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Evidence From India Demonstrates The Impact of Capital Structure on The Performance Of Firms

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Abstract **- In the present research, an evaluation is conducted to determine the influence of capital structure on the performance of Indian enterprises. The capital structure of a company is often recognised as an important component that has the capacity to influence the continuous success of the company. A total of 2121 wholesale trade and manufacturing enterprises that are listed on the Bombay Stock Exchange (BSE) were included in the sample that was collected for the research. The results of this research, which were calculated using a Panel data model over the period of time spanning from the fiscal year 2018 to 2023, indicate that leverage does not have a substantial impact on the performance of the sample.**

Keywords: **Leverage, Capital Structure, Performance, Panel data model regression.**

I. INTRODUCTION

For every company, the capital structure is the most important feature since it illustrates the many sources of cash that are invested in the company for the purpose of running the business. There are four components that make up the capital structure: equity stock, preferred stock, debt, and retained profits. Companies that are well managed and have an optimal capital mix ratio have the lowest cost of capital and provide greater returns to their shareholders in comparison to companies that have a capital mix that is poor. During the process of acquiring funds, it is the responsibility of the company's finance management to make projections on the application of funds in order to maintain the optimal capital mix. One may say that a company has an optimum capital structure when it is able to maximise the market value of the company. The concept of capital structure, which is also known as financial leverage, refers to the relationship between debt and equity. The former concept, known as debt, includes the borrowing of money, while the latter concept, known as equity, involves the owner's own assets being invested in the firm. Companies may be divided into two categories: those that are carried out using both debt and equity, known as Levered businesses, and those that are carried out only with equity, known as Unlevered enterprises. As long as the requirements of the firm continue to grow, it is necessary to do continuous monitoring of the capital structure. The ultimate objective of the financial management in this situation is to accomplish the planned capital structure in order to prevent significant leverage; failure to do so would result in the wealth of the company being eroded. It has been discovered in previous research that leverage has a considerable negative influence on the performance of a company. As a result, it is even more essential for a finance manager to strive towards achieving an optimum capital structure.

An organization's financial performance provides an explanation of how efficiently it is able to use its assets and create income. The return on assets and the return on sales are common names for the indicators that are used to quantify it. These indicators are evaluated based on the assets and sales. In most cases, when a company's profitability is great, it has a tendency to create interest from both its shareholders and its lenders. This interest is fundamental for any company that wishes to obtain capital. In addition to assisting in the enhancement of profitability, this also contributes to the preservation of the optimal capital structure.

Financial capital is utilized by business owners and entrepreneurs To acquire the components and instruments that are necessary for the production of their goods or the provision of their services. This capital may originate from a wide range of sources, depending on the sector in which the company operates (ranging from retail to corporate to investment banking, among other sectors). A phrase that is commonly used in the accounting and finance industries to describe the funds that investors and lenders contribute to firms To purchase physical machinery and tools for production is called financial capital. Capital is another term that is commonly used to describe financial capital. When we talk about real capital, which is also commonly economic capital, we are referring to actual assets that make it easier to produce other commodities and services. Examples of such goods include shovels used for digging graves, sewing machines used by tailors, and various pieces of industrial machinery and tools. In general, the term "financial capital" refers to monies that have been preserved, such as those that were utilized to establish or continue a business. Within the context of the compilation of their financial reports, the majority of businesses make use of a financial concept known as capital. When it comes to monetary terms such as invested

cash or invested buying power, capital is equivalent to the entity's net assets or equity within the organization. From a purely physical standpoint, capital is the production capacity of an entity, which can be defined, for instance, in units of output per day; this is analogous to the concept of operational capability. In terms of either nominal monetary units or units of constant purchasing power, the preservation of financial capital can be quantified. Both of these units are capable of being measured. According to IFRS (International Financial Reporting Standards), maintenance of capital assets can be broken down into three distinct categories: The maintenance of fixed assets comes first, followed by the protection of liquid assets that are denominated in nominal currency units respectively. The third point is to maintain a continuous purchasing power unit that contains cash on hand. Funds are provided by lenders in exchange for interest payments. In addition, the term "financial capital" refers to any process or liquid medium that can be used to represent wealth or other forms of capital. However, money is typically the medium of exchange that can be utilized to purchase items or to produce them. The production of more commodities than are immediately necessary and the subsequent storage of the surplus is another method that can be utilized to raise revenue. A corporation can raise capital through a variety of methods, such as obtaining equity from its shareholders, obtaining loans for the long term, and obtaining loans for the near term. One key distinction between capital structure and financial structure is that the former takes into account only long-term stock and debt, while the latter does not.

II. LITERATURE REVIEW

Various research investigations that have been conducted on the influence of leverage on performance have produced a variety of outcomes. Our study makes an effort to take a position with regard to wholesale trade and manufacturing businesses, despite the fact that there are several plausible explanations for such divergent perspectives, such as the fact that different industries, geographies, and the efficiency of the financial markets are all different.

The link between company performance and capital structure was investigated in reference [1], which used a sample of 16.5 thousand Ukrainian companies over the course of ten years. For the purpose of this study, Shaffer's model for fixed effects panel data was used while conducting the research. It was discovered that leverage was having a detrimental effect on the operation of the company.

Over the course of ten years, the research referred to in reference [2] investigated the influence of financial leverage on the performance of a sample of 422 manufacturing businesses that were listed on the BSE. For the purpose of analysing the impact of leverage, yearly financial data that was analysed separately was taken into consideration. The ratio analysis and panel data technique were used in the empirical research that was carried out. According to the findings of the research, the utilisation of financial leverage does not have any effect on the financial performance of the organisation.

An investigation on the link between the factors that determine the capital structure and leverage of energy sector businesses in India was carried out by reference [3] over a period of five years and included eight publicly traded companies. In order to conduct the analysis, linear regression was used. According to the findings of the research, the leverage has a lesser influence on the performance of the organisation since the majority of their loan financing is obtained via physical assets. The document in question presents the viewpoint of the industry, which asserts that the influence of leverage on performance may conceivably differ from one industry to another.

The study conducted by reference [4] examined the influence of leverage on the profitability of 21 businesses operating in the Indian cement sector over a period of five years, with a compound annual growth rate (CAGR) of 8.37%. The information that was gathered was transformed into relative measurements, such as percentages and ratios, for the aim of conducting an analysis of the influence of leverage. Internally produced funds are the primary source of financing for cement firms, according to the findings of the research. This is because of the greater profitability and growth rate of these enterprises.

For a period of five years, the reference [5] investigated the association between the capital structure of 200 firms that were listed on the National Stock Exchange (NSE) and their financial performance financially. The Pearson correlation coefficient was used in order to assess the essential variables that were gathered. The findings of the research indicate that a high level of leverage will result in a decrease in the profitability of businesses.

Within the Indian Iron and Steel business, reference [6] investigated the link between the factors that determined the financial performance of corporations and the choices they made about their capital structures throughout the pre-recession era (four years) and the post-crisis period (four years before the recession). In order to have a better understanding of the influence of the multiple regression model, the analysis was carried out on a number of different variables. According to the findings of the research, the profitability of businesses would be significantly impacted by factors such as fiscal leverage, the size of the company, and the debt service ratio.

Reference [7] examined the influence of capital structure on the profitability of listed businesses in the Indian car sector. The study included a sample of ten companies and analysed their financial statements over a period of five years. An investigation of the relationship between the factors and profitability has been carried out in order to determine the effect. According to the findings of the research, there is an inverse relationship between debt and profitability, which suggests that a rise in debt will have an impact on the profitability of the company.

Reference [8] conducted a study to investigate the influence of leverage on the performance of a corporation, using a sample of 101 listed companies in Nigeria during the course

of the years 2003 to 2007. The pooled regression model, the fixed-effect model, and the random-effect model were all used in the panel data model. Based on the study, it has been determined that leverage will have a detrimental effect on the performance of the company.

During the period of 2004-2006, the reference [9] investigated whether or not the ownership structure of all companies listed on the Amman Stock Exchange had an effect on the financial choices and performance of such companies. For the purpose of analysing this influence, the approach of cross-sectional average was used. This research discovered that leverage has a favourable relationship with company performance, although it does not have a major impact on the performance of the business.

III. DATA AND METHODOLOGY

The Panel Regression method is used in this research to investigate whether or not the capital structure, as defined by leverage, has an effect on the performance of companies. In particular, the wholesale trade and manufacturing business, particularly those companies that are listed on the Bombay Stock Exchange (BSE), is the subject of this research, which covers a period of five fiscal years beginning in April 2012 and ending February 2017. There was a collection of data from Prowess during the time period that was indicated before. For the purpose of this investigation, the key independent variable that was chosen is leverage, which may be defined as the ratio of assets to debt that bears interest. A linear connection between leverage and business performance will not be consistent, as the trade-off theory predicts, since there will be no consistency in the relationship. According to one school of thought, if there is a linear connection between leverage and firm performance, then it is difficult to maximise the value of the company since companies tend to gravitate towards the most effective capital structure. The use of leverage is squared in order to address this problem.

We also took into account a few control factors, such as the size of the company, its age and growth rate, the level of productivity, and the amount of research and development (R&D) funds.

1. Size of the company: Numerous studies have shown that the size of the company is a significant factor in determining the quality of the company's performance. When it comes to the performance of a corporation, size has an uncertain influence. For example, larger companies have access to a wider variety of resources, greater capabilities, and economies of scale, but smaller companies are more likely to be managed by their owners, which allows them to avoid the expenses associated with agency management. Log(Assets) is generally accepted as the standard for determining the size of a company.

2. When calculating the age of the company, the formula is as follows: t (-) F. Y, where 't' represents the year in which the company was incorporated and 'F.Y' represents the financial year up to which the age is computed.

3. When calculating the growth rate of the company, sales are taken into consideration. This is because the growth rate of sales reflects how the company's performance has changed from one year to the next. The inclusion of log(Sales) and log(Sales2) as control variables allows for the possibility of nonlinear regressions.

4. Productivity: Few studies have shown that the productivity of managers will increase if the firm has leveraged capital structure as it brings out the discipline in management. Unlevered firms normally tend to allocate funds to insignificant expenditures due to availability of free cash flow thereby creating a negative impact on profitability of the firm. Productivity is measured as Total sales to Assets.

5. Research & Development intensity: Every company doesn’t invest in R&D. So, for the companies with this expenditure, R&D intensity is calculated as R&D expenditure to Sales of the firm. This variable measures the future growth prospect of the firm.

Within the scope of this research, two models have been chosen to investigate the influence of capital structure on the profitability of the company.

Model 1) Earnings Before Interest and Tax (EBIT) Margin: EBIT is a measurement of the profit that a firm has achieved after considering all of the expenditures that have been incurred from the net revenue that has been produced. The term "operating profit" is identical with "EBIT." The EBIT Margin is a measurement that compares the operating income of a firm to its net sales.

Return on Assets (ROA) is the second model, and it represents the amount of profitability in relation to the assets of the company. When calculating ROA, the ratio of operating income (EBIT) to the average book value of assets is used.

In the beginning, there were 5111 enterprises that belonged to different sectors of the Indian economy. These companies are classified according to the National Industrial Classification (NIC) name and code. The necessary data has been collected throughout the course of a period of five years. The banking and insurance industries were not included in the list of data that was gathered since the methods that these industries use to fund their operations are distinct from those that are used by other industries' businesses. Three hundred and eighty-five businesses belonging to this sector were removed from the data set after being classified. After further consideration, businesses that were categorised as "Providing software support and maintenance, technology, and other

services" were eliminated from consideration. This was due to the fact that these businesses operate with a significant quantity of intangible assets, which is not consistent with the leverage calculation. This resulted in the selection of just those businesses that were operational over the time period of April 2012 to March 2017, whereas the businesses that had been operational for only a few of the years in the timeframe that was shown before were not included in the selection process. Once all of the firms stated above were removed from consideration, the final data set is comprised of 2121 companies.

- **Hypotheses:**

H0: Leverage has no significant impact on the financial performance of firms
H1: Leverage has a significant impact on the financial performance of firms

- **Regression Equation:**

Model 1

$$\text{EBIT Margin}_{i,t} = \beta(\text{Leverage})_{i,t} + \beta1(\text{Leverage\_SQ})_{i,t} + \beta2(\text{Productivity})_{i,t} + \beta3(\text{RDintensity})_{i,t} + \beta4(\ln\text{Sales})_{i,t} + \beta5(\ln\text{Sales\_SQ})_{i,t} + \beta6(\ln\text{Assets})_{i,t} + \beta7(\text{Age})_{i,t} + \text{Cons}$$

Model 2

$$\text{Return on Assets}_{i,t} = \beta(\text{Leverage})_{i,t} + \beta1(\text{Leverage\_SQ})_{i,t} + \beta2(\text{Productivity})_{i,t} + \beta3(\text{RDintensity})_{i,t} + \beta4(\ln\text{Sales})_{i,t}$$

IV. RESULTS AND DISCUSSION

The results of the Panel data model are summarized for selected sample of firms in table 1 and 2 below Table 1:R-square: within = 0.5738 Number of observations = 2928 between = 0.1372Number of groups =680 overall = 0.1439

EBIT Margin	Coef.	t	P>|t|
Leverage	0.61173	0.50	0.618
Leverage²	-11.9792	-1.21	0.228
Productivity	-0.34567	-2.91	0.004**
RDintensity	0.251639	0.34	0.735
lnSales	1.77253	2.88	0.004**
lnSales²	-0.07473	-2.32	0.021**
lnAssets	-0.43814	-2.98	0.003**
Age	0.002892	0.60	0.548
_cons	-5.33479	-2.45	0.014

***: significant at 1% level
** : significant at 5% level

According to the data shown in the table above, we have determined that the growth rate of the company, as measured by the log of sales, has a considerable positive influence on the EBIT Margin. On the other hand, the log of sales squared has a marginally significant negative impact on the EBIT Margin, which indicates that expanding companies execute better than their peers. The difference between the EBIT Margin and productivity is marginally significant and negative. The size of the company, as measured by the log of its assets, has a meaningfully negative influence. While leverage has a negligible positive influence on EBIT Margin, leverage squared has a negligible negative impact on EBIT Margin. Both of these impacts are small. The intensity of research and development has a somewhat beneficial effect on the EBIT margin. The EBIT Margin is positively impacted, but insignificantly, by the age of the company.

V. CONCLUSIONS

In this research, we investigated whether or not the capital structure of a company has an effect on its performance. A conclusion that we have reached as a result of the investigation is that leverage does not have a substantial influence on the financial performance of companies operating in the wholesale trade and manufacturing sectors. However, if the research is replicated for certain sectors, which may have outcomes that are contradictory to those expected, the findings may be different. In conclusion, it is important to emphasise that the management of the company should not limit its perspective to leverage, but rather should also take into consideration other aspects in order to enhance the performance of the company.

REFERENCES

1) Iavorskyi, M. (2013). The impact of capital structure on firm performance: evidence from ukraine. Master of Finance Economics Thesis, Kyviv School of Economics.
2) Chadha, S., & Sharma, A. K. (2015). Capital structure and firm performance: Empirical evidence from India. Vision, 19(4), 295-302.
3) PANICKER, D. S. (2013). Capital structure determinants for sustained performance in the energy sector of india. Clear international journal of research in Commerce & Management, 4(5).
4) Thomas, A. E. (2013). Capital Structure and Financial Performance of Indian Cement Industry. BVIMR Management Edge, 6(2).
5) MEHTA, P. V. (2013). Relationship between capital structure and financial performance: evidence from indian stock market. Clear international journal of Research in Commerce & Management, 4(3).
6) Banerjee, A., & De, A. (2014). Determinants of corporate financial performance relating to capital structure decisions in Indian iron and steel industry: An empirical study. Paradigm, 18(1), 35-50.
7) Chisti, K. A., Ali, K., & Sangmi, M. I. D. (2013). Impact of capital structure on profitability of listed companies (evidence from India). The USV Annals of Economics and Public Administration, 13(1 (17)), 183-191.
8) Olokoyo, F. O. (2013). Capital structure and corporate performance of Nigerian quoted firms: A panel data approach. African Development Review, 25(3), 358-369.
9) Alwshah, K. A. A. M. (2009). The impact of corporate governance and ownership structure on performance and financial decisions of firms: evidence from Jordan (Doctoral dissertation,

University of Hull).

10) Rajan, A., Manuel, B., Sankar, K. H., & Gunasekar, S. (2016, December). Technological advancement and tourism: A panel data analysis of ASEAN countries. In Computational Intelligence and Computing Research (ICCIC), 2016 IEEE International Conference on (pp. 1-4). IEEE.
11) S. Aramvalarthan, "Capital Structure and Firm Performance: A Panel data analysis", in World Finance Conference 2014, Venice, Italy, 2014.
12) Remmers, L., Stonehill, A., Wright, R. and Beekhuisen, T. (1974), "Industry and Size as Debt Ratio Determinant in Manufacturing Internationally", Financial Management, Summer, pp. 24-32.
13) Reyna, O. T. (2011), "Panel Data Analysis: Fixed & Random Effects (using STATA 10.x)", Working Paper, Retrieved fromhttp://dss.princeton.edu/training.
14) Riaz, F. and Afzal, M. (2011), "Financial Factors in Capital Structure Decisions: Panel Data Analysis of Pakistan‟s Major Manufacturing Sectors", Interdisciplinary Journal of Contemporary Research in Business, Vol 3, No. 1,pp. 310-326.
15) Rutterford, J. (1988), "An International Perspective on the Capital Structure Puzzle", New Developments in Corporate Finance, pp. 194-207.
16) Saleem, Q. and Naseem, M. K. (2011), "Leverage – An Analysis and its Impact on Profitability with Reference to Selected Oil and Gas Companies of Pakistan", International Journal of Management Sciences and Business Research, Vol. 1, No. 1, pp.3-12.
17) Salawu, R. O. and Agboola, A. A. (2008), "The Determinants of Capital Structure of Large Non-Financial Listed Firms in Nigeria", The International Journal of Business and Finance Research, Vol.2, No.2,pp.75-84.
18) Samarakoon, L. P. (1999), "The Capital Structure of Sri Lankan Companies", Sri Lankan Journal of Management, Vol. 4, No. 1&2,pp. 18-30.
19) Saravanam, P. (2006), "Ownership Pattern and Debt Equity Choice of Corporates in India: An Empirical Extension", The ICFAI Journal of Applied Finance, No.2,pp. 29-44.
20) Sarngadharan, M., Rajitha Kumar, S. and University of Kerala (2007), "Traditional Industries of India in the Globalised World", University of Kerala in association with New Century Publications, New Delhi
21) Scott, J. (1977), "Bankruptcy, Secured Debt and Optimal Capital Structure", Journal of Finance,Vol. 32, No. 1, pp. 1-20.
22) Shah, A. and Hijazi, T. (2004), "The Determinants of Capital Structure of Stock Exchange Listed Non-Financial Firms in Pakistan", The Pakistan Development Review, Vol. 43, No.4, Part II, pp.605-618.
23) Shah, A. and Khan, S. (2007), "Determinants of Capital Structure: Evidence from Pakistani Panel Data", International Review of Business Research Papers, Vol. 3 No.4, pp.265282.
24) Shubita, M. F. and Alsawalhah, J. M. (2012), "The Relationship between Capital Structure and Profitability", International Journal of Business and Social Science, Vol. 3, No. 15, pp. 105-112.
25) Singh, F. and Kaur, S. (2007), "Liberalization and Cost of Capital: A Case Study of Reliance Industries Limited", The Indian Journal of Commerce, Vol. 60, No. 1,pp. 39-55.
26) Singh, G.(2011), "Capital Structure Practices of Indian Corporate Sector-A Variable Specific Analysis", PCMA Journal of Business, Vol. 3,No. 2, pp. 13-28.
27) Singh, K. (2002), Capital Structure Analysis of Selected Companies in Electronics Industry", Unpublished Ph.D. Thesis, Guru Nanak Dev University, Amritsar.
28) Singh, P. and Kumar, B. (2008), "Pecking Order versus Trade-off: An Empirical Approach to the Small and Medium Enterprises Capital Structure", Downloaded from http://ssrn.com/abstract=1562314.
29) Sohail Amjed, S. (2009), "Impact of Financial Structure on Firm‟s Performance: A study of Pakistan‟s Chemical Sector", Retrieved from:http://ssrn.com/ abstract=1867882.
30) Soloman, E.(1963), "The Theory of Financial Management", University Press, 1963, p 92
31) Srivastava, A. (2012), "Determinants of Capital Structure in Indian Public Ltd. Companies: An Experience of Pre and Post Liberalization", Indian Journal of Finance, No. 6, pp. 30-38.
32) Stultz, R. M. (1990), "Managerial Discretion and Optimal Financing Policies", Journal of Financial Economics,Vol.26,pp.3-27.
33) Taub, A. J. (1975), "Determinants of the Firm‟s Capital Structure", The Review of Economics and Statistics, Vol. 57,pp. 410-416.
34) Titman, S. and Tsyplakov, S. (2005), "A Dynamic Model Capital Structure," SSRN Working Paper Series, Retrieved from:http://ssrn.com/abstract=295159.