



The Determinants Of Capital Structure Of Indian Fmcg Sector

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ABSTRACT

One of the most essential decisions that a company must make is its capital structure decision, which may also be referred to as its financing decision. There have been a lot of studies done on this topic, but nobody can agree on what the definition of an optimal capital structure is. The purpose of this study was to make an attempt to determine the elements that influence the decisions that companies in the FMCG sector in India make regarding their capital structures. The research was carried out on 15 of the most successful FMCG businesses now operating in India. These businesses are all traded publicly on the Bombay Stock Exchange, and some of them are included in the S&P BSE Fast Moving Consumer Goods Index. The five years from 2017 to 2021 are included in the scope of the study. One dependent variable, referred to as the Debt Equity Ratio, along with seven independent factors, such as profitability, tangibility, liquidity, size, business risk, non-debt tax shield, and coverage ratio, were included in the research. The dependent variable was the Debt Equity Ratio. It has been determined, through the use of correlation and multiple regressions, which aspects of a company's capital structure are influenced by certain circumstances. Only two of the seven independent factors, namely liquidity and profitability, have been identified as having a major impact on the capital structure. These two factors are liquidity and profitability.

KEY WORDS: Capital Structure, Liquidity, Profitability, Business risk, FMCG, NDTs.

INTRODUCTION:

It is rightly said that finance is the life blood of any business organization. Finance functions assume a significant role in all types of organizations. The finance functions are broadly classified into three categories namely (a) Investment Decisions (b) Financing Decisions and (c) Dividend Decision.

Investment Decisions:

A firm's investment decisions involve capital expenditures. These choices are sometimes referred to as budgeting decisions for capital expenditures. The decision to invest in long-term assets that will produce benefits (cash flows) in the future is an example of a capital budgeting decision. This decision may involve the commitment of funds or the allocation of resources.

The evaluation of the potential profitability of new investments and the determination of a benchmark interest rate against which the potential returns of new investments can be compared are two crucial components of investment decision-making.

Financing Decisions:

The second most crucial duty that needs to be done by the financial management is to make a funding decision. This choice entails determining when, where, and how to acquire funds in order to satisfy the investment needs of the company. Finding the right balance between debt and equity is the most important challenge a person in charge of finances must overcome. The Capital Structure of the company can be seen to be a combination of

debt and equity. Within the scope of this paper, an attempt has been made to determine the factors that have an impact on the Capital Structure of the company.

Dividend Decisions:

The third important financial choice involves selecting an appropriate dividend. The financial manager of the company needs to decide if the company should keep all of the earnings for themselves, distribute some of the profits, and keep the rest for themselves. The percentage of earnings that are paid out in the form of dividends is referred to as the dividend-pay-out ratio, and the percentage of profits that are kept by the company is referred to as the retention ratio. The dividend policy, much like the debt policy, ought to be decided upon by considering how it will affect the value of the company's shareholders.

Capital Structure:

Funding is required for any firm in order for it to be able to carry out its activities, to endure in the difficult and constantly shifting business environment, and to grow. The financing of a company's assets can be accomplished through an increase in either the claims of the owners or the claims of the creditors. When a company raises capital, either by issuing ordinary shares or by keeping a portion of the profits for themselves, the owners' claims go up; when the company borrows money, the claims of the creditors go up. The choice made regarding financing will have an immediate impact on the elements that make up the liabilities section of the company's balance sheet. The ratio of a company's debt to its equity is referred to as its "capital structure," and economists use this phrase to describe the link between the two. Paid-up share capital, share premiums, reserves, and surplus are all components of equity (retained earnings).

The decision on the financing method or the capital structure is an important managerial decision. The return and risk that are borne by shareholders is impacted by the decision about the capital structure. The decision that a company makes about its capital structure may have an effect on the market value of the company's shares. When there is a need to increase funding, a new capital structure is created since a choice needs to be taken about the total amount and the different types of financing. The ratio of debt to equity in a company has an effect on the earnings and risk that are borne by shareholders, which in turn has an effect on the cost of capital and the market value of the company.

Financial Leverage:

Both debt and equity can be used by a firm to finance its investments. There is also the possibility that the corporation will utilise preferred capital. The interest rate that is charged on debt is always the same, regardless of the rate of return that the company earns on its assets. The corporation is contractually obligated to make interest payments on the loan. The rate of the preference dividend is similarly set in stone, but the dividend itself is only distributed if the company has realised a profit. The ordinary shareholders are entitled to the residual income, which is defined as earnings after interest and taxes (less preference dividends), and the rate of equity dividend is not predetermined. Financial leverage refers to the practise of a company using fixed-charge sources of funds, such as debt and preference capital, along with the owners' equity in the capital structure in order to generate higher returns on the fixed-charge funds than their cost.

Optimal Capital Structure:

When a company's value is maximised, it has achieved what is known as a "optimal capital structure." The use of leverage has an effect on the earnings and risk that are borne by shareholders. When economic conditions are favourable, an increase in financial leverage typically results in an increase in earnings per share. However, the use of leverage also puts stockholders in a more precarious financial position. Because of this, one cannot say for certain whether or not the use of leverage would result in a rise in the value of the company. The enhancement of a company's value should be the primary focus of the company's efforts in order to achieve its goals. If decisions about capital structure or financial leverage have an impact on the value of the company, then the "Optimal Capital Structure" is a capital structure that, by maximising the value of the company, achieves the greatest possible result.

Important Theories of Capital Structure:

Two distinct schools of thought may be identified among the various hypotheses regarding the structure of capital. One school of thinking maintains that there is such a thing as the best possible capital structure. According to this school of thought, an efficient capital structure will eventually enhance the value of the company while simultaneously lowering its overall costs and the amount of capital it requires. The alternative school of thinking maintains that there is no connection between the capital structure of a company and its value; hence, actions about the capital structure have no bearing on the company's value.

There are four important theories of Capital Structure:

- (a) Irrelevance Theory of Capital Structure of Modigliani and Miller (MM)
- (b) The Trade-Off Theory of Bradley Et Al
- (c) Market Timing Theory by Baker and Wurgler
- (d) Pecking Order Theory by Myers and Mejluf.

The Irrelevance Theory (Modigliani and Miller, 1958):

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The Trade-Off Theory:

According to this theory, a strategic combination of debt and equity capital can raise the value of a company by lowering the firm's weighted average cost of capital (WACC) up to a particular level of debt. This can be accomplished by increasing the proportion of debt to equity capital. The amount that was paid in interest on the debt is tax deductible according to the current regulations regarding income tax, however the income from the equity is subject to taxation at the current rates. This strategy makes it very evident that WACC only lowers within an acceptable limit of financial leverage, and that once it reaches the minimal level, it begins increasing in tandem with financial leverage. Therefore, the most effective capital structure for a company is one in which the weighted average cost of capital (WACC) is the lowest possible value, which in turn maximises the value of the company.

In accordance with the established perspective, why does WACC decrease? The weighted average cost of capital (WACC) falls when the level of leverage is increased to a modest level because cheaper debt capital is substituted for more expensive equity capital. The cost of stock will go up if the company uses financial leverage, as this will raise the risk that the company poses to its shareholders. On the other hand, this hypothesis is based on the premise that at a reasonable level of leverage, an increase in the cost of stock is more than offset by a decrease in the cost of debt.

Market Timing Theory:

According to the market hypothesis, the capital structure of a company is heavily influenced by the length of time before the funds are required. According to this idea, the form of financing that a company chooses to use will be determined in part by the conditions of the market at the time the company decides to raise cash. If the interest rate is reasonable, the company may choose to finance itself through debt. On the other hand, it will raise the funds through equities if the conditions in the equity market are quite favourable. According to Baker and Wurgler (2002), market timing is the primary factor in determining how a firm allocates its resources between debt and equity in its capital structure. To put it another way, companies typically do not care whether they finance their operations with debt or equity; rather, they opt for the kind of financing that the financial markets at that particular point in time appear to place a higher premium on.

The Pecking Order Theory:

The premise upon which the 'Pecking Order Theory' is founded is that managers have access to more information on their companies than investors do. The difference in the amount of information held by each party is what's known as "asymmetric information." Because of the asymmetry in the information that is available to them, managers will issue loans when they have a positive outlook on the future of their company, and they will issue stock when they have a negative outlook on the future of their company. According to the principle of the pecking order, the following is the sequence in which managers seek to raise capital:

1. Managers always prefer to use internal finance.
2. When they do not have internal finance, they prefer issuing debt. They first issue secured debt and then unsecured debt followed by hybrid securities such as convertible debentures.
3. As a last resort, managers issue shares to raise finances.

REVIEW OF LITERATURE:

In their paper from 1958, Modigliani and Miller claimed for the first time that in a world without taxes, judgments regarding the firm's capital structure are meaningless, and the value of the company is unaffected by the firm's capital structure. In 1963, when they incorporated corporate tax, they argued that the value of a levered firm, which is a firm that is using both debt and equity, will be greater than the value of an unlevered firm because of the interest tax shield on debt, which makes the capital structure relevant for a company. In other words, the value of a levered firm will be greater than the value of an unlevered firm because of the interest tax shield on debt. These ideas suggest that there is no such thing as the best possible capital structure. According to research conducted by Titman and Wessel (1988), different debt ratios are associated with a company's growth rate, volatility, non-debt tax shielding, profitability, the collateral value of assets, industry categorization, size of the organisation, and the distinctiveness of the company. The research was conducted over the course of a period of nine years, from 1974 to 1982, and the sample size was 105 different manufacturing companies. In this particular investigation, the method of Factor Analysis was utilised. The findings point to the possibility that transaction costs are a key factor in choosing the appropriate capital structure. It was found that the percentage of a company's short-term debt to its total debt was inversely related to the size of the company. This could be a reflection of the relatively high processing costs that small

companies experience while issuing long-term financial instruments. In particular, they have discovered that the "uniqueness" of a company's line of business has a negative correlation with the levels of debt that it carries. In their research, Das and Roy (1998) examined the inter-industry variances in the capital structures of the companies and identified the sources of variation in the capital structures. They looked into the disparities in the pattern of finance that existed before and after the liberalisation of the market. In order to accomplish this goal, they made use of a method known as One Way Analysis of Variance (ANOVA). It was discovered that the size of the company was an important element in establishing the capital structure across different industries. The nature of the industry itself, or more specifically the changes in the fund demand of the industry group depending on the technology that was utilised, was the most important factor that contributed to the variation, although this was not the only factor.

According to the findings of Anand's (2002) research of the capital structure, retained earnings are the most favoured source of financing, followed by debt, and then equity. According to the findings, companies do not appear to take the capital structure of their projects into consideration when making decisions on how to effectively fund those initiatives. The use of debt in the capital structure of low-growth companies is preferred to a greater extent than it is in high-growth companies. The primary market is the most popular venue for the issuance of bonds by the larger corporations. A very small number of companies employ hybrid securities as a source of financing in order to shield bondholders and shareholders from the firm's participation in potentially hazardous or unattractive initiatives.

Baral (2004) found that operating leverage, dividend payout ratio, company risk, growth rate, and size all had a positive affect on leverage ratio, whereas debt service capacity and profitability had a negative influence. This research was carried out on the forty companies that are traded on the Nepal Stock Exchange between the years 1996 and 2001. The time frame of the study was 1996-2001.

The article by Madan (2007) investigated how the selection of how to finance a company affected its overall success. According to the findings of the study, the use of leverage may be successful for certain types of businesses, but it has a detrimental impact on other types of organisations. As a result, businesses that have only a minor amount of debt have been able to get a satisfactory return on their equity investment. Companies that have a gearing ratio of between 50 and 85 percent have been able to create a decent return on equity (ROE). This range of gearing ratio covers the range of moderately geared companies. Therefore, businesses with a low gearing level and those with a very high gearing level need to work on improving their ROE by either increasing or decreasing the proportion of debt to equity in their capital structure, respectively.

In his research, Pathak (2010) investigated the relative significance of six factors that influence the capital structure of publicly traded companies in India. These factors include: This research looked at 135 companies that were traded on the Bombay Stock Exchange (BSE) during the years 1990 and 2009. The time period investigated was from 1990 to 2009. According to the findings of the study, firms' decisions regarding their capital structures are significantly influenced by a variety of factors, including the tangibility of their assets, the rate of their growth, the magnitude of their business, the level of risk associated with their operations, as well as liquidity and profitability.

In his study on the capital structure of Indian Manufacturing Companies, Mishra (2011) came to the conclusion that asset tangibility, profitability, and tax had a substantial effect on the capital structure of the companies that were chosen for the study. During the process of selecting the capital structure of the companies, it was determined that size, volatility, and the non-debt tax shield were not major factors.

Factors Affecting Capital Structure Decisions: Empirical Evidence from Selected Indian Firms was the subject of a study that was carried out by Pahuja and Sahi (2012). The agency cost theory and the pecking order theory were the conceptual underpinnings of this investigation. This research was conducted over the course of three years, from 2008 to 2010, and the sample consisted of the thirty companies that make up the BSE Sensex. According to the findings of the research, a favourable connection exists between debt-equity ratio and both economic growth and liquidity.

Riyazahmed.K (2012) conducted research on the factors that determine the capital structure of Indian auto manufacturing companies, which are the component companies of the auto index that is maintained by the National Stock Exchange. For the purpose of the study, a representative sample of 15 businesses was thought about. Size, earnings rate, company risk, growth, dividend payout, debt servicing capability, and degree of operating leverage were some of the aspects that were taken into consideration for the study. According to the findings of the study on the correlation between determinants and financial leverage, the study found that debt service capacity, operating leverage, dividend payout, and business showed statistical significance, whereas size, earning rate, and growth showed statistical insignificance.

In their working paper titled "Determinants of Capital Structure of Indian Corporate Sector: Evidence of Regulatory Impact," Basu and Rajeev (2013) discovered that the impact of capital market restrictions on debt is notably negative. On the other hand, the findings of the study indicate that regulations governing the capital market have a considerable and beneficial effect on the proportion of equity used in the capital structure. This suggests that the usage of equity in the capital structure has expanded as a result of the increased restrictions and the improved level of openness.

Yadav (2014), in his study titled "Determinants of the Capital Structure and Financial Leverage: Evidence Of Selected Indian Companies," investigated the connection between financial leverage and the determinants of

the capital structure of 50 companies that were listed on the national stock exchange, NIFTY Index, between the years 2002 and 2012. This research covered the time period 2002–2012. In relation to the study, the factors of profitability, collateral value of assets, growth, size, capacity to service debt, tax rate, non-debt tax shields, liquidity, uniqueness, and business risk were taken into consideration. According to the findings of the study, the following relationships exist between various independent variables and dependent ones: profitability has a negative correlation with debt equity ratio; collateral value of asset has a negative correlation with debt equity ratio; size has a negative correlation with debt equity ratio; growth has a positive correlation with debt equity ratio; debt service coverage has a positive correlation with debt equity ratio; tax rate has a negative correlation with debt equity ratio; non debt tax has a positive correlation with debt equity ratio; tax rate has a negative correlation with

In their study on the Capital Structure Determinants of Steel Companies in India, Poddar and Mittal (2014) came to the conclusion that larger organisations will have higher leverage and vice versa. This is because larger firms are able to borrow capital more easily than smaller ones. A more lucrative company will have a lower leverage than a less successful company will have in comparison to the former.

In their research on the "Determinants of Capital Structure and Testing of Theories: A Study on the Listed Manufacturing Companies in Bangladesh," Hossain and Hossain (2015) found that the results of PCSE regression models indicated that all of the selected variables were significant determinants of the capital structure of the listed manufacturing companies in Bangladesh. This was found to be the case regardless of the hypothesised relationship between these variables and the capital structure. It was discovered that managerial ownership had a favourable influence on the leverage ratios. [Citation needed] On the other hand, factors such as growth rate, profitability, debt service coverage ratio, non-debt tax shield, financial expenses, free cash flow to business, Agency costs, and dividend payment all have a negative link with leverage ratios. The Tangibility and Liquidity ratios only have a positive association with Long Term Debt, whereas they have a negative relationship with Total Debt and Short Term Debt respectively. It was also discovered that the capital structures of the various industries in Bangladesh are notably unlike to one another in a number of important respects. According to the findings, the Pecking-order theory and the Static Trade-off theory appear to be the two theories that have the greatest influence on Bangladesh's capital structure.

In their study titled "Determinants of Capital Structure: Evidence from Indian Stock Market with Special Reference to Capital Goods, FMCG, Infrastructure, and IT Sector," Sathyanarayana, Harish, and Kumar (2017) came to the conclusion that for the capital goods sector, Business Risk and NDTs are not statistically significant. On the other hand, Profitability, Growth, and Tangibility were discovered to be statistically significant. On the other hand, the Profitability, Tangibility, Growth, and Size, as well as the NDTs, were determined to be statistically significant in the instance of the FMCG industry. In the case of the information technology industry, Profitability, Business Risk, and Size were found to be statistically significant, but in the case of the infrastructure sector, Business Risk, Growth, and Size were shown to be statistically significant.

NEED AND OBJECTIVES OF THE STUDY:

The review of literature revealed that though a good number of studies have been conducted on the topic, but majority of these studies have been conducted in foreign countries. Even in these studies there seems to be no consensus on the determinants of capital structure. In India, a few studies have taken place and a very few studies have been conducted in FMCG sector. Hence a need arises to conduct a fresh research to determine the factors affecting the capital structure of the firms in FMCG sector in India.

Major Determinants of Capital Structure:

The term Capital Structure or Financial Leverage, is referred to as use of equity share capital, preference share capital and debt in financing the business of the firm. In this section an attempt has been made to briefly discuss the various determinants of capital structure of the firm.

1. Profitability:

According to the Pecking Order Theory, there is an inverse link between a company's debt-equity ratio and its level of profitability. Businesses that generate a lot of profit will have a smaller proportion of debt in their capital structure, and vice versa. In addition, according to the framework of agency theory, if the competition for corporate control is inefficient, managers of profitable firms will use the higher level of retained earnings in order to avoid the disciplinary role that is played by external finance. This is the case even if the competition for corporate control is efficient. Therefore, there is a negative relationship between the use of financial leverage and a company's profitability, as suggested by these theories. In the present paper the profitability has been measured as:

Profitability = $EBIDTA / \text{Total Assets}$.

2. Tangibility:

The tangibility of an asset can be measured by looking at the ratio of fixed assets to total assets. There is a positive relationship between financial leverage and the tangibility of assets, according to many different theories concerning the structure of capital. Therefore, businesses that have a significant amount of fixed assets should have a higher debt equity ratio when compared to businesses that have a less significant amount of

fixed assets. In this paper, the same ratio of fixed assets to total assets has been used as a measure of tangibility. This is because the majority of the earlier studies have used the ratio as a measure of tangibility.

Tangibility = Fixed Assets/Total Assets

3.Size:

It is a widely held belief that one of the most important factors that determines the capital structure of a company is the size of the company. There ought to be a positive correlation between the amount of leverage used and the size of the company, in accordance with the Bankruptcy Cost Theory. [Citation needed] The trade-off theory posits that larger companies have a greater propensity to be more diversified, and as a consequence, they take on less risk and are less likely to file for bankruptcy. Additionally, if it is essential for a company to maintain complete command over its business operations, then it is more likely that the company will expand through the use of debt financing as opposed to equity financing. On the other hand, one could also argue that size acts as a proxy for the availability of information that is held about the company by those who are not affiliated with it. This is another possible interpretation of the phrase "size acts as a proxy for the availability of information." Equity issuance becomes more appealing to the company when there is less of an information power imbalance between the company and its shareholders. As a consequence of this, one ought to be prepared for a detrimental connection between size and leverage. This study uses natural logarithm total assets as a proxy for size.

Size = Natural Logarithm of Total Assets

4.Liquidity:

The ability of a company to meet its obligations as and when they come up for payment is what is meant when we talk about liquidity. The ability of a company to meet its short-term obligations is the primary purpose for which liquidity ratios are evaluated. They offer information regarding the capacity of the company to continue operating even in the face of financial challenges in the future. There is a possibility that the liquidity ratio will have contrasting effects on the decision that the company makes regarding its capital structure. To begin, it's possible that the businesses that have better liquidity ratios also have relatively better debt ratios. This is as a result of an increased capacity to fulfil immediate commitments. According to this point of view, one should anticipate that there is a positive relationship between the company's debt ratio and its liquidity position.

However, businesses that have a greater amount of liquid assets may be able to use these assets as a source of funding for their investments. If something like this occurs, there will be deterioration in the relationship between the company's debt ratio and its liquidity ratio. In addition, as Prowse (1990) argues, the liquidity of the company's assets can be used to show the extent to which these assets can be manipulated by shareholders at the expense of bondholders. This is something that can be demonstrated through the use of financial ratios. In the current study, a proxy for liquidity was determined using the ratio of current assets to current liabilities, just as it had been done in many other studies in the past.

Liquidity = Current Assets/Current Liabilities

5.Non-Debt Tax Shield:

Companies that have a high leverage component as part of their capital structure stand to gain more benefits in the form of a tax shield on interest payment because, according to the laws governing taxes, interest payment is an allowable expenditure. On the other hand, the Pecking Order Theory (POT) places NDTs in the second order of preference, while retained earnings are placed in the first order of preference when compared to other sources of financing. According to the Pecking Order Theory, businesses that are successful typically have a surplus of financial resources. In order to make the most of the surplus, the companies meet their financial needs from within their own organisation whenever it is necessary to do so. On the other hand, the empirical studies conducted on this topic showed conflicting results. Research carried out by Bradly, Jarrell, and Kim (1984), as well as by Titman and Wessel, was unable to produce any conclusive findings. On an additional rupee of income that is earned today, the marginal tax rate is defined as the present value of the current and expected future taxes that must be paid on that rupee. In the current investigation, the ratio of a company's depreciation expenses to its total assets served as a stand-in for the non-debt tax shield (NDTS).

NDTS = Depreciation/Total Assets

6.Business Risk:

In the earlier research studies on capital Structure, various models of volatility were used to determine the relationship between the variables. Some examples of these models include the standard deviation of returns on sales, operating cash flow, and change in operating income. Companies that experience a high degree of volatility in their earnings and cash flows are exposed to a greater degree of risk than those whose earnings level fall below the debt exposure and goes into default while they are still paying off their debt. As a result, a number of hypotheses propose that the more erratic a company's profits are, the greater the likelihood that it will go bankrupt while still trying to pay its debts, and the higher the costs associated with filing for bankruptcy. The agency problem is extended to the relationship between owners, which includes shareholders, lenders, and management when debt is introduced into the capital structure. This is because debt changes the nature

of the capital structure. These conflicts have a positive influence on the issues with the agency. The capital structure of a company can be affected by agency costs in various ways. The empirical findings indicate that companies with high earnings volatility will choose equity financing over debt financing when confronted with choices regarding their external sources of financing. As a result, the probability of failure is replaced by business risk, and it is anticipated that business risk will have an inverse relationship with leverage. This view, which suggests that as business risk (volatility) increases, borrowed funds in the CS of the firm should decrease, was supported by empirical studies that were carried out by Taggart (1985), Garg (1988), and Paudel (1994). Nevertheless, research carried out in India and Nepal provides evidence that challenges both the agency cost theory and the bankruptcy theory. In the current study, a proxy for the risk associated with a business was constructed using the standard deviation of EBITDA.

Business Risk = Standard Deviation of EBITDA

7. Coverage Ratio:

According to Harris and Raviv's (1990) findings, there is an inverse relationship between leverage and coverage ratio. They come to the conclusion that a higher level of debt will increase the likelihood of default. As a result, the interest coverage ratio will serve as a proxy for the likelihood of the company defaulting on its obligations; consequently, a lower interest coverage ratio indicates a higher debt ratio. As a method for calculating interest cover, the study makes use of the EBIDTA to interest payment ratio.

Interest Coverage Ratio = Interest Payments/EBIDTA

Objectives:

The following are the specific objectives of the study:

1. To study the factors affecting the capital structure of the selected companies.
2. To study the effect of the various variables such as Profitability, Tangibility, Size of the firm, Liquidity, Business Risk, Non-Debt Tax Shield and Coverage Ratio on the Capital Structure.
3. To Rank the various independent variables in order of their importance in the capital structure.

RESEARCH METHODOLOGY:

Data Sources and Sample Size:

For conducting this study the data for 5 years (2017-21) for 15 sample companies have been taken. These companies are leading companies in the FMCG sector and are a part of the S and P BSE Fast Moving Consumer Goods Index. For all variables (dependent and independent), simple arithmetic mean has been calculated to arrive at a single figure representing the value of the variable for the chosen period of 5 years and to absorb structural changes if any. If there are any missing values for a variable for a particular year, average of the values for remaining years is calculated. The list of the companies included in the sample is given below:

S.No.	Security Name	Company Name
1	DABUR	Dabur India Limited
2	HINDUNILVR	Hindustan Unilever Limited
3	ITC	ITC Limited
4	GODREJCP	Godrej Consumer Products Limited
5	BRITANNIA	Britannia Industries Limited
6	COLPAL	Colgate-Palmolive (India) Limited
7	TATAGLOBAL	Tata Global Beverages Limited
8	NESTLEIND	Nestle India Limited
9	EMAMILTD	Emami Limited
10	MARICO	Marico Limited
11	TATACOFFEE	Tata Coffee Limited
12	PGHH	Procter and Gamble Hygiene and Healthcare Limited
13	GILLETTE	Gillette India Limited
14	GSKCONS	Glaxo Smithkline Consumer Healthcare Limited
15	VENKYS	Venky's India Limited

Ordinary Least Squares (OLS) multiple regression analysis has been used to study the impact of each independent variable on capital structure of sample companies and build a consolidated econometric model. All five assumptions of OLS regression i.e. the linear specification, normality of error term, homoscedasticity of error term, no auto-correlation of error terms and no multicollinearity assumption have been verified and corrected for. On the basis of the review of literature and various studies conducted, in the present study one dependent variable and seven independent variables have been used. The list of the variables along with their definitions and measurement is given in the following table:

Dependent Variable:

S. No.	Variable Indicators	Full Name	Measurement
1.	DE	Debt Equity Ratio	Debt/Equity

Independent Variables:

S. No.	Variable Indicators	Full Name	Measurement
1.	PR	Profitability	EBITDA/Total Assets
2.	TG	Tangibility	Total Fixed Assets/ Total Assets
3.	SZ	Size of the firm	Natural Logarithm of Total Assets
4.	LQ	Liquidity	Current Assets/ Current Liabilities
5	NDTS	Non-Debt Tax Shield	Annual Depreciation/ Total Assets
6	BR	Business Risk	Standard Deviation of EBITDA
7	CR	Coverage Ratio	Interest Payments/ EBITDA

Specification of the Model:

Based on one dependent variable and nine independent variables the following regression model has been designed to estimate the significant determinants of the capital structure.

$$Y \text{ (Debt Equity Ratio)} = a + b_1 X_1 \text{ (PR)} + b_2 X_2 \text{ (TG)} + b_3 X_3 \text{ (SZ)} + b_4 X_4 \text{ (LQ)} + b_5 X_5 \text{ (NDTS)} + b_6 X_6 \text{ (BR)} + b_7 X_7 \text{ (CR)} + \epsilon$$

Y = Debt Equity ratios of the firms and the dependent variable in the model

X is the vector of explanatory variables in the estimation model

X₁ = Profitability (PR)

X₂ = Tangibility (TG)

X₃ = Size of the firm (SZ)

X₄ = Liquidity (LQ)

X₅ = Non-Debt Tax Shield (NDTS)

X₆ = Business Risk (BR)

X₇ = Coverage Ratio

a = constant intercept term of the model

b_s = coefficients of the estimated model

ε = error component

Dependent Variable (Y):

It is known as leverage or Debt Equity Ratio:

FL or DE = D/E

Where FL = Financial Leverage DE or Debt Equity Ratio, D = Debt and E = Equity

Independent Variables (S) (X_n):**Profitability (X₁)**

It is given by X₁ = EBITDA/Total Assets

Tangibility (X₂)

It is given by X₂ = TFA/TA

Where, TFA = Total Fixed Assets and TA = Total Assets

Size of the Firm (X₃)

Size of the firm = Natural Logarithm of Total Assets

Liquidity of the Firm = X₄

It is given by X₄ = TCA/TCL

Where, TCA = Total Current Assets and TCL = Total Current Liabilities

Non-Debt Tax Shield (X₅)

It is given by X₅ = Annual Depreciation/Total Assets

Business Risk (X₆)

It is defined as Standard Deviation of EBITDA.

Coverage Ratio (X₇)

It is given by X₇ = Interest Payments/EBITDA.

Hypothesis:

On the basis of the second objective, the following hypothesis have been formed:

H01:

Profitability does not affect the capital structure of a firm

H02:

Tangibility does not affect the capital structure of a firm

H03:

Size does not affect the capital structure of a firm

H04:

Liquidity does not affect the capital structure of a firm

H05:

Non-Debt Tax Shield does not affect the capital structure of a firm

H06:

Business Risk does not affect the capital structure of a firm

H07:

Interest Coverage Ratio does not affect the capital structure of a firm.

Data Analysis and Interpretation:**Descriptive Statistics:**

The descriptive statistics of all the variables are given in Table 1.

Correlation Results:

In order to check the relationship between the variables the correlation among the variables has been computed. The results of the correlation analysis are given in Table 2 below

Table 1. Descriptive Statistics

Variables	N	Mean	Standard Deviation
Debt-Equity Ratio (DE)	15	0.307	0.436
Profitability (PR)	15	16.107	8.900
Tangibility (TG)	15	0.292	0.124
Size (SZ)	15	8.206	1.033
Liquidity (LQ)	15	1.557	0.418
Non-Debt Tax Shield (NDTS)	15	0.047	0.074
Business Risk (BR)	15	414.211	658.682
Coverage Ratio (CR)	15	1058.604	2267.455

Table 2. Correlation Matrix

	DE	LQ	PR	SZ	TG	NDTS	BR
DE	1						
LQ	-0.297	1					
PR	-0.653**	0.262	1				
SZ	-0.269	0.030	0.134	1			
TG	0.062	0.232	0.306	0.026	1		
NDTS	-0.227	0.206	0.412	-0.308	0.261	1	
BR	-0.301	0.014	0.338	0.775**	0.186	-0.106	1

** Correlation is significant at the 0.01 level (2-tailed)

he Table 2 above shows that there is a significant negative correlation between Financial Leverage i.e. Debt Equity Ratio and Profitability which means that firms with higher profits use less debt in their capital structure whereas the firms with less profits use more debt. The Table also shows that there is a positive correlation between size of the firm and the business risk i.e. as the size of the firm increases the risk also increases.

Regression Analysis:

In order to test the various hypotheses, the regression analysis was used and the results of the same are given in the following paragraphs.

Multicollinearity Test:

One of the major hindrances in using Regression Analysis is the problem of multicollinearity in the independent variables. Before applying the regression analysis, the multicollinearity of the independent variables was checked and the results of the same are given in the Table 3 below.

Table 3 Multicollinearity Statistics

Variables	Tolerance	VIF
Profitability (PR)	0.728	1.373
Tangibility (TG)	0.705	1.419
Size (SZ)	0.275	3.634
Liquidity (LQ)	0.67	1.492
Non-Debt Tax Shield (NDTS)	0.781	1.28
Business Risk (BR)	0.289	3.462
Coverage Ratio (CR)	0.572	1.749

It is clear from the Table 3 that none of the tolerance value is less than 0.1, so there seems to be no problem of multicollinearity. To further check the same VIF value was also calculated and none of the value of more than 4. So these two statistics show that multicollinearity is not an issue in this data and Regression Analysis can be used.

Model Fit/Robustness of the Model

In order to check the robustness of the model, the ANOVA table was used and the results of the same are given in Table 4.

Table 4 ANOVA^a

	Sum of Squares	DF	Mean Square	F Value	Sig.
Regression	2.231	7	0.319	5.25	0.002 ^b
Residual	0.425	7	0.061		
Total	2.656	14			

A Dependent Variable: DE

B .Predictors: (Constant), CR, PR, NDTS, BR, TG, LQ, SZ

The F Value of 5.25 and Sig. value of 0.002 in Table 4 above clearly indicates that model is a good fit/robust.

Regression Results:

After checking multicollinearity and robustness of the model, the regression was on the variables using SPSS and the results of the same are given below:

Table 5. Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	CR, PR, NDTS, BR, TG, LQ, SZ ^b	NIL	Enter

a. Dependent Variable : DE

b. All requested variables entered.

The Table 5 above shows that enter method has been used and Debt Equity Ratio or Financial Leverage has been used as a dependent variable and the independent variables are Coverage Ratio (CR), Profitability (PR), Non-Debt Tax Shield (NDTS), Business Risk (BR), Tangibility, Liquidity (LQ) and Size (SZ).

Table 6. Model Summary

Model	1
R	0.917
R Square	0.84
Adjusted R Square	0.74
Std. Error of Estimate	0.246
F-Statistic	5.25
Sig. (F-Statistic)	0.002

It is clear from the Table 6 that value of R Square is 0.84 which means that model total of seven independent variables are able to explain about 84 per cent of the variations in the capital structure.

Table 7 Coefficients^a

Variable	Unstandardized Coefficients	Std. Error	Standardized Coefficients (Beta)	t-statistic	p-value
Intercept	3.701	1.088		3.401	0.011**
Liquidity (LQ)	-0.499	0.192	-0.479	-2.592	0.036**
Profitability (PR)	-0.04	0.009	-0.819	-4.626	0.002**

Size (SZ)	-0.254	0.121	-0.603	-2.093	0.075
Tangibility (TG)	0.463	0.634	0.131	0.73	0.489
NDTS	-1.553	1.004	-0.265	-1.547	0.166
Business Risk (BR)	0.001	0.000	0.38	1.35	0.219
Coverage Ratio (CR)	-5.077E.005	0.000	-0.264	-1.322	0.228

a. Dependent Variable : DE ** Significant at 0.05 Level

The intercept value 3.701 given in Table 7 is the value of total debt to total assets. Further the p-value of 0.011 indicates that it is statistically significant.

The liquidity coefficient of -0.499 indicates that if the liquidity is increased by unit it will to 0.499 units reduction in the debt-equity ratio. The p-value of .036 indicates that liquidity has a significant impact on the capital structure of the firm.

The profitability coefficient of -0.04 indicates that profitability is negative related to debt-equity ratio. This means that with the increase in the profitability the debt equity ratio decreases and vice versa. Further p-value of .002 indicates that profitability significantly affects the capital structure of the firm.

It is clear from the Table 7 that size is negatively related to the debt-equity ratio which implies that with the increase in the size of the firm the debt-equity ratio decreases and vice versa. The p-value of .075 shows that size is not statistically significant as far as capital structure of the firm is concerned.

The Tangibility Coefficient of .463 indicates that there is a positive correlation between the tangibility and capital structure. However, p-value of 0.489 indicates that it is not statistically significant.

The Business Risk is positively related to the capital structure but this is also not statically significant.

The NDTS is negatively related to the capital structure and p-value of 0.166 shows that it is not statically significant.

The Coverage Ratio is negatively related to the capital structure and it is also not statistically significant.

Hypothesis Testing

H01:

The capital structure is unaffected by the profitability of the business. When it comes to matters of profitability and capital structure, the various studies have come to a variety of different conclusions. However, the results of the current study show that there is a significant negative relationship between the firm's capital structure and its profitability. The correlation and regression coefficients ($r = -.653$ and $\beta = -0.819$) as well as the p value of 0.002 demonstrate this relationship. As a result, the null hypothesis is refuted, and we come to the conclusion that a company's profitability has an impact on its capital structure.

H02:

The capital structure is unaffected by the tangibility of the asset. Tangibility has been found to play an important part in determining the capital structure of a company, and there is a positive relationship between the tangibility and financial leverage or the debt equity ratio. These findings come from a number of studies that have been conducted. The current investigation, however, does not discover any statistically significant connection between the use of financial leverage and tangibility ($r = 0.062$ and $\beta = .131$). The conclusion that can be drawn from this is that the tangibility of a company's assets does not have an impact on the capital structure that the company employs.

H03:

There is no correlation between size and capital structure. The majority of the studies have produced a variety of findings. With a value of -.269 for the correlation coefficient (r), and a value of -2.093 for the regression coefficient (β), the null hypothesis is accepted, and it can be stated that the size of a company does not have an effect on the capital structure of the company.

H04:

The capital structure is unaffected by the liquidity of the market. There should be a negative relationship between financial leverage and liquidity, and the present study shows the similar results with ($r = -0.297$) and β . In terms of liquidity, it is said that more liquid firms will have a lower cost of equity, and there should also be a negative relationship between financial leverage and liquidity (-2.592). However, a p value of .036 suggests that there is a significant connection between the capital structure and the liquidity of the company. As a result, the null hypothesis is rejected, and it has been established that a company's liquidity does, in fact, influence its capital structure.

H05:

There is no impact on the capital structure brought on by the Non-Debt Tax Shield. There is not a significant relationship between NDTS and financial leverage, according to the r value of -0.227 and the β value of -265. There is no evidence to contradict the null hypothesis, and the non-debt tax shield does not have an impact on the capital structure of a company.

H06:

There is no impact on the capital structure from business risk. There is no relationship between the capital structure and business risk, as demonstrated by the correlation coefficient (r) of $-.301$, the regression coefficient (beta) of 1.350 , and the p value of 0.219 , respectively. Therefore, we cannot conclude that the null hypothesis is false.

H07:

There is no impact on the capital structure caused by the interest coverage ratio. Due to the fact that the p value of 0.228 is not significant, the findings of the study do not indicate any kind of connection between the interest coverage ratio and the capital structure. There is not enough evidence to rule out the null hypothesis. The hypothesis testing can be summarised in the following table

Table 8. Summary of Hypothesis

S. No.	Statement of Hypothesis	p-value	Result($\alpha=.05$)
1	H01: Profitability does not affect the Capital Structure	0.002	Rejected
2	H02: Tangibility does not affect the Capital Structure	0.489	Not Rejected
3	H03: Size does not affect the Capital Structure	0.075	Not Rejected
4	H04: Liquidity does not affect the Capital Structure	0.036	Rejected
5	H05: Non-Debt Tax Shield does not affect the Capital Structure	0.166	Not Rejected
6	H06: Business Risk does not affect the Capital Structure	0.219	Not Rejected
7	H07: Interest Coverage Ratio does not affect the Capital Structure	0.228	Not Rejected

It can be seen from the Table 8 above that out of 7 independent variables, only two variables i.e. Tangibility and Liquidity have statistically significant impact on the capital structure i.e. Debt-equity ratio of the sample companies.

Ranking of the Independent Variables in order of their importance

In order to determine the relative importance of the various variables, the values of the Standardized Coefficients (Beta) has been used. The variables are arranged in the descending order of their (Beta) value.

Table 9 Ranking of the Independent Variables

S. No.	Variables	Beta
1	Business Risk (BR)	0.38
2	Tangibility (TG)	0.131
3	Coverage Ratio (CR)	-0.264
4	NDTS	-0.265
5	Liquidity (LQ)	-0.479
6	Size (SZ)	-0.603
7	Profitability (PR)	-0.819

It can be seen from the Table 9 that most important variable is Business Risk followed by Tangibility and Coverage Ratio. The least important variable is Profitability.

FINDINGS AND CONCLUSION OF THE STUDY:

A representative sample of 15 FMCG businesses was utilised for this research project. The Debt-Equity Ratio was used as one of the dependent variables, and seven independent variables, including profitability, tangibility, liquidity, size, business risk, non-debt tax shield, and interest coverage ratio, were used. The dependent variable used was "Debt-Equity Ratio." According to the findings of the research, there are only two independent variables—profitability and liquidity—that have a significant impact on the capital structure of the companies that were chosen for further investigation. According to the standardised beta value, it was determined that the variable business risk was the most important factor, while profitability was the factor that was found to be the least important. Insignificant are the independent variables such as size, tangibility, business risk, NDTS ratios, and interest coverage ratios.

LIMITATIONS OF THE STUDY:

The current study does have some caveats and restrictions. The sample size of 15 is extremely low, and generalised conclusions cannot be drawn from such a low number of subjects, so this study should not be relied upon. In addition, the data have only been collected over the course of the past five years. There are a lot of different things that can influence how firms organise their capital. However, this research only took into account a total of seven of the possible factors.

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