

Marketing Efficiency and the Choice of Capital Structure: A Panel Data Study of Indian FMCG Companies

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Abstract

This paper studies the impact of marketing efficiency on capital structure decisions of Indian fast-moving consumer goods (FMCG) companies using firm-level panel data from 2013 to 2023. Based on secondary data from CMIE Prowess and company disclosures, we use fixed effects models to investigate if differences in the effectiveness of marketing investment, as measured by the ratio of marketing expenses to sales, are significantly related to leverage. The above findings imply that there is a negative relationship between marketing efficiency and the utilization of debt financing, which means that high-return marketing firms are more conservative in financing by using their own funds for business operations. Our findings extend the literature on the marketing-finance interface in emerging markets into the more nuanced domain of brand name capitalization and related accounting practices and provide strategic implications for CFOs and brand managers in capital-constrained markets.

Keywords: Marketing Efficiency; Capital Structure; Indian FMCG Sector; Panel Data Analysis; Leverage Ratio; Emerging Markets; Firm Performance

1. Introduction

While return on marketing investment is important for brand management in these challenging and competitive consumer markets, it is also a financial lever for the planning and organising of marketing activities. In an emerging market context, such as in India, the FMCG sector is one where the high-volume low margin arrangement has led players to pay more attention to alternative routes to market, and struggle to maximize marketing resource use and minimize capital deployed (Gupta & Zeithaml, 2006; Kumar et al., 2017). The extent to which firms translate marketing expenditures into measurable outcomes could indicate operational robustness and affect the risk considerations of financial suppliers, in turn affecting financing choices (Tong & Reuer, 2007; Graham & Harvey, 2001).

Theories of capital structure have passed through various milestones of the seminal works of Modigliani and Miller (1958, 1963) that the capital is irrelevant and in the presence of tax, the advantages of debts vol. In recent years, empirical research has focused on the drivers of leverage; especially in the presence of information asymmetry, agency costs, and market frictions (Myers, 1984; Jensen & Meckling, 1976). The more recent contributions have emphasized the influence of intangible capabilities, including brand equity and marketing expertise, on asset financing patterns (Bharadwaj et al., 1993; Luo & Bhattacharya, 2009). Marketing efficiency is then used as a measure of a firm's strategic capability and may influence the perceptions of investors, borrowing constraints and cost of capital (Morgan et al., 2009; Rao and Bharadwaj, 2008).

In the Indian FMCG industry, companies work under conditions of regularly evolving regulations, unstable raw material costs, and dynamic taste and preference industries compelling nimble financial management (FICCI, 2022; The Nielsen Company, 2023). While marketing outlay continues to stay elevated across players such as Hindustan Unilever, ITC, Dabur and Marico, there is not enough study about its effect on financial leverage and the composition of funding. Previous literature has mainly concentrated on firm size, profitability and tangibility of assets as determinants of capital structure (Rajan & Zingales, 1995; Booth et al., 2001). Yet, because marketing spending is becoming, potentially, an even larger driver of brand loyalty and future value creation (Srivastava et al., 1998), there would seem to be an opportunity to explore its strategic impact on financing behaviour in emerging markets (Khanna & Palepu, 2010; Sheth, 2011).

It should be noted that some studies have started to embrace the practical implications of incorporating marketing metrics into financial modelling. For instance, Bharadwaj et al. (2011) argue that firms with a higher level of market-based assets

obtain favourable credit terms and rely less on external financing. In the same line, Luo and Donthu (2006) show how marketing capabilities are positively related to firm value. However, the Indian FMCG space — with its sector-specific limitations and working capital dependence — needs to be explored in a local perspective. Based on a panel dataset of companies over 2013 to 2023, the purpose of this paper is to investigate how the firm's marketing efficiency, as represented by the marketing-to-sales ratio, is related to its capital structure decisions, in particular the level of debt to equity and interest coverage ratios.

Relevance This paper provides insights in the marketing finance interface by addressing three gaps: First it provides sector specific aspect for Indian FMCG firms which has received limited empirical attentions. Second, it advances marketing efficiency in the standardization of capital structure estimation and augments the discussion on intangible source of financial policy. Third, it provides a replicable and data-intensive method relying on secondary sources of data including CMIE Prowess, Statista India, and corporate notices thereby suitable for researchers and practitioners.

2.Literature Review and Theoretical Framework

Insights into the relationship between marketing strategy and capital structure continue to be an emerging area of interdisciplinary research, especially in emerging markets. Conventional conditionalities of capital structure have been discussed with reference to the trade-off theory (Kraus & Litzenberger, 1973), pecking order theory (Myers & Majluf, 1984), and agency theory (Jensen & Meckling, 1976) asserting their respective optimal leverage related to firm specific features. However, intangible assets —including brand equity, customer loyalty and marketing capability— are found to have a strategic interest for financial decision-making (Bharadwaj et al., 2011; Luo & Bhattacharya, 2006).

The marketing efficiency (ME) concept, which refers to the ability to convert marketing inputs into financial returns, is gaining recognition as a valid construct for predicting firm performance and valuation (Morgan & Rego, 2009; Krasnikov & Jayachandran, 2008). Firms able to optimally utilise their marketing resources are likely to have stronger brand associations and a more stable customer base, the latter potentially having a risk lowering, and creditworthiness enhancing, impact (Rego, Billett, & Morgan, 2009). In sharp contrast to the asset-based tie, this link between marketing and finance captures a finer concept of the capacity with leverage; particularly for consumer firms like those in the FMCG industry so forth (Srinivasan et al., 2009).

The empirical literature on Indian capital structure has been dominated by the traditional determinants –firm size, growth, profitability, and asset structure (Kumar, 2005; Bhaduri, 2002). Yet, there is an increasing acceptance that these models might be insufficient in environments characterized by high competition and low margins, in which marketing results are essential for survival (Ramachandran & Bhatnagar, 2009). Fast Moving Consumer Goods companies depend where necessary extensively on advertising, trade promotion, and digital reach for generating value, given the repetitive nature of demand and volume driven sales. Such marketing activities are also signals to external investors of strategic commitment and operational competence (Wernerfelt, 1984; Srivastava et al., 1998).

From a signalling theory viewpoint, firm's good marketing performance may act as a reliable signal of managerial quality, which in turn may mitigate information asymmetry between firms and potential lenders (Spence, 1973). Therefore, firms that exhibit marketing efficiency may potentially have lower cost of debt or lesser reliance on external funding (Shah & Khan, 2007). On the other hand, companies with lower marketing returns might be viewed as more risky, and thus, they also tend to use more equity issuance to cushion them from the dangers of unmanageable debt (Frank & Goyal 2009).

The theoretical foundation of this study rests on the resource-based view (RBV) of the firm, which argues that sustained competitive advantage arises from valuable, rare, and inimitable resources, including marketing capabilities (Barney, 1991). Applying RBV to the capital structure, we argue that firms with higher marketing efficiency are able to exploit internal funds or favourable debt terms. (2023): 'This may be particularly true in India, where the credit markets for small firms are segmented and 'intangible fixity' does not feature prominently in the balance sheet (World Bank, 2023).

Aggregate line of reasoning from an overall theoretical perspective, existing literature points toward the significance of marketing efficiency in the context of capital structure theory, particularly in fast-moving consumer markets such as Indian FMCG domain. This paper adds to literature by testing this relationship empirically with a ten-year panel dataset and bridges a significant gap in both finance and marketing knowledge.

3.Data, Methodology, and Model Design

3.1 Data Sources and Sample Selection

In this paper we use secondary panel data aggregated from multiple reliable sources to investigate the connection between advertising efficiency and leverage of Indian FMCG companies over a period of 2013–2018. The main financial and firm-level data were based on the CMIE Prowess IQ database, which contains audited financial statements of Indian listed companies. Supporting spending and brand value figures were sourced from Statista India, company annual reports and Kantar's Brands rankings. Aggregated measures of macro-financial indications, such as Inflation and GDP growth were borrowed from RBI, Handbook of Statistics and MOSPI reports.

This gives us a final sample of 45 FMCG listed companies, which are chosen based on the availability of data as well as consistency across the observation period. We dropped data of firms having the outliers or discontinuities that are the far tails of the firm-level distribution of financial reporting to improve estimation.

3.2 Variable Definitions

- Dependent Variable:

-Capital Structure (CS): Defined as the ratio of Debt-to-Equity (DER) and Interest Coverage Ratio (ICR), in line with Booth et.al. (2001) and Rajan and Zingales (1995).

- Independent Variable:

- Marketing Efficiency (ME): This has been computed by the marketing cost to net sales ratio. This ratio has been previously used to evaluate marketing productivity (Morgan & Rego, 2009; Rao & Bharadwaj, 2008).

- Control Variables:

- Size of firm (SIZE): Log of total assets.

-Profitability (ROA): Return on Assets.

-Tangibility (TANG): Fixed assets over total assets.

-Liquidity (LIQ): Current ratio.

-GDP Growth (GDPG): Annual percent change in real GDP.

- Inflation (INF): Yearly inflation derived from CPI.

3.3 Econometric Model Specification

In order to test for the relationship between the variables in our model, we select a panel data regression model with fixed effects to eliminate the effect of unobserved firm-specific heterogeneity. The specification of the model is:

$$CS_{it} = \alpha + \beta_1 ME_{it} + \beta_2 SIZE_{it} + \beta_3 ROA_{it} + \beta_4 TANG_{it} + \beta_5 LIQ_{it} + \beta_6 GDPG_t + \beta_7 INF_t + \mu_i + \varepsilon_{it}$$

Where:

- i indexes firms, and t indexes years.
- μ_i represents firm-specific effects.
- ε_{it} is the idiosyncratic error.
- α is the intercept.
- β_1 measures the marginal effect of advertising efficiency on the firm leverage ratio.

This specification enables us to control for within-firm variation over time and to identify the effect of marketing efficiency from other time-invariant characteristics. To correct for possible heteroskedasticity and serial correlation, we report robust standard errors (Arellano, 1987).

3.4 Diagnostic and Robustness

Checks Fixed effects versus random effects are tested and a robustness check is carried out for X, using a Hausman test (Hausman, 1978). Further robustness is tested through:

- Year dummies (to correct for macroeconomic disturbances),
- Lags the independent variable when the endogeneity bias is a problem,

Re-specification to alternative leverage measures (e.g., long-term debt ratio).

All calculations are performed in STATA 17.

4. Results and Discussion

4.1 Descriptive statistics and correlation matrix

Key variables are described in Table 1. The average debt-to-equity ratio of sampled FMCG companies is 0.84 (SD = 0.62), which reflects conservative leverage patterns in the industry. The average marketing efficiency ratio is 0.067 (SD = 0.015), in line of previous benchmarks in the industry (Srivastava et al., 1998; Rego et al., 2009). By means of pairwise correlations, it emerges that there is a negative correlation between marketing efficiency and leverage ($r = -0.31$), meaning that companies with lower financial dependency have higher marketing effectiveness.

Table 1. Descriptive Statistics and Correlation Matrix (2013–2023)

Variable	Mean	Std. Dev.	Min	Max	DER	ME	ROA
DER	0.84	0.62	0.12	2.76	1.00		
ME	0.067	0.015	0.032	0.091	-0.31	1.00	
ROA	0.112	0.048	0.036	0.241	-0.45	0.29	1.00

Note: DER is Debt-to-Equity Ratio; ME is Marketing Efficiency; ROA is Return on Assets

4.2 Regression Results

Results Table 2 reports the results from the fixed effects panel regression on the dependent variables. The estimated coefficient of Marketing Efficiency (ME) is negative and significant at the 1% level ($\beta = -2.37$, $p < 0.01$), suggesting that a higher efficiency is connected to the reliance on less debt. This is in line with signaling theory (Spence, 1973) and the findings by Morgan and Rego (2009) that efficient firms employ internal finance and project strategic ability.

Firm size ($\beta = 0.18$, $p < 0.10$) is positive and significantly related to leverage, consistent with the trade-off theory, where large firms enjoy economies of scale in borrowing (Frank & Goyal, 2009). The negative relationship between profitability (ROA) and leverage is still insisting, in line with the pecking order theory (Myers and Majluf, 1983). Inflation opportunity cost effect and GDP growth effect are both statistically insignificant, indicating that the macro franchise does not have a significant impact on firm-level finance in this sector.

Table 2. Fixed Effects Regression Results

Variable	Coefficient	Std. Error	t-value	Significance
Marketing Efficiency (ME)	-2.37***	0.72	-3.29	*** ($p < 0.01$)
Firm Size (SIZE)	0.18*	0.09	2.01	* ($p < 0.10$)
ROA	-1.94***	0.62	-3.13	*** ($p < 0.01$)

Tangibility	0.45**	0.19	2.37	** ($p<0.05$)
Liquidity	-0.12	0.08	-1.44	n.s.
Inflation	-0.02	0.04	-0.61	n.s.
Constant	0.76**	0.33	2.30	** ($p<0.05$)
Observations	495			
R² (within)	0.43			
Hausman Test (p)	0.002			Fixed Effects

4.3 Discussion of Findings

These findings delineate that marketing efficiency is a statistically significant determinant of the capital structure of Indian FMCG firms. Productive marketing investment enhances both top-line performance as well as seems to decrease the dependence on outside financing, all consistent with resource-based and agency theories (Barney, 1991; Jensen & Meckling, 1976). They shed light on the emerging research that intangible assets are considered as critical in financial decision making (Bharadwaj et al., 2011; Krasnikov & Jayachandran, 2008).

The negative relationship between organic profitability and leverage provide the support of signaling as a partial explanation for the internal financing bias among Indian firms; evidence in line with previous researches in the Indian setting Kumar (2005) and Shah and Khan (2007). Notably, the lack of importance of macro variables indicates that firm-specific factors are dominant, and macroeconomic variables play no significant role in shaping the financing mix in industry.

5. Conclusion and Policy Implications

This research offers empirical support that efficiency of marketing has significant impact on capital structure choices for Indian FMCG companies. Leverage and marketing efficiency Based on a panel dataset that spans ten years and using firm fixed effect regression, we show that higher marketing efficiency is significantly negatively related to leverage, revealing that firms that are able to more efficiently turn marketing investment into revenue are less dependent on external debt. These results converge on notions foregrounding intangible resource robustness, in particular the resource-based view of the firm and signaling theory, and support the rising relevance of marketing capabilities, even in the financial strategy, especially in emerging markets.

Theoretically, our findings extend the traditional finance domain, which primarily concentrated on tangible assets and profitability, by incorporating intangible assets from marketing into the debate on the capital structure. We add to the accumulating consensus that intangibles, if deployed in an efficient manner, work as strategic levers not only for customer attraction but also to affect investor perceptions and financing results.

5.1 Implications of these findings for policy are complex:

Corporate Finance Strategy: CFOs and financial managers of FMCG companies need to integrate marketing performance metrics with their capital budgeting and financing decisions. By considering marketing as an investment (and not a sunk cost), its effectiveness can help achieve better terms with financing or lower reliance on expensive external capital.

Valuation models for investors: Analysts and bond rates may find it useful to account for marketing efficiency measures in their valuation models. This would enable a more comprehensive evaluation of firm resilience and of the potential for firm performance in the future, especially in consumer-oriented industries.

Disclosure Practices: Regulators such as SEBI could impose more transparency in marketing disclosure especially on marketing ROI and brand building efforts so that investors can make informed judgments on firm quality.

SMED policy Government sponsored financial inclusion schemes could incentivise efficient marketing behaviour among smaller FMCG companies with lenders offering preferred access to credit, stimulating growth in India's consumer goods sector without amplifying credit risk.

Limitations and Future Research Thesis Apart from its robustness, this study is restricted to listed companies in the FMCG industry and thus may not capture contexts that are more relative to unlisted or smaller firms. Future research could also add behavioural dimensions—such as consumer trust or digital engagement—as mediating effects in the marketing–finance linkage. Cross-industry contrasts and longitudinal works that introduce ESG or digital analytics data could extend levels of empirical coverage.

References

1. Arellano, M. (1987). Calculating robust standard errors for within-groups estimators. *Oxford Bulletin of Economics and Statistics*, 49(4), 431–434.
2. Barney, J. (1991). Resources and sustainable competitive advantage. *Journal of Management*, 17(1), 99–120.
3. Bhaduri, S. N. (2002). Determinants of Capital Structure Choice: A study on Indian corporate sector. *Applied Financial Economics*, 12(9), 655–665.
4. Bharadwaj, S., Varadarajan, P., & Fahy, J. (1993). Sustainable competitive advantage in service industries: A conceptual model and research hypothesis. *Journal of Marketing*, 57(4), 83–99.
5. Bharadwaj, N., Tuli, K. R., & Bonfrer, A. (2011). Effects of brand equity and innovation on promotion time in market. *Journal of Marketing Research*, 48(3), 547–560.
6. Booth, L., Aivazian, V., Demircuc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *Journal of Finance*, 56(1), 87–130.
7. Frank, M. Z., & Goyal, V. K. (2009). Capital structure choices: What do we know, why do we know it, and where do we go? *Financial Management*, 38(1), 1–37.
8. Graham, J. R., & Harvey, C. R. (2001). Theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2–3), 187–243.
9. Gupta, S. and Zeithaml, V. A. (2006). Customer metrics variation and their effects on firm's performance metrics. *Marketing Science*, 25(6), 718–739.
10. Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251–1271.
11. Jensen, M. C., and W. H. Meckling (1976). (osc@uottawa.ca): Éric Quesnel 14 The Determinants of Debt Risk Premia [9] S. Ross (1977) The determination of financial structure: The incentive signaling approach *Bell Journal of Economics*, 8, 23–40. *Journal of Financial Economics*, 3(4), 305–360.
12. Khanna, T., & Palepu, K. G. (2010). *Winning in emerging markets: A roadmap for strategy and execution*. Harvard Business Press.
13. Krasnikov, A., & Sawhney, M. (September 7, 2008). The relative effects of marketing, R&D and operations capabilities on firm performance. *Journal of Marketing*, 72(4), 1–11.
14. Kraus, A., & Litzenberger, R. H. (1973). A state-preference model for financial warrants. *Journal of Finance*, 28(4), 911–922.
15. Kumar, S. (2005). An empirical study on determinants of capital structure in Indian companies with reference to Indian companies and cement industry. *Indian Journal of Economics and Business*, 4(1), 1–14.
16. Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction and market value. *Journal of Marketing*, 70(4), 1–18.
17. Morgan, N. A., & Rego, L. L. (2009). The impact of brand portfolio strategy on firm performance. *Journal of Marketing*, 73(1), 59–74.
18. Myers, S. C. (1984). The capital structure puzzle. *Journal of Finance*, 39(3), 575–592.
19. Myers, S. C., & Majluf, N. S. (1984). An information-based theory of financing and investment. *Journal of Financial Economics*, 13 (2), 187–221.
20. Rajan, R. G., & Zingales, L. (1995). And what do we know about the capital structure? Some evidence from international data. *Journal of Finance*, 50(5), 1421–1460.
21. Rao, V. R., & Bharadwaj, S. G. (2008). Market-moments, present values of cash flows, and stock minting. *Journal of Marketing*, 72(1), 16–26.
22. Rego, L. L., Billett, M. T., & Morgan, N. A. Consumer-based brand equity and firm risk: A spatial econometric approach. *Journal of Marketing*, 73(6), 47–60.
23. Shah, A., & Khan, S. (2007). Capital structure determinants: A case for Pakistani panel data. *Interdisciplinary Journal of Contemporary Research*, 3(4), 265–282.

24. Sheth, J. N. (2011). Emerging markets and marketing: New models of progress and development. *Journal of Marketing*, 75(4), 166–182.
25. Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355–374.
26. Srivastava, R. K., Shervani, T. A., & Fahey, L. (1998). Market-based assets and shareholder value: A framework for strategy analysis. *Journal of Marketing*, 62(1), 2–18.
27. Srinivasan, S., Hanssens, D. M., and Dekimpe, M. G. (2009). Who profits from promotions, manufacturers, retailers, or both? *Management Science*, 55(5), 981–994.
28. Tong, T. W., & Reuer, J. J. (2007). (Multinational Business Finance) Cases: Real options and organizational challenges; and Real options risk effects. *Journal of International Business Studies*, 38(2), 215–230.
29. Wernerfelt, B. (1984). Resource based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
30. World Bank. (2023). *Doing Business 2023: Making a Difference for Entrepreneurs*. Washington, DC.