7: Fixed and Random (Robust) regression model – Turkey

Variables	ROA (FE)	p	ROE (FE)	p	EBITDAM (RE)	p
STD	−0.3085 (−7.23)	.000	−0.6869 (−3.54)	.001	−0.3245 (−5.27)	.000
LTD	−0.2397 (−4.56)	.000	−0.6284 (−6.45)	.000	−0.2203 (−2.37)	.018
Sales Growth	0.0784 (4.25)	.000	0.1996 (3.76)	.000	0.0623 (1.64)	.101
Firm Size	2.4807 (3.65)	.001	6.4718 (2.65)	.011	1.9591 (2.26)	.024
Constant	2.0505 (0.49)	.630	−1.1243 (0.08)	.939	15.3723 (1.99)	.046
F Statistic	15.68	.0000	13.16	.0000	—	—
Wald Statistic	—	—	—	—	45.34	.0000
R ²	.3691		.1898		.2220	
Breusch–Pagan LM	—	—	—	—	177.83	.0000
F Statistic (FE)	7.60	.0000	11.97	.0000	—	—
Hausman Test	12.86	.0120	12.92	.0117	3.17	.5298
Number of Firms	46		46		46	
Observations	460		460		460	
Period	2010–2019		2010–2019		2010–2019	

Note: * significant at 0.10, ** significant at 0.05, and *** significant at the 0.01 level.

DISCUSSION

The primary objective of this study was to examine the effect of financial structure on the corporate profitability of manufacturing firms operating in five EAGLE emerging economies—China, India, Brazil, Indonesia, and Turkey—during the period 2010–2019. Specifically, the study sought to determine whether financial leverage significantly influences corporate profitability, to identify the direction of this relationship, and to assess whether the effect is consistent across different emerging economies. The empirical findings provide clear evidence that financial structure significantly influences corporate profitability in all five countries, thereby answering the study's research questions and supporting the proposed

hypotheses. Except for short-term debt in Brazil, both short-term debt and long-term debt exhibit statistically significant negative effects on return on assets (ROA), return on equity (ROE), and EBITDA margin. These findings suggest that greater reliance on debt financing generally reduces corporate profitability among manufacturing firms operating in the selected EAGLE economies.

Several economic and financial mechanisms may explain the negative relationship between financial leverage and corporate profitability. Excessive dependence on debt financing increases fixed financial obligations through interest payments and principal repayments, reducing firms' financial flexibility and increasing the likelihood of financial distress. Highly leveraged firms also face greater refinancing risk, particularly during periods of economic uncertainty or rising interest rates, which can adversely affect investment decisions and operational efficiency. In emerging economies, where financial markets are generally less developed and borrowing costs tend to be relatively high, these challenges become more pronounced. Consequently, firms that rely heavily on debt financing may experience declining profitability because the costs associated with leverage outweigh its potential tax benefits. The insignificant effect of short-term debt in Brazil may reflect country-specific institutional conditions, financing practices, or banking sector characteristics that allow firms to utilize short-term borrowing without substantially affecting operational performance.

The findings also reveal that sales growth consistently exerts a positive and statistically significant effect on corporate profitability across all sampled countries. This result indicates that expanding sales enables firms to generate higher revenues, improve capacity utilization, strengthen market competitiveness, and achieve economies of scale, ultimately enhancing profitability. Likewise, firm size generally demonstrates a positive association with corporate performance, although the magnitude and statistical significance differ across countries. Larger firms often possess superior managerial capabilities, stronger bargaining power, easier access to financial resources, and more diversified operations, enabling them to withstand economic shocks more effectively than smaller firms. These findings suggest that sustainable business growth and organizational scale remain important determinants of profitability in emerging manufacturing sectors.

From a theoretical perspective, the findings provide strong support for the Pecking Order Theory (Myers & Majluf, 1984), which argues that firms prefer internal financing over external debt because internal funds involve lower information asymmetry and financing costs. The observed negative relationship between leverage and profitability indicates that firms relying more heavily on debt tend to perform less efficiently, supporting the argument that internal financing contributes to superior corporate performance. The results also support Agency Theory (Jensen & Meckling, 1976), which suggests that excessive debt may intensify conflicts between managers, shareholders, and creditors, leading to increased monitoring costs, agency costs, and reduced organizational efficiency. Conversely, the findings provide only partial support for the Trade-Off Theory (Kraus & Litzenberger, 1973). Although debt offers

tax advantages, the empirical evidence indicates that, within the selected EAGLE economies, the costs of financial distress, agency conflicts, and higher borrowing expenses generally exceed the benefits associated with leverage.

The empirical findings are largely consistent with previous studies reporting a negative relationship between financial leverage and firm performance. Similar conclusions were reported by Vătavu (2015), Nassar (2016), Nguyen Thu (2016), Manawaduge et al. (2011), Cole et al. (2015), and Mwangi et al. (2014), all of whom found that increasing leverage tends to reduce corporate profitability. These studies similarly argue that high borrowing costs, financial risk, and increased debt-servicing obligations weaken firms' operating performance. The consistency of the present findings with evidence from different countries strengthens the argument that excessive leverage is generally detrimental to profitability, particularly in developing and emerging economies where financial markets are less efficient, and firms face greater financing constraints.

However, the findings also differ from several studies that report positive effects of leverage on firm performance. For example, Vijayakumaran (2017) and Adesina et al. (2015) concluded that financial leverage may improve profitability by providing tax shields, reducing the weighted average cost of capital, and increasing shareholder returns. The divergence between these findings and the present study may be attributed to differences in institutional environments, financial market development, regulatory quality, industrial structures, and macroeconomic conditions across countries. Emerging economies vary considerably in terms of interest rates, banking sector efficiency, investor protection, and access to external finance. Such differences influence firms' financing decisions and explain why the effects of leverage are not identical across all economic contexts. The insignificant effect of short-term debt in Brazil further illustrates that country-specific institutional characteristics can moderate the relationship between financial structure and corporate profitability.

This study contributes to the existing literature by providing a comparative analysis of five major EAGLE emerging economies using a consistent empirical framework, identical financial leverage measures, common profitability indicators, and standardized panel econometric techniques. Unlike many previous studies that focus on individual countries, the present research enables meaningful cross-country comparisons while controlling for methodological differences. The findings therefore extend current knowledge regarding financial structure decisions within emerging markets and provide additional empirical evidence supporting the argument that the consequences of leverage depend not only on firm characteristics but also on broader institutional and economic environments.

The findings also have important practical implications for managers, investors, and policymakers. Corporate managers should carefully balance debt and equity financing when developing long-term financial strategies and avoid excessive dependence on borrowed funds that may reduce profitability. Greater emphasis should be placed on internally generated funds and efficient working capital management to improve financial performance. Investors may use leverage ratios as an important criterion when evaluating firms' long-term

profitability and financial sustainability. Policymakers, meanwhile, should continue strengthening financial markets, improving access to alternative financing sources, and promoting policies that reduce borrowing costs for productive firms. Such measures can enhance firms' financial flexibility, support sustainable investment, and contribute to long-term economic growth across emerging economies.

Overall, the findings demonstrate that financial structure remains a critical determinant of corporate profitability in EAGLE emerging economies. Although debt financing may provide certain financial advantages, excessive leverage generally reduces profitability within the sampled countries. The study therefore reinforces the importance of prudent capital structure decisions while highlighting the role of country-specific institutional conditions in shaping the effectiveness of financing strategies. These findings provide valuable theoretical, empirical, and practical insights for future research and for financial decision-making in emerging markets.

Due to limited access to comprehensive financial databases covering the manufacturing sector in all the emerging countries under study, only a 20% sample of firms was selected for analysis. Consequently, the study does not encompass the entire population of manufacturing companies operating within the sampled emerging economies.

CONCLUSION

This study investigated the impact of Financial Structure on the performance of manufacturing firms in the sample EAGLEs emerging markets of China, India, Brazil, Indonesia, and Turkey over the period 2010–2019. The findings show an inverse effect of financial leverage on Corporate profitability in all sample emerging countries. This means that the level of leverage and the performance of the relevant firms are negatively associated. Any increase in the level of debt in the Financial Structure of these companies leads to a decrease in firm value and performance.

The results indicate that both short-term debt and long-term debt negatively affect Corporate profitability, although their impact varies across countries. Turkey and India are the countries whose companies are most reliant on debt financing. Short-term debt has the most negative impact on the performance of Turkish and Chinese manufacturing firms. In contrast, long-term debt has the most negative impact on Indonesian and Turkish manufacturing firms. These findings suggest that not only the level of leverage but also the maturity structure of debt plays a crucial role in determining corporate performance.

Regarding the control variables, sales growth has a positive effect on Corporate profitability in all sample countries, indicating that as companies increase their sales, their performance improves. This finding supports growth-based perspectives and suggests that revenue expansion remains a key driver of profitability in manufacturing sectors. Similarly, firm size generally has a positive impact on performance, implying that larger firms benefit from economies of scale, diversified operations, stronger bargaining power, and better access

to financial resources. This result is consistent with the Resource-Based View (Barney, 1991), which emphasizes the role of firm resources and capabilities in achieving superior performance.

Based on these findings, it is recommended that manufacturing firms in the sample emerging countries avoid allocating a large proportion of their Financial Structure to debt when formulating financial strategies. Instead, greater efforts should be made to utilize internal financing sources to meet financial needs and enhance Corporate profitability. For Brazil, where short-term debt has no significant effect on corporate performance, companies may create an effective combination of equity and short-term debt, alongside lowering agency costs, to positively influence Corporate profitability.

Overall, the study suggests that prudent Financial Structure decisions, balanced debt maturity structures, and reduced dependence on excessive leverage can contribute to sustainable Corporate profitability and long-term value creation in emerging EAGLE economies.

Conflict of Interest

The author declares that there is no conflict of interest.

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Author Contributions

Dr Ahsanullah Barakzai was primarily responsible for designing the study, collecting and analyzing the data, and drafting the manuscript. Prof. Dr Hatice DOĞUKANLI provided overall supervision, guided the research throughout its execution, and assisted in reviewing, editing, and finalizing the manuscript. Both authors read and approved the final version of the manuscript.

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Data Availability Statement

For inquiries or concerns related to the data underlying this study's findings, interested readers may contact the corresponding author via email at: a.barakzay@yahoo.com.

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