International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 05 | May - 2022 Impact Factor: 7.185 ISSN: 2582-3930

A Study on Determinants of Capital Structure in India

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Abstract

For the period 2010-2020, the report analyses the most important factors of capital structure of 5 listed Indian corporations. Regression analysis was used to assess ten independent variables and three dependent variables. Profitability, growth, asset tangibility, size, cost of debt, tax rate, and debt serving capability have been found to have a major impact on the leverage structure selected by enterprises in the Indian setting. While capital structure is usually given in the context of a choice between debt and equity, we can see distinct sources of capital, particularly regarding debt, even within these choices. Recent research have reached varying conclusions regarding the reliance on various sources of capital and the relevance of those sources. We discover that capital structure complexity is related to the requirement for external capital, access to debt markets, and the capacity for additional borrowing. Each of these characteristics has a distinct impact on capital structure complexity; nonetheless, for enterprises with a financial shortfall, access to capital markets functions as a lessening factor in capital structure complexity. One of the most important decisions in corporate finance is the financing decision. Financial directors must consider the question, "What is the optimal level of debt vs equity to employ in order to fund a firm's operations?" The purpose of this essay is to examine the evolution of capital structure theory from both a theoretical and empirical standpoint. The major competing capital structure theories, as well as their predictions, are examined. It is demonstrated that there are consistently important firm-level factors that influence firm capital structures. The essay also compares the findings of empirical capital structure studies undertaken in developing nations with those conducted in the industrialised world. According to some, developing countries' financial markets lack complexity, which may prevent corporations from adjusting to their intended target debt levels. In the end, it is shown that the similarities in funding patterns between industrialised countries and emerging markets significantly exceed the differences.

Introduction

For more than four decades, businesses have struggled with capital arrangements. Companies have been unable to build enough liquidity to survive credit contractions during credit booms, particularly those with unpredictable cash flow streams, which end up with excess debt during business slowdowns. Successful corporate executives must continually analyse issues such as the company and its management, the economy, government regulation and societal trends, the health of capital markets, and industry dynamics as the ideal capital structure evolves. Any choice to increase or decrease leverage is based on market conditions and the willingness of investors to take on debt. Between the late 1970s and the mid-1980s, debt financing was popular. Following that, in the late 1980s, stock market values rose above the replacement costs of book value of assets such as plants and equipment for the first time in 15 years. It was a sign that it was time to deleverage. Access to capital markets is no longer as tough as it was ten years ago. Banks currently hold less than a third of the loans they issue, so businesses aren't reliant on them. Many businesses, financial institutions, and governments have begun to over-leverage in the last decade. (Turk Ariss, 2015)

Many businesses, financial institutions, and governments have begun to over-leverage in the last decade. Many businesses, financial institutions, and governments have begun to over-leverage in the last decade. Without stock buybacks, many of these businesses would end up with minimal debt and more flexibility during periods of rising credit limits. In other words, such companies' current financial woes are all their own fault. They had the wrong capital structure during those periods, instead of having enough liquidity and low long-term debt to weather the two recessions. As a result, the topic of what factors are most important in determining a company's financial decisions remains unsolved. Emerging economies are steadily approaching developed-country debt levels. The findings from developed markets, on the other hand, cannot be applied to capital structure challenges in developing countries without ensuring that enterprises in both areas use the same processes when deciding on capital structures. Several studies think that issues such as laws and regulations have a substantial impact on capital structure determinants. (Verma, Gupta and Batra, 2009)

Corporate and personal tax systems, as well as corporate governance, are all governed by country regulations. As a result, rather than seeing rising economies as a group, it is critical to examine them as individual countries. As a result, to understand the behaviour of enterprises in the Indian economy, India must be studied as a distinct instance. The maturity of Indian markets is driving research into the factors that influence capital structure for Indian businesses.

The value of the firm is not influenced by its financing decision, that is, its selection of debt and equity mix. The justification for doing so was the realisation that debt is tax deductible, and as a result, a company that uses debt will almost certainly benefit from an interest tax shield. Earnings can then be added to the company's working capital or paid out as dividends. If a company is in debt, a portion of its earnings must be set aside to pay down the loan. As a result, if a company's working capital falls below zero, it is doomed and must shut down. It will be shown that firm-specific factors have a direct impact on capital structure decisions.

The managerial and financial decisions made by management determine whether a company succeeds or fails. The raising of funds from various sources is one of the financial decisions. Long-term financing comes from the capital market, whereas short-term financing comes from the money market. The goal is to keep the financial costs of raising funds to a minimum.

Capital structure determinants

Various studies on the elements that influence capital structure decisions have been conducted.

Following a review of the literature on India's Listed sector, we discovered that little research has been done on the determinants of capital structure in India industry. In this study, we introduce dependent variables such as Total debt ratio (TDR, Long term debt ratio (LTDR), Short term debt ratio (STDR) and independent variables Profitability, Growth, Assets tangibility, Size, Cost of debt, Liquidity (LIQ), Financial distress, Tax rate and Debt serving capacity Based on the literature review, we incorporate the following factors in this paper:

Total debt ratio (TDR): The total debt ratio (TDR) is a financial measure that shows how much of a company's assets are used to pay down debt. It is the proportion of total assets to total liabilities. (Booth, Aivazian, Demirguc-Kunt and Maksimovic, 2001)

Long-term debt-to-total-asset ratio (LTDR): The long-term debt-to-total-asset ratio (LTDR) measures how much of a company's total assets is financed by long-term debt. The value varies depending on the industry and the company. A better comparison is to compare the ratio to that of industry peers. Long-sleeved shirt

STDR (short-term debt ratio): Short-term debt is an account in a company's balance sheet's current obligations. This account contains any debt or repayments owed by a business that are due within a year. This account's debt is typically made up of short-term bank loans taken out by a corporation. The debt payable within one year to total assets ratio is calculated. (Determinants of Capital Structure:An Empirical Study on Ethiopian Insurance Industry, 2020)

Independent Variables

Profitability (PROF): Profitability is the financial benefit received when the quantity of revenue generated by a company activity exceeds the amount of spending, costs, and taxes required to keep the firm going. Any profit earned belongs to the company's owners, who may or may not elect to invest it in the company.

Growth: Enterprises with growth choices have more capacity expansion initiatives, new product lines, acquisitions of other firms, and maintenance and replacement of current assets than those without. Firms with a lot of growth potential and a lot of cash flow volatility have an incentive to reduce debt in their capital structure over time. (El-Bannany, 2008)

Tangible assets (e.g., land, buildings, machineries, and equipment) that have some degree of debt capacity are referred to as asset tangibility. The ratio of net fixed assets to total assets was utilised in this study to calculate the value of the firm's tangible assets.

Size: Large companies are more diversified and have more consistent cash flows, hence their risk of default is lower than that of smaller companies. As a result, the danger of financial trouble is smaller for larger businesses. The natural logarithm of a firm's total assets was employed in this study to determine its size. (Handoo and Sharma, 2014)

Cost of Debt: The effective rate that a corporation pays on its present debt is known as the cost of debt. This can be calculated using either pre-tax or post-tax returns. Because interest is deductible, the after-tax cost is the one that is most commonly seen. This is part of the capital structure of the corporation, which also includes the cost of equity. The study's cost of debt is calculated using interest before taxes/long-term debt.

Liquidity: is the ability to convert an asset to cash immediately. It is also known as “marketability”. Liquidity was calculated by dividing the total current assets by the total current liabilities. (Khan, 1998)

Financial distress: Financial distress refers to a company's inability to meet its financial obligations to its creditors. When a company's revenues are susceptible to economic downturns, its fixed costs are high, and its assets are illiquid, the risk of financial difficulty grows. The volatility (standard deviation) of a company's cash flow is used to calculate the company's visible risk and the likelihood of financial hardship

Tax Rate: A tax rate is a percentage applied to a company's profit; different rates are applied to different amounts of profit. All levels of government normally levy corporate taxes (i.e., state and country). Each company's tax rate can be calculated by dividing its tax provision by profit before tax. (Kho, 2011)

Debt serving capacity (DSC): A high debt service capability indicates that the company can satisfy its interest obligations even if EBIT declines significantly. In other words, the higher the debt coverage, the more likely a company's financial structure will have a higher debt component. As a result, a company's borrowing capacity will be precisely proportional to its ability to meet its set payment obligations. As a result, the larger the company's ability to service debt, the greater the possibility of a higher debt ratio. (Pike and Ooi, 1988)

Age: The number of years since a corporation was founded is referred to as its age. If the company is under the age of 20, the dummy variable is one; otherwise, it is zero.

Literature Review

Svetlana Orlova (2020) In this Research Orlova have come to differing conclusions on the value of different sources of capital and how reliant they are on them. The requirement for external capital, access to debt markets, and the capacity for additional borrowing are all factors that influence capital structure complexity and how Each of these factors has a different impact on capital structure complexity; nonetheless, amd its literature on capital structure by showing that it is not only access to external funds but also the availability of internal funds that drive the differences in capital structure composition

Rumeysa Bilgin(2019) In this paper Rumeysa Bilgin concluded that they turned the data into a two-part fractional regression model, which was used to evaluate a panel of 261 firms from 2012 to 2017. The role of factoring in the initial leverage decision is investigated in the first step of the investigation. They discovered that factoring finance has no effect on an unleveraged firm's decision to use debt, as expected. The role of factoring in capital structure decisions of leveraged enterprises is studied in the second stage. As the study's most remarkable discovery, Rumeysa Bilgin discovered a statistically significant and positive association between leverage ratio and factoring.

Wafa Khémiri(2021) found estimation and quadratic methods supports the predictions of the trade-off theory and the pecking order theory. They also show a significant inverse U-shaped relationship between the firm's performance and its leverage. Moreover, prior leverage and macroeconomic factors are robust determinants of the level of debt

Athenia Bongani Sibindi (2016)

This Paper helps to determine what drives organization finance decisions. These were later shown to be false in the presence of frictions such as taxes and transaction expenses. As a result, capital structure decisions have an impact on the value of a company. To begin, we established that t here are several consistently essential business factors that influence capital structure decisions.
Size, profitability, growth, asset tangibility (collateral), debt-tax shield, non-debt, tax shield, risk.

Jensen and Meckling (2003)- The best capital structure can be obtained by evaluating the agency cost of debt against the benefit of debt. He immediately recognised difficulties between shareholders and managers because management does not own 100% of the shares. He suggested that increasing the debt in the capital structure or the manager's shareholdings could help solve the problem. As a result, the money available for CEOs will be reduced. In the long run, debt financing may be preferable.

Durand, (2006)- As debt volume grows, so do company risks, according to the notion of net profits before interest (NOI). To compensate for the risks, each mode of financing anticipates bigger earnings. He went over corporation taxation in detail. He talked about how equity financing influences capital costs, needed rates of return, common stock flotation, and earnings retention. Loan arrangements or a low current ratio force management to limit dividends to avoid insolvency. Whether earnings are paid out or kept may be influenced by personal income tax and the minimal rate of return for investors. He assumed that the cost of debt is lower than the cost of equity, that no income tax applies, and that the cost of equity and debts is constant regardless of leverage.

Myers S. C., (Spring 2001)- The trade-off theory, pecking order theory, and free cash flow theory were compared as the primary three theories addressing the optimal capital structure. Free cash flow theory discussed agency difficulties and their associated costs because of conflicts of interest between shareholders and management. The free cash flow theory explained agency problems and costs because of conflicts of interest between shareholders and management, but the trade off and pecking order theories stated that shareholders and management shared the same interests. By incorporating financial innovation, he refined the Modigliani and Miller thesis that a firm's market value is independent of its capital structure. Financial innovations, he believed, are less expensive than copying. Early adopters of financial innovation solutions are eligible for a discount. These are financial goods with low profit margins that have been pre-packaged. He demonstrated how the introduction of floating-rate preferred shares or auction-rate preferred (partially tax-free instruments) added value to early adopter enterprises.

Baker & Wurgler (2002)- They presented a study based on a breakthrough capital market technique that gave rise to the concept of market timing in recent years. These writers look at a company's capital structure as a function of its managers' options when trying to influence the stock price in the capital market and, as a result, optimise cash inflow - new capital issuance when the stock is overvalued and repurchase when the stock is undervalued. The ideal moment to issue more shares, according to market timing theory, is the most significant aspect of a company's financing strategy.

Kraus and Litzenberger (2010)- helping firms to examine revenue and costs, as well as debt and equity, to determine the appropriate capital structure. When assessing the company's value, these authors took bankruptcy costs into account. They argue in research development that organisations should pursue the optimal capital structure possible, considering the benefits and costs of debt vs. equity, such as the tax savings from debt and the predicted costs of bankruptcy because of more debt.

Harris and Raviv (2011)- According to their findings, the optimum structure is a trade-off between liquidation options and higher inquiry costs. Excessive leverage, according to the researchers, is associated with a greater firm valuation, a reduced likelihood of reorganisation following a default, and a higher debt level. They pushed for balancing the benefits and drawbacks of debt to obtain the greatest capital structure. His case was built around the idea that CEOs took out loans to avoid being bought out.

Diamond (2007), and Hirschleifer and Thakor (2007)- The asset substitution problem (such as utilising debt instead of shares to fund high-risk enterprises) could be minimised, according to their results. Stockholders

wanted to get the most out of their money, while managers wanted to improve their prospects of success. According to this hypothesis, as a business grows older, it chooses less risky operations, which results in fewer defaults and reduced borrowing costs. According to this notion, younger businesses will have less debt than older businesses.

(Hirschleifer & Thakor, 2009)- Managerial reputation, leverage, and company value have all been found to be helpful in agency models, as have regulatory adherence, default probability, liquidation value, and freely available cash flows. Interest coverage, expansion potential, and the danger of restructuring following a default are all thought to be negatively correlated with leverage. Because these two variables fluctuate simultaneously in response to certain external events, it has been proposed that corporate value and leverage are positively related. Even though agency theory describes the concept of capital structure, it does not account for all the many capital structures that occur in practise.

Masulis (2018)- Retained earnings and stock issue are regularly used to obtain capital for both internal and external ventures where he saw a decrease in overall company leverage, but a general increase in leverage after WWII. He looked at stock repurchases, and security offers and concluded that equity-increasing actions lower stock prices while leverage-increasing activities enhance them.

(Bradley, Jarrell, & Kim, 2019): - Industries have comparable capital structures, according to research into the relationship between business and industry characteristics. Rankings of relative leverage are maintained over time. Profitability, R&D investment, advertising spending, product differentiation, and volatility all increased leverage, while non-debt tax sheltering, fixed assets, firm size, and growth potential all decreased it.

Research Objective

The study's goal is to discover the aspects that companies evaluate while making financing decisions. The questions would be better investigated if the objectives were broken down into several models. The companies in the sample are from India (public sector and government). The objectives have been divided into models based on the three dependent variables (short term debt, long term debt, and total debt) and all ten independent variables (profitability, growth, asset tangibility, size, cost of debt, liquidity, financial distress, tax rate, debt serving capacity, and age). These are done using three models. (Spivack, 2001)

Model 1: Indian companies and short-term debt: To determine the impact of each independent variable on the ability of Indian enterprises to raise short-term loan.

Model 2: Indian enterprises and long-term debt: To have a better understanding of the impact of each independent variable

Data source

The sample includes cross-sectional data from five publicly listed corporations. The data is provided for the years 2016 through 2021. This research analysed accounting data. This research analysed accounting data. These firms were chosen based on their complete records over the previous five years. Firms with insufficient data on the variables considered in our model were excluded from the research. The data were collected, analysed, and interpreted using SPSS (Statistical Package for Social Sciences). To make inferences and account for any structural changes that may have happened, the five-year average of each company's data for each variable was utilised.

Research methodology

Multiple regression analysis has been used in this research paper to find out relation between dependent variable and independent variable i.e., dependent variable (short term debt and long-term debt), independent variable (profitability, asset tangibility, liquidity, tax rate and age). For analysis of multiple regression SPSS software has been used.

Data Analysis

Results of table for objective was "To study and analyse the determinants of capital structure of Indian companies by investigating the impact of Profitability on short term debt". From Table, it –0.114 so negative correlation so it is rejected and hence it can be concluded that Profitability produced insignificant impact on short term debt.

Results of table for objective was "To study and analyse the determinants of capital structure of Indian companies by investigating the impact of asset tangibility on short term debt". From Table, it 0.089 so positive correlation so it is not rejected and hence it can be concluded that asset tangibility produced significant impact on short term debt.

Results of table for objective was "To study and analyse the determinants of capital structure of Indian companies by investigating the impact of Liquidity on short term debt". From Table, it 0.015 so positive correlation so it is not rejected and hence it can be concluded that Liquidity produced insignificant impact on short term debt.

Results of table for objective was "To study and analyse the determinants of capital structure of Indian companies by investigating the impact of Age on short term debt". From Table, it -0.033 so negative correlation so it is rejected and hence it can be concluded that Age produced insignificant impact on short term debt.

Results of table for objective was "To study and analyse the determinants of capital structure of Indian companies by investigating the impact of Tax on short term debt". From Table, it -0.067 so negative

correlation so it is rejected and hence it can be concluded that Age produced insignificant impact on short term debt.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Result
		B	Std. Error	Beta			Zero-order	Partial	Part	
1	(Constant)	64156.392	0.000							
	Profitability	-1.972	0.000	-0.114		-3.229	0.859	-1.000	-0.187	Rejected
	Asset Tangibilty	0.609	0.000	0.089		2.671	0.603	1.000	0.242	Not Rejected
	Liquidity	0.005	0.000	0.015		0.458	0.436	-1.000	-0.260	Not Rejected
	Age	-0.103		-0.033		0.316				Not Rejected
	Tax	-0.462	0.000	-0.067		0.037	0.882	1.000	0.319	Rejected

a. Dependent Variable: Short Term Debt

Conclusion

They help to provide light on how Indian enterprises plan to finance themselves over the next three years. To determine which independent variable best explains the capital structure of Indian companies, hypotheses comparing the relationships between short-term debt and long-term debt, as well as 10 explanatory variables representing profitability, asset tangibility, liquidity, tax rate, and age, were developed. When raising short-term loan, the conventional factors of asset, liquidity, and age have a considerable influence on Indian enterprises' financing decisions. As a result, capital structure management takes on the characteristics of a juggling act. When a firm is deciding on its capital structure, the trade-off it makes between financial flexibility and fiscal discipline is significantly more important than tax advantages, which are usually small for IT companies unless they have very low debt. More than one economy has been studied, but it has been limited to only one for this research and spans a time period of five years.

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