

The impact of profitability on Financial Leverage: Insight into Debt Equity Choice in India

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Abstract

This study explores the relationship between profitability and financial leverage within Indian firms, shedding light on the factors influencing debt-equity choices in the Indian business scenario. The research aims to analyze the debt-equity choices of Indian firms by examining the relationship between profitability and financial leverage. The paper has employed a quantitative research methodology, using correlation and regression analysis on the financial data collected from the annual reports of 317 Indian companies listed on NSE. The analysis has revealed a negative correlation between profitability and debt ratios, underscoring the significance of internal funds in shaping the capital structure decisions of firms. There is scope for future research to analyze the reasons for the dependency of firms on internal funds.

Keywords: *Profitability, Financial Leverage, Debt Equity, Capital Structure, Indian Firms*

Introduction

Financial leverage, a critical aspect of corporate finance, plays a pivotal role in determining the capital structure decisions of firms. Financial leverage refers to the use of debt to finance a company's operations, while profitability denotes the company's ability to generate earnings from its expenses and other costs (Aydemir et al., 2016). According to the Trade-off Theory, highly profitable firms often have stronger cash flows and earnings, making them better positioned to handle debt payments. As profitability increases, firms may become more inclined to leverage their capital structure by taking on more debt. This is because they can comfortably cover interest expenses and utilize debt to benefit from the tax shield it offers, thereby optimizing their cost of capital (Gritta, 2019). However, even profitable firms face trade-offs. While increased profitability may suggest a company's ability to service debt, there's a threshold beyond which excessive leverage could lead to financial distress. Firms may be cautious about using too much debt, even if they are highly profitable, to avoid the potential costs associated with financial distress.

However, the Pecking Order Theory suggests that firms have a hierarchy of preferred financing sources, preferring internal funds over external financing and debt over equity when external financing is necessary (Gu, 2022). Highly profitable firms tend to rely more on internal funds due to their ability to generate sufficient cash flows. They might use retained earnings to fund projects or expansions rather than resorting to external financing, including debt. This inclination towards internal financing reduces their reliance on debt in their capital structure. Profitability also serves as a signal to investors. When profitable firms choose to issue debt, it can signal positive information about their creditworthiness and ability to service debt, potentially reducing the cost of borrowing.

In India's dynamic business environment, understanding the relationship between profitability and financial leverage aids in effective risk management. Highly profitable firms might be better equipped to handle the risks associated with debt, but they also need to maintain stability. Analyzing this relationship assists in identifying thresholds where excessive leverage could lead to financial distress, enabling firms

to make informed decisions about their capital structures to maintain stability and resilience. Hence, the research aims to assess and analyze profitability influence on the strategic decision-making process concerning capital structure in Indian firms. Hence the research has the following objectives to consider:

1. To analyse the trend in debt-equity choice of Indian companies.
2. To analyse the relationship between profitability and financial leverage in Indian firms.

Literature Review

The various theories and empirical evidence over the years have established the merit of equity over debt but the rationale behind the choice between debt and equity in developing countries varies based on their macroeconomic conditions. In the context of India, the low per capita income of the population makes the companies more inclined to government-subsidised debt. However, with the year the flow of FDI has changed the debt-equity ratio to an extent. According to Laghari (2017), the debt ratio in developing countries has been affected by the pecking order hypothesis and Information symmetry theories.

The Pecking Order Hypothesis outlines a graded preference that companies maintain while selecting their financing sources, giving priority to internal funds, then turning to debt, and finally considering equity as a last resort. In the case of Indian firms, this theory substantiates their strategic decisions regarding capital structure more comprehensively (Lin et al., 2018). Indian companies have historically demonstrated a cautious stance towards debt acquisition due to several compelling factors. These factors encompass stringent regulatory constraints governing debt usage, prevalent high interest rates in borrowing, and a notable inclination towards retaining control over their business operations. As a consequence, Indian firms tend to resort to debt financing only when internal funds, notably retained earnings, fall short of meeting their financial needs. This cautious approach towards debt aligns well with the Pecking Order Hypothesis, highlighting how Indian companies prioritize internal resources first and consider equity issuance as a cautious and strategic measure, choosing it as a last resort for financing endeavours.

Similarly, according to the Information Asymmetry Theory, Prezas (2017) stated that there is an imbalance of information between different parties involved in a transaction. In the context of debt-equity choices of Indian companies, this theory suggests that information asymmetry between lenders/investors and companies could influence financing decisions. In developing countries like India, information asymmetry is often more pronounced due to factors like less transparent financial reporting practices, regulatory limitations, and a lack of access to reliable information about companies. This asymmetry can impact the ability of companies to raise funds through equity as investors may be wary of investing due to incomplete or asymmetric information.

Hence in the context of Debt the equity choices of Indian companies it could be construed that they make their choices based on the following factors (Rothmeier, 2018; Shalit, 2020):

1. **Preference for Debt:** Indian companies might lean towards debt financing due to its tax advantages, accessibility, and relatively lower cost compared to equity. However, they might limit their debt exposure due to concerns about financial distress costs and the conservative nature of business practices.
2. **Limited Reliance on Equity:** The information asymmetry prevalent in developing countries may lead to Indian companies facing challenges in raising equity capital. Investors may demand higher returns or be cautious about investing in companies where information is not readily available or transparent.

In summary, the debt-equity choices of Indian companies over time might reflect a cautious approach to debt due to concerns about financial risks, while the availability and transparency of information could

influence the limited use of equity financing. These companies may prioritize internal funds and debt over equity, following the Pecking Order Hypothesis, and navigate the challenges posed by information asymmetry in raising equity capital.

Research Methodology

The research has opted for a quantitative research methodology, to analyse the relationship between profitability and financial leverage within Indian firms, employing a rigorous panel regression analysis. The data collection process entails acquiring panel data spanning the years 2004 to 2012 from a diverse range of 317 Indian firms, Listed with NSE. The data considered are total assets, total debt, and various measures of profitability like cash flow to sales ratio and return on assets, as key financial metrics.

Data Analysis & Discussion

Based on the annual reports of the respective selected companies, a weighted average financial result has been selected. In the context of the regression model, the chosen dependent variable, the debt ratio (Total Debt/Total Assets), serves as a pivotal indicator of financial leverage. Exploring the impact of profitability measures—cash flow to sales ratio ('cf') and return on assets ('roa')—as independent variables will be central to understanding their relationship with financial leverage. Moreover, accounting for control variables such as firm size ('logta'), growth opportunities ('taga' and 'ce'), tangibility ('fa'), non-debt tax shield ('dep'), liquidity ('ca'), and an industry dummy ('dummy') will facilitate a comprehensive assessment of the interplay between profitability and leverage.

Utilizing panel regression models—both fixed effects and random effects—for the entire 2004-2012 period has formed the core analysis. The result of the correlation matrix has been enumerated below:

Table 1.1: Correlation Matrix

	td	dep	logta	fa	taga	ce	roa	cr	dummy
td	1.0000								
dep	0.1492	1.0000							
logta	0.0694	-0.0974	1.0000						
fa	0.3829	0.3829	0.1272	1.0000					
taga	-0.0084	0.0521	-0.0155	-0.0279	1.0000				
ce	0.0029	0.0604	-0.0140	-0.0014	0.9973	1.0000			
roa	-0.4934	-0.0781	-0.0087	-0.1806	0.0232	0.0260	1.0000		
cr	-0.2606	-0.1544	-0.0786	-0.2154	0.0064	0.0042	0.1859	1.0000	
dummy	-0.0813	-0.0008	-0.0617	-0.2137	-0.0106	-0.0165	-0.0739	-0.0574	1.0000

Among the variables analyzed, it is observed that there are notable correlations between the debt ratio (TD) and various other factors of analysis. There is a moderately positive correlation with tangibility (FA) at 0.3892, indicating a connection between higher tangible assets and increased debt utilization. Conversely, a strong negative correlation is evident between the debt ratio and return on assets (ROA) at -0.4934, suggesting that higher profitability might lead to reduced reliance on debt for financing. Additionally, moderate negative correlations with other factors like liquidity (CR) at -0.2696 and non-debt tax shield (DEP) at 0.1492 further highlight the complex relationship between profitability and debt-equity choices. Further to understand these correlation values more elaborately a fixed panel regression analysis has been performed. The result of regression analysis has been enumerated below :

Table 1.2:Firm-SpecificFactor of Capital Structure

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Fixed-effects (within) regression      Number of obs   =   2853
Group variable: coname                Number of groups =   317

R-sq: within = 0.1119                  Obs per group: min =    9
      between = 0.2677                    avg =    9.0
      overall = 0.2308                    max =    9

                                          F(6,2530)      =   53.15
corr(u_i, Xb) = 0.1799                 Prob > F       =   0.0000
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td	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dep	-1.348761	17.95798	-0.08	0.940	-36.5626	33.86508
logta	2.782187	.3637231	7.65	0.000	2.068962	3.495413
fa	.2139291	.0274372	7.80	0.000	.1601275	.2677308
ce	.001421	.0010058	1.41	0.158	-.0005512	.0033933
roa	-.3329106	.0337874	-9.85	0.000	-.3991644	-.2666568
cr	-1.789155	.2988369	-5.99	0.000	-2.375145	-1.203165
dummy	0 (omitted)					
_cons	10.06186	2.697992	3.73	0.000	4.771362	15.35236
sigma_u	18.972403					
sigma_e	11.044092					
rho	.74690624 (fraction of variance due to u_i)					

F test that all u i=0: F(316, 2530) = 20.60 Prob > F = 0.0000

The fixed effect panel regression analysis of 317 Indian firms listed on NSE from 2004 to 2012 reveals crucial insights into the determinants of capital structure within the Indian context and has been summarised below :

1. **Non-debt Tax Shield:** The relationship between non-debt tax shield and debt ratio appears negative but statistically insignificant, indicating that Indian firms don't seem to borrow primarily for tax benefits. This aligns with previous research by Lin et al., (2018), supporting the pecking order theory's notion that tax shield doesn't significantly impact capital structure decisions.
2. **Firm Size:**A statistically significant positive linkage between firm size and debt ratio confirms the hypothesis that larger firms tend to opt for greater debt financing. This observation is consistent with Prezas (2017) and supports the trade-off theory, suggesting larger firms' reduced financial distress risk enables them to leverage more.
3. **Tangibility:** Tangibility shows a statistically significant positive relationship with debt ratios, aligning with the studies of Rothmeier,(2018). This validates the trade-off theory, indicating that firms with higher tangible assets tend to secure more debt due to better collateral and lender preference.
4. **Growth:** The relationship between growth opportunities and debt ratios appears positive but statistically insignificant, contrasting with some prior research. This divergence suggests that high-growth firms might not significantly rely on debt, conflicting with expectations from both pecking order and trade-off theories.
5. **Profitability:** Profitability exhibits a statistically significant negative relationship with debt ratios, in line with the pecking order theory. Firms with higher profitability seem to favour internal funding over external financing, opting for retained earnings over debt, as observed in various previous studies.

6. **Liquidity:** Liquidity demonstrates a statistically significant negative association with debt ratios, supporting the pecking order theory. Firms maintaining higher liquidity levels seem less reliant on external debt, preferring internal financing options.

The above analysis supports a negative correlation between profitability and debt ratios underscoring the significance of internal funds in shaping the capital structure decisions of firms. This adherence to the pecking order theory implies that firms prioritize stability and minimize financial risks by relying more on their own generated funds. Additionally, this finding aligns with prior empirical studies, further reinforcing the theory's relevance in explaining the financing behaviour of firms.

Conclusion

To conclude, the analysis of profitability's influence on a company's debt-equity decisions reveals a discernible shift in patterns over the last two decades. This observation underscores the crucial role of profitability in shaping the preference between internal and external financing sources, enriching our comprehension of factors influencing a firm's capital structure choices.

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