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"HOW DO DIFFERENT DEBT LEVELS INFLUENCE THE FINANCIAL PERFORMANCE OF FMCG COMPANIES IN INDIA?"

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ABSTRACT

This study examines the impact of capital structure on the financial performance of Fast-Moving Consumer Goods (FMCG) companies listed on the Bombay Stock Exchange (BSE) from 2011 to 2021. It focuses on how varying levels of short-term, long-term, and total debt influence key financial metrics such as Return on Assets (ROA), Return on Equity (ROE), Earnings Per Share (EPS), and Tobin's Q. Using regression models with panel data, the research evaluates the relationship between debt ratios and financial performance, utilizing both fixed and random effects models. The findings reveal that higher levels of debt, especially long-term debt, negatively impact financial performance. Short-term debt is more commonly used in the FMCG sector, but overall, debt tends to reduce profitability and shareholder value. Notably, Earnings Per Share (EPS) had the highest average among the performance indicators, though all debt ratios demonstrated significant negative correlations with ROA, ROE, EPS, and Tobin's Q. The study also highlights that larger and older firms are more effective at managing the negative effects of debt, performing better financially than smaller or younger firms. It recommends that FMCG companies prioritize internal funding over debt, as high debt levels can lead to financial strain. Future research could explore the impact of capital structure in other industries or include macroeconomic factors.

Keywords: Financial Performance, Capital structure, Impact, Debt-level, Panel Regression

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1. INTRODUCTION

The decisions surrounding financing and investment are among the most critical that a corporation can make, as they significantly shape its future trajectory and financial health. In this context, the financial manager's primary objective is to determine the optimal capital structure or financing mix for the organization. The capital structure, which includes all long-term capital resources such as loans, retained earnings, equity, and bonds, is integral to the company's overall capitalization. The relationship between a company's capital structure and its financial performance remains a significant unresolved issue in finance, having been extensively studied both theoretically and empirically. Different sources of capital exhibit varying characteristics concerning risk and return; some may be less expensive but entail higher risk, while others might be more costly yet offer a lower risk profile. Consequently, the optimal capital structure

is crucial for organizations striving to achieve their goals and objectives. Neglecting to address capital structure can lead to diminished profitability, increased bankruptcy risk, missed opportunities for high-return investments, and ultimately a decline in firm value. Since the formulation of the Modigliani and Miller theorem in 1958, the determination of optimal capital structure has been a topic of considerable debate within financial economics. This discipline frequently employs sophisticated models to analyze the variables influencing decision-making; however, these models often assume rational behaviour among individuals and institutions. It is essential to acknowledge that such assumptions may not always hold true, and thus the potential for irrational behaviour among stakeholders should be regarded as a significant risk factor in financial decision-making. The significance of debt in relation to a company's value was first proposed by Modigliani and Miller in 1958. Initially, they argued that capital structure does not influence a company's performance, asserting that a firm's value is independent of its financing mix in a perfect market. However, subsequent work by Miller in 1963 introduced the effects of transaction costs and corporate income taxes, demonstrating that a firm's value increases with higher levels of debt due to the tax shield benefits associated with debt financing.

A review of the literature concerning the impact of debt financing on a company's financial performance identifies several critical gaps related to environmental and industry-specific contexts, as well as measurement deficiencies for certain variables. Furthermore, the conclusions drawn in existing studies often remain inadequately explored. The body of research in developing nations, including Malaysia, Nigeria, Pakistan, Kenya, and Bangladesh, has extensively examined the effects of loan financing on the financial performance of businesses. However, these investigations highlight the need for more nuanced analysis to address the identified gaps.

The empirical literature examining the effects of debt financing on firm performance has yielded contradictory results. For instance, Akingunola et al. (2017) reported that both total and short-term debt exert a significant negative impact on financial performance. This study aims to investigate the influence of debt financing on the financial performance of listed consumer products companies in Nigeria, given the observed disparities across various environments, industries, and findings. While Nwude et al. (2016) identified a significant negative relationship between long-term debt financing and firm performance, Karuma et al. (2018) found that both short- and long-term debt had a positive yet insignificant effect on financial performance. In contrast, Iorpev and Kwanum (2012) reported both forms of debt as having negative and insignificant effects. This research is particularly pertinent as consumer goods companies are increasingly advocating for sustainable investments, and their need to operate effectively necessitates the exploration of innovative funding sources.

Building on the argument presented by Jensen and Meckling (1976) regarding the potential impact of capital structure on firm performance, numerous researchers have conducted studies over the past few decades to explore the relationship between financial leverage and firm performance. The empirical evidence surrounding this relationship is often inconsistent and imprecise. A significant body of scholars continues to investigate the correlation between capital structure and corporate performance, with findings varying widely; while some studies indicate a negative association, others suggest a positive relationship. Moreover, a considerable number of articles highlight a substantial relationship between capital structure and company performance, whereas a smaller subset of studies reports an insignificant relationship. This ongoing discourse underscores the complexity of the interplay between capital structure and firm performance, warranting further exploration.

The framework of this study is organized as follows: The second section delineates the principal research issues and presents a conceptual model based on the literature review. The third section articulates the research methodologies employed in this investigation. In the fourth section, the analysis of the data and the key findings are discussed. Finally, the concluding section provides a summary of insights and outlines potential directions for future research.

2. LITERATURE REVIEW

The relationship between capital structure and firm value has generated considerable discussion within the academic literature. Much of the debate has centered on whether a corporation's value is influenced by its use of debt and whether an optimal capital structure exists for a particular organization. Capital structure is defined as the proportion of debt and equity that a company employs to finance its operations.

Khan (2012) employed the Panel Econometric Technique, specifically Pooled Ordinary Least Squares Regression, to investigate the relationship between capital structure decisions and business performance among 36 engineering firms listed on the Karachi Stock Exchange (KSE) from 2003 to 2009. The findings indicate a strong inverse association with firm performance. Similarly, in a 2012 study, Salteh et al. explored the impact of capital structure on the business performance of 28 Iranian firms listed on the Tehran Stock Exchange (TSE) between 2005 and 2009. The study utilizes

several dependent variables, including Return on Assets, Return on Equity, Earnings Per Share, the market value of equity relative to the book value of equity, and Tobin's Q. Independent variables comprise short-term debt, long-term debt, total debt to total assets, and total debt to total equity. The findings indicate a negative correlation between capital structure and company performance, leading researchers to conclude that capital structure is inversely related to firm performance. Additionally, Le and Phung (2013) examined the impact of capital structure on the performance of all companies listed on the Vietnamese Stock Exchange from 2007 to 2011.

Onaolapo and Kajola (2010) examined the impact of capital structure on the financial performance of non-financial enterprises listed on the Nigerian Stock Exchange from 2001 to 2007. In their study, they utilized the Debt Ratio (DR) to measure capital structure, while Return on Equity (ROE) and Return on Assets (ROA) were employed to assess firm performance. Their findings indicated that capital structure significantly adversely affects the performance of financial firms. Similarly, Robert Ouko Obonyo (2017) investigated the effect of capital structure on the financial performance of thirty companies listed on the Nairobi Securities Exchange. His study revealed a weak positive correlation between the capital structure of listed firms and their financial performance. Salim and Yardar (2012) investigated the relationship between capital structure and firm performance among companies listed in Malaysia. The performance metrics utilized in their analysis included Tobin's Q, Earnings Per Share (EPS), Return on Assets (ROA), and Return on Equity (ROE). Their findings indicated that capital structure adversely affects company operations. Similarly, Mumtaz and Noreen (2013) explored the relationship between capital structure and business performance using a sample of 83 Pakistani companies selected from the KSE 100 index. They concluded that there exists a negative correlation between capital structure and a company's financial success.

Arulvel and Ajanthan (2013) examined the correlation between capital structure and financial performance among thirty businesses listed on the Colombo Stock Exchange from 2007 to 2011. Financial performance was assessed using metrics such as Return on Equity, Net Profit Ratio, and Return on Capital Employed. Their findings revealed a negative correlation between the company's performance and its capital structure. Similarly, Rao and Syed (2007) investigated the relationship between capital structure and financial performance among Omani enterprises. The results of their study indicated a negative correlation between financial success and levels of debt.

Despite the preceding discussions, empirical research on the relationship between capital structure and financial performance has yielded conflicting findings, which can be categorized into two distinct perspectives. The first viewpoint asserts that there is a positive correlation between capital structure and business profitability (Taub, 1975; Ghosh & Jain, 2000; Hadlock & James, 2002). In contrast, the second perspective posits that higher levels of debt are associated with a negative impact on business performance (Fama and French, 1998; Simerly and Li, 2000; Vatavu, 2014; Nassar, 2016; Cheruyot, 2015; Khan, 2012). These divergent conclusions underscore the necessity for further empirical investigation to clarify the complexities surrounding the relationship between capital structure and financial performance.

3 RESEARCH DESIGN

3.1 OBJECTIVE OF THE STUDY

To analyze the impact of capital structure on the financial performance of FMCG companies in India, focusing on key financial metrics such as Return on Assets (ROA), Return on Equity (ROE), Tobin's Q, and Earnings Per Share (EPS), while examining the effects of short-term debt, long-term debt, total debt, and the debt-to-equity ratio (Table 1).

3.2 NATURE OF THE STUDY

The present study employs an analytical, quantitative, and historical approach. It utilizes secondary data from the FMCG index listed on the Bombay Stock Exchange (BSE). Financial data for the years 2011-12 to 2020-21 was gathered from the CMIE Prowess database.

Table 1: Research Variables of the Study

Variables	Formulation	Empirical studies of Authors
Dependent Variable		
Return on Assets	$\frac{\text{Net Income}}{\text{Average Total Asset}}$	Chadha & Sharma, (2015)
Return on Equity	$\frac{\text{Net Income/PAT}}{\text{Average Net Worth}}$	Chadha & Sharma, (2015)
Earnings Per Share	$\frac{\text{PAT} - \text{Preference Dividend}}{\text{Number of equity shares}}$	Desai & Desai, (2018)
Tobin's Q	$\frac{\text{Market Capitalisation}}{\text{Total Assets}}$	Chadha & Sharma, (2015)
Independent Variable		

Short-term Debt Ratio	Short-Term debt/Total Asset	Handoo & Sharma, (2014)
Long-term Debt Ratio	Long-Term debt/Total Asset	Handoo & Sharma, (2014)
Total Debt Ratio	Total debt/Total Asset	Chakrabarti & Chakrabarti, (2019)
Debt-Equity Ratio	Total Debt/Shareholders fund	Handoo & Sharma, (2014)
Firm's Age	Log of number of years	Chakrabarti & Chakrabarti, (2019)
Firm's Size	Log of Total Assets	Chadha & Sharma, (2015)
Sales Growth	$\frac{\text{CY Value} - \text{PY Value}}{\text{Previous Year}}$	Chen (2004), Lima (2010)

Source: Researcher's Compilation using Literature Review

3.3 SPECIFICATION OF THE MODEL

The models below are created to assess how various financial performance indicators are affected by the financing choice.

$$ROA_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$$
$$ROE_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$$
$$EPS_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$$
$$TQ_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$$

3.4 HYPOTHESES OF THE STUDY

H0: There is no statistically significant relationship between short-term debt ratio, long-term debt ratio, the debt-equity ratio, and the total-debt ratio in relation to financial performance indicators, namely return on assets (ROA), return on equity (ROE), earnings per share (EPS), and Tobin's Q.

4 DATA ANALYSIS AND INTERPRETATION

4.1 DESCRIPTIVE STATISTICS

The outcomes of the descriptive statistics for the independent, dependent, and control variables used in this study are presented in Table 2. These statistics include the mean, standard error, and standard deviation. Specifically, the mean values for the financial performance indicators are as follows: return on assets (ROA) at 0.083, return on equity (ROE) at 0.152, earnings per share (EPS) at 18.280, and Tobin's Q at 2.687. Regarding capital structure, the mean values for short-term debt ratio (SDR), long-term debt ratio (LDR), total-debt ratio (TDR), and debt-equity ratio (DER) are 0.383, 0.141, 1.110, and 0.525, respectively. The analysis of the BSE FMCG index companies indicates that the SDR is utilized more frequently than the LDR, with a value of 38.3%. Notably, the highest average value among the performance indicators is observed for EPS, which stands at 18.280.

Table 2: Summary Statistics of Variables- Financial Performance from Financial Year 2011-12 to 2020-21

Variable	Mean	SE	SD
ROA	0.083	0.003	0.096
ROE	0.152	0.023	0.652
EPS	18.280	1.318	36.563
TOBIN Q	2.687	0.147	4.082
SDR	0.383	0.007	0.189
LDR	0.141	0.005	0.128
TDR	1.104	0.008	3.820
DER	0.525	0.138	0.230
AGE	3.533	0.025	0.682
SIZE	4.008	0.028	0.789
GR	0.825	0.682	18.913

Source: Researcher's Compilation using EViews 12.

4.2 STATIONARITY TEST

A notable issue with time series data is non-stationarity, which can result in misleading regression outcomes. To address this, the Levin-Lin-Chu test (for panel unit roots) and the Augmented Dickey-Fuller test (for individual series) were employed. Table 3 summarizes the findings. The results from both tests support the null hypothesis, indicating the presence of a unit root in the series, which was assessed at both the intercept and trend levels with maximum lag selection. This confirms that the series is stationary and suitable for further analysis.

4.3 CORRELATION ANALYSIS

The relationship between capital structure (CS) variables and financial performance indicators has been examined through bivariate correlation analysis. The results of this analysis are presented in Tables 4. The correlation matrix reveals a negative relationship between CS and financial performance. Notably, all correlation coefficients are statistically significant at the 1% and 5% levels, with the exception of the pairs: ROE and SDR, ROE and TDR, EPS and LDR, and LDR and SDR.

Table 3: Summary Results (measured through intercept & Trend) of ADF & LLC Unit Root Test

Intercept and Trend						
Variables	**H_0**	**ADF Test Statistics**	**Prob* (*p*-value)**	**LLC Test Statistics**	**Prob* (*p*-value)**	**Results**
		First Difference		**First Difference**		
Short term debt ratio	SDR has a unit root	241.761	0.0001	-23.8407	0.0001	H_0 Rejected
Long-term debt ratio	LDR has a unit root	225.169	0.0001	-17.8199	0.0001	H_0 Rejected
Debt to equity ratio	DER has a unit root	233.902	0.0001	-30.5893	0.0001	H_0 Rejected
Debt to asset ratio	TDR has a unit root	207.052	0.0028	-23.4324	0.0001	H_0 Rejected
Return on Equity	ROE has a unitroot	252.818	0.0001	-28.1299	0.0001	H_0 Rejected
Return on Asset	ROA has a unitroot	255.625	0.0001	-37.9900	0.0001	H_0 Rejected
Earnings Per Share	EPS has a unit root	193.959	0.0025	-10.5076	0.0001	H_0 Rejected
Tobin's Q	Tobin's Q has aunit root	192.749	0.0030	-9.76514	0.0001	H_0 Rejected
Sales Growth	Sales Growth has a unit root	394.051	0.0001	-17.0907	0.0001	H_0 Rejected
Firm age	Firm age has a unit root	1423.67	0.0001	-28.9866	0.0001	H_0 Rejected
Firm size	Firm size has a unit root	285.317	0.0001	-64.9862	0.0001	H_0 Rejected
** p value < 0.05*						

Source: Researcher's Compilation using EViews 12

Table 4: Correlation matrix specifying association between CS determinants & Financial Performance-FMCG Sector

	ROA	ROE	TOBIN Q	EPS	DER	TDR	LDR	SDR
ROA	1							
ROE	0.113**	1						
TOBIN Q	0.584**	0.178**	1					
EPS	0.442**	0.281**	0.402**	1				

DER	-0.260**	-0.214**	-0.132**	-0.129**	1			
TDR	-0.407**	-0.034	-0.183**	-0.143**	0.314**	1		
LDR	-0.280**	-0.121**	-0.130**	-0.060	0.127**	0.568**	1	
SDR	-0.306**	0.040	-0.135**	-0.133**	0.296**	0.832**	0.016	1

Source: Researcher's Compilation using EViews 12

4.4 MULTICOLLINEARITY AND AUTOCORRELATION

The primary factors affecting the reliability of regression outcomes are multicollinearity and autocorrelation. To address these issues, the Durbin-Watson (DW) test, variance inflation factor (VIF), and tolerance values were evaluated. As indicated in Table 5, both VIF levels and tolerance values fall within an acceptable range (less than 10), thereby mitigating concerns related to multicollinearity (Nautiyal & Kavidayal, 2018; Gujarati, 2003). Furthermore, the DW statistics yielded minimum and maximum values of 0.366 and 2.388, respectively, indicating an acceptable level of autocorrelation (Gujarati, 2003).

Table 5: Multicollinearity test of Capital structure Determinants: VIF and Tolerance

Independent Variables	Variance Inflation Factor (VIF)	Tolerance (1/VIF)	Results
SDR	1.165	0.858	***Absence of Multicollinearity***
LDR	1.046	0.956	
TDR	1.175	0.868	
DER	1.119	0.893	
AGE	1.113	0.898	
GR	1.009	0.991	
SZ	1.201	0.832	

Source: Researcher's Compilation using EViews 12

4.5 REGRESSION ANALYSIS

This research analyzes the FMCG sector to explore the causal relationship between capital structure (debt financing) and financial performance using regression analysis. In addition to leverage variables, factors such as firm size, age, and sales growth are controlled in a multiple regression model involving independent and dependent variables. This section focuses exclusively on panel regression analysis, as it is more suitable than pooled regression. Panel regression accommodates both cross-sectional and time-series effects by calculating fixed effects models (FEM) and random effects models (REM).

The panel data regression analysis for the ROA model employs both fixed and random effects, revealing that LDR, SDR, TDR, and DER significantly influence ROA. All leverage variables as shown in table 6, negatively affect profitability, except for TDR, which has a positive effect. Growth, age, and firm size also contribute positively to ROA by increasing revenue and net profit. The fixed effects model explains 62.58% of the variation in ROA, while the random effects model accounts for only 10.31%. The F-test indicates both models are statistically significant (p-value < 0.05), and the Hausman test favors the fixed effects model for this dataset.

Table 6: Panel Regression of ROA (Model 1)- FMCG Sector

$$ROA_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$$

	Fixed Effects Model			Random Effects Model		
	Co-efficient	**t-value**	**Prob.**	**Co-efficient**	**t-value**	**Prob.**
Intercept	0.0713	1.2208	0.2226	0.0970	2.6162	0.0091
SDR	-5.1559	-2.5553	0.0108	-4.5742	-1.8747	0.0612
LDR	-7.0850	-2.5303	0.0116	-4.5289	-1.8568	0.0637
TDR	7.0257	2.5129	0.0122	4.4298	1.8190	0.0693

DER	-0.0018	-2.9543	0.0032	-0.0021	-3.3715	0.0008
AGE (Firm Age)	0.0196	1.0763	0.2821	0.0017	0.1892	0.8500
GR (Sales Growth)	3.23	0.2716	0.7859	5.46	0.4632	0.6433
SZ (Firm Size)	0.0012	0.1447	0.8850	0.0132	1.9602	0.0503
Model Summary			**Fixed Effects**		**Random Effects**	
R-Square			0.6662		0.1112	
Adj. R- Square			0.6258		0.1031	
F-Value			16.500		13.631	
Significance Value			0.0000		0.0000	
DW Statistic			1.4333		1.2688	
Redundant Fixed Effect Test						
Cross Section – F Test / Sig. Value			11.6348 (0.0000)			
Cross Section – 2 Test / Sig. Value			625.5170 (0.0000)			
Test of Fixed and Random Effect						
Hausman Test (Significance Value)			22.6198 (0.0020)			

Source: Researcher's Compilation using EViews 12

The panel data regression analysis for the second model, as presented in Table 7, indicates that the debt-equity ratio significantly decreases ROE (p-value < 0.05), highlighting the adverse impact of borrowings on shareholder returns. Although the SDR and LDR variables show positive effects, they are not statistically significant. All control variables—sales growth, firm age, and size—also exert positive but insignificant influences on ROE. Fixed effects models account for 64.46% of the variation in ROE, whereas random effects explain only 6.63%. The analysis shows no concerns regarding autocorrelation, and both the F-test and Hausman test confirm that fixed effects are more appropriate than ordinary least squares.

Table 7: Panel Regression of ROE (Model 2)- FMCG Sector

$ROE_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$						
	Fixed Effects Model			**Random Effects Model**		
	Co-efficient	**t-value**	**Prob.**	**Co-efficient**	**t-value**	**Prob.**
Intercept	-0.4661	-0.7738	0.4393	0.0101	0.0509	0.9594
SDR	36.0863	1.2494	0.2119	3.0198	0.1630	0.8705
LDR	34.0466	1.1789	0.2388	1.9349	0.1045	0.9168
TDR	-34.6852	-1.2029	0.2294	-2.4728	-0.1337	0.8936
DER	-0.04761	-5.2914	0.0000	-0.0423	-6.8453	0.0000
AGE (Firm Age)	0.0120	0.0641	0.9489	0.0204	0.4951	0.6206
GR (Sales Growth)	0.0001	0.1048	0.9165	0.0002	0.1839	0.8541
SZ (Firm Size)	0.0430	0.4689	0.6392	-0.0044	-0.1076	0.9143
Model Summary			**Fixed Effects**		**Random Effects**	
R-Square			0.6370		0.07480	
Adj. R- Square			0.6446		0.0663	
F-Value			2.5673		8.8017	
Significance Value			0.0000		0.0000	
DW Statistic			2.3885		2.1469	
Redundant Fixed Effect Test						
Cross Section – F Test / Sig. Value			2.018615 (0.0000)			
Cross Section – 2 Test / Sig. Value			155.406982 (0.0000)			
Test of Fixed and Random Effect						
Hausman Test (Significance Value)			35.6204 (0.0000)			

Source: Researcher's Compilation using EViews 12

Table 8 presents the panel regression results for model 3, using EPS as the dependent variable. The regression coefficients indicate that the leverage variables SDR, LDR, and DER negatively impact EPS, although none of the capital structure variables are statistically significant at the 1% or 5% levels. The fixed effects model explains 61.45% of the variance in EPS, compared to just 3.91% for the random effects model, making fixed effects preferable. Additionally, the fixed effect redundant test is highly significant (p-value < 0.01), indicating the presence of cross-section effects, while the Hausman test supports the use of fixed effects over random effects.

Table 8: Panel Regression of EPS (Model 3)- FMCG Sector

$EPS= \alpha 1 + \beta 1 SDR + \beta 2 LDR + \beta 3 TDR + \beta 4 DER + \beta 5 AGE + \beta 6 GR + \beta 7 SZ + \varepsilon$						
	Fixed Effects Model			**Random Effects Model**		
	Co-efficient	**t-value**	**Prob.**	**Co-efficient**	**t-value**	**Prob.**
Intercept	-19.1106	-0.8422	0.4000	-16.9513	-1.0660	0.2867
SDR	312.3643	0.2871	0.7741	-210.9840	-0.2147	0.8300

LDR	301.8111	0.2774	0.7815	-219.4310	-0.2234	0.8233
TDR	-336.303	-0.3096	0.7569	186.2628	0.1899	0.8494
DER	-0.3205	-1.3029	0.1930	-0.3491	-1.4288	0.1535
AGE (Firm Age)	5.3671	1.0393	0.2990	8.9151	2.1523	0.0317
GR (Sales Growth)	0.0284	0.6161	0.5380	0.0243	0.5296	0.5965
SZ (Firm Size)	6.4053	1.8523	0.0644	4.5728	1.6313	0.1032
Model Summary			**Fixed Effects**		**Random Effects**	
R-Square			0.6561		0.04781	
Adj. R- Square			0.6145		0.0391	
F-Value			15.7708		5.4755	
Significance Value			0.000		0.0000	
DW Statistic			1.3424		1.2145	
Redundant Fixed Effect Test						
Cross Section – F Test / Sig. Value			15.331157 (0.0000)			
Cross Section – 2 Test / Sig. Value			764.3746 (0.0000)			
Test of Fixed and Random Effect						
Hausman Test (Significance Value)			4.550103 (0.02147)			

Source: Researcher's Compilation using EViews 12

The panel data regression results for the fourth model, using Tobin's Q as the dependent variable, are presented in Table 9. The findings indicate that the capital structure variables, specifically TDR and DER, exert a negative and insignificant impact on Tobin's Q. However, the firm's age and size are significant at the 5% level among the leverage variables, highlighting their positive influence on shareholder value. The analysis shows that older, asset-based firms tend to enhance their Q ratio. The F-test results are highly significant (p-value < 0.01), affirming the overall significance of both models. Notably, the adjusted R^2 values indicate that the fixed effects model explains 72.98% of the variation in Tobin's Q, compared to only 6.73% for the random effects model. The redundant fixed effects test further suggests that panel regression is preferable to pooled regression. Additionally, the Hausman test indicates that the dataset is more suitable for fixed effects modeling. The Durbin-Watson statistics for FEM and REM are 1.1956 and 1.0728, respectively, suggesting a considerable level of autocorrelation, which may lead to erroneous conclusions.

Table 9: Panel Regression of TOBIN Q (Model 4)- FMCG Sector

$TQ_{it} = \alpha_1 + \beta_1 SDR_{it} + \beta_2 LDR_{it} + \beta_3 TDR_{it} + \beta_4 DER_{it} + \beta_5 AGE_{it} + \beta_6 GR_{it} + \beta_7 SZ_{it} + \varepsilon_{it}$						
	Fixed Effects Model			**Random Effects Model**		
	Co-efficient	**t-value**	**Prob.**	**Co-efficient**	**t-value**	**Prob.**
Intercept	-6.4278	-3.0313	0.0025	-4.4685	-2.7844	0.0055
SDR	42.8850	0.4218	0.6733	115.6849	1.2293	0.2193
LDR	39.2972	0.3866	0.6992	112.3799	1.1945	0.2326
TDR	-43.3739	-0.4273	0.6693	-116.8028	-1.2435	0.2140
DER	-0.0055	-0.2404	0.8100	-0.0107	-0.4680	0.6399
AGE (Firm Age)	2.3078	3.4839	0.0005	1.3604	3.1604	0.0016
GR (Sales Growth)	-0.0047	-1.0928	0.2749	-0.0039	-0.9177	0.3590
SZ (Firm Size)	0.4306	1.3326	0.1831	0.8458	3.0883	0.0021
Model Summary			**Fixed Effects**		**Random Effects**	
R-Square			0.7590		0.0758	
Adj. R- Square			0.7298		0.0673	
F-Value			26.032		8.9373	
Significance Value			0.0000		0.0000	
DW Statistic			1.1956		1.0728	
Redundant Fixed Effect Test						
Cross Section – F Test / Sig. Value			22.321455 (0.0000)			
Cross Section – 2 Test / Sig. Value			958.6491 (0.0000)			
Test of Fixed and Random Effect						
Hausman Test (Significance Value)			13.165441 (0.0382)			

Source: Researcher's Compilation using EViews 12

4 ANALYSIS OF FINDINGS AND THEIR IMPLICATIONS

The analysis of BSE FMCG index companies reveals that the short-term debt ratio (SDR) is utilized more frequently than the long-term debt ratio (LDR), with a usage rate of 38.3%. Additionally, earnings per share (EPS) has the highest average value at 18.280. Correlation analysis indicates a strong negative relationship between leverage and financial performance within the FMCG sector. Multiple linear regression has been employed to assess the impact of capital structure variables. The findings suggest that panel least squares regression with fixed effects is appropriate for all four

models—ROA, ROE, EPS, and Tobin's Q. Hypothesis testing based on the fixed effects regression results indicates that ROA and ROE are significantly associated with the debt-equity ratio (DER), while TDR, SDR, and LDR show significance only with ROA.

The regression results highlight a significant negative impact of debt financing on all performance indicators, including ROA, EPS, Tobin's Q, and ROE. Furthermore, variations in the statistical implications of different debt ratios are noted, with financing policies based on various gearing ratios differing significantly among firms of different sizes. Similarly, firms of varying sizes exhibit considerable differences in their financial performance.

The investigation reveals a concerning trend: leverage has a detrimental impact on a firm's financial performance, as demonstrated by metrics such as ROA, ROE, and Tobin's Q. In light of these findings, it is recommended that the Indian FMCG sector focus more on utilizing internal profits rather than resorting to borrowings. Greater reliance on debt capital may impose a heavier financial burden, ultimately leading to reduced profitability for the business.

The findings of this study offer significant value to executives of foreign companies considering entry into the Indian FMCG sector by providing a comprehensive understanding of local financial practices and illustrating how these differ from their home countries. This research aims to empower financial managers with enhanced insights into effective financial management strategies tailored to the Indian FMCG landscape. Furthermore, the results serve as a strategic resource for management teams within companies, guiding them in evaluating their current financial policies. The analysis can inform decisions about whether to maintain or adjust existing strategies, ultimately supporting more informed and effective financial governance.

5 LIMITATIONS AND FUTURE RESEARCH

This study faces several limitations, despite efforts to minimize errors. The analysis is based on a 10-year period, which may limit its applicability to other timeframes due to constraints in time and resources. Data availability led to the exclusion of some firms, and the econometric models and statistical tests used involve assumptions that may affect results. The reliance on online databases, like CMIE Prowess, means the conclusions depend on the accuracy of these sources. Additionally, the focus on the Indian FMCG sector limits the study's relevance to this industry, suggesting further research across different sectors and periods for broader insights. This study aims to provide a comprehensive understanding of capital structure and its impact on financial performance, though several areas need further exploration. Conducting similar research in other key industries, such as the services sector, could enhance insights into capital structures across different contexts. While this study focuses on firm-specific factors, it overlooks industry-level influences like competitive forces and Porter's five forces, which could be valuable in future research.

Additionally, most prior investigations have relied on quantitative data from secondary sources, suggesting a need to include qualitative factors, such as investor behavior and managerial perspectives. Important macroeconomic factors like inflation, GDP growth, and stock market fluctuations were not considered, but their inclusion could enrich analyses. There is also a gap in research on small and medium-sized enterprises (SMEs) in India regarding capital structure. To improve the study's statistical relevance, extending the sample period and including more firms is recommended. Future research could explore different sectors or countries and delve into the factors affecting leverage, value performance, and operating liquidity for a more rounded understanding.

CONFLICT OF INTERESTS

None.

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