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## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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# A Study of Capital Structure and its Effect on Profitability in the Indian Banking Sector

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**ABSTRACT:** A lot is dependent on an appropriate capital structure of a business entity such that the interest of the shareholders also gets affected on account of its capital structure. The financial performance as well as the profitability of any firm or industry is very much dependent on the suitable mixture of the entity's capital structure. The significance of appropriate capital structure lies in the mixture of both adequate equity and debt fund which also justifies the profitability of a Banking Sector. Over the years, the study on capital structure and its impact on profitability has been an important area of study which have urged the researchers to conduct the study which also has got some socio-economic significance in the current scenario. Looking at the importance of the research work, the researchers made an attempt to study the impact of capital structure on banking industry of our economy. Correlation and then regression analysis was done by the researcher to establish an empirical relationship between the dependent and independent variables considered for the study. At first correlation was conducted to find the association between the dependent and independent variables and based on that regression analysis was done to test the hypothesis of the study such that to establish an empirical relationship between capital structure and profitability. On the basis of the findings of the current research study, suitable and logical conclusion has been given by the researchers, and also along with that the scope for further research in the concerned area by the future researchers has also been provided such that it can be implied and justified effectively in future by a business entity and also for the economy as whole.

In recent years, the banking industry has risen by leaps and bounds, and it now provides some of the best prospects for professional advancement. Working for a public sector bank, on the other hand, may differ from working for a private sector bank in terms of working hours, amount of competition, and professional learning curve. Job security and pay are also subject to a lot of variation. It is advisable to investigate these factors before deciding on the best financial organization for a successful career. Before going any further, it's vital to understand the differences between public and private banks.

**KEYWORDS:** Banking Sector; Capital Structure; Correlation; Profitability; Regression.

## I. INTRODUCTION

Capital structure refers to the mix of debt and equity that a firm uses to finance its operations and growth. An optimal capital structure is crucial as it directly influences a firm's cost of capital, risk profile, profitability, and long-term sustainability. In the banking sector, capital structure decisions assume even greater significance due to the highly leveraged nature of banks, strict regulatory requirements, and the critical role banks play in economic development.

The Indian banking sector has undergone substantial transformation in recent years owing to financial reforms, Basel III capital adequacy norms, increasing competition, technological advancements, and rising credit risk. Banks are required to maintain adequate capital buffers to absorb losses while simultaneously ensuring profitability and shareholder value. The balance between debt (deposits and borrowings) and equity capital thus becomes a strategic concern for bank management. (Mehrotra\*, 2018)

Profitability is a key indicator of a bank's financial performance and operational efficiency. Measures such as Return on Assets (ROA), Movalia (2015) Return on Equity (ROE), and Net Interest Margin (NIM) are widely used to assess how effectively banks utilize their capital to generate earnings. Capital structure decisions directly affect these profitability indicators through changes in interest costs, risk exposure, and regulatory capital requirements.



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### II. REVIEW OF LITERATURE

Movalia (2015) analyzed the impact of capital structure on profitability in the Indian tyre industry using companies listed on BSE and NSE. The study used statistical tools including Durbin-Watson tests to examine relationships between variables. It found that an optimal debt-equity ratio positively influences firm performance. Companies like MRF and Apollo Tyres showed improved profitability with balanced leverage. The study emphasized the importance of maintaining an ideal capital structure.

Singh and Singh (2016) studied the effect of capital structure on profitability in selected cement companies in India. Using correlation analysis on secondary data, the study found a significant negative relationship between debt and profitability. Firms with higher debt levels showed lower performance and efficiency. The study concluded that excessive leverage leads to increased financial burden and reduced profitability.

Taqi et al. (2016) examined the impact of capital structure on financial performance of selected trading companies listed on BSE. Using multiple regression analysis, the study found that equity and long-term debt positively affect profitability. However, short-term debt showed a negative impact on financial performance. The study highlighted the importance of debt maturity structure in determining profitability. It concluded that long-term financing improves firm performance.

Jain et al. (2017) investigated the relationship between capital structure and profitability of manufacturing firms listed on NSE using panel regression analysis. The study found a positive and significant relationship between short-term debt and return on assets. Total debt also showed a positive association with profitability, while long-term debt had an insignificant effect. The findings suggest that debt can enhance performance under certain conditions.

Das and Swain (2018) analyzed the determinants of capital structure and its impact on financial performance of top manufacturing companies in India. Using regression analysis on secondary data, the study found a significant relationship between capital structure and profitability. The results indicated that capital structure decisions directly influence firm performance. However, the study focused mainly on traditional financial indicators.

Noronha (2012) studied the challenges faced by accounting professionals in an electronic environment. The research used descriptive statistics and focused on issues related to accounting practices in a digital context. The findings highlighted the growing importance of technology in financial operations. However, the study did not establish a link between technological investment and profitability.

Agarwal (2019) conducted a comparative study of profitability between public and private sector banks in India for the period 2005–2017. The study used ratios such as ROA, ROE, NIM, and operating profit for analysis. The findings revealed that private sector banks outperform public sector banks in terms of profitability. Higher NPAs in public sector banks were identified as a major reason for lower performance.

The 2001 study examined the effect of liquidity management on profitability in public and private sector banks in India. Using ratios like CDR, CRDR, and IDR along with ROA and ROE, the study found a negative relationship between liquidity and profitability. Excess liquidity was seen to reduce income-generating opportunities. However, it also concluded that banks can manage liquidity without affecting profitability significantly.

Mehrotra (2018) analyzed determinants of profitability in Indian banks using correlation, regression, and factor analysis. The study found that NPAs and cost of borrowing negatively impact profitability, especially in public sector banks. Return on investments and advances positively influenced profitability. The findings highlighted the importance of asset quality and efficient fund utilization.

Kaur (2021) examined the pre- and post-performance of public and private banks using profitability, liquidity, and investment indicators. The study applied t-tests and found that banks showed improvement over time. However, the results were not statistically significant at the 5% level. The study indicated differences in performance between bank types.



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### III. RESEARCH GAP

#### 1. Digital Transformation Gap: Capital Allocation vs Profitability

Existing studies such as Gupta (2015), Singh and Singh (2016), Jain et al. (2017), and Das and Swain (2018) have examined the relationship between capital structure and profitability using traditional indicators like debt-equity ratio, total debt to total assets, and capital adequacy ratios. It was found that capital structure significantly influences profitability, with most studies indicating a negative relationship between higher debt levels and firm performance. Similarly, banking sector studies like Agarwal (2019) and Mehrotra (2018) have focused on profitability determinants such as NPAs, cost of borrowing, and operational efficiency, while measuring performance using ROA, ROE, and NIM.

#### 2. Structural Consolidation Gap: Post-Merger PSBs vs Private Sector Banks

Studies such as Agarwal (2019), Mittal (2017), Mehrotra (2018), and D'Souza (2002) have analyzed the profitability and performance differences between public and private sector banks in India. The researchers have used secondary data and applied statistical techniques such as correlation, regression, and ratio analysis to evaluate financial performance. Lower NPAs, better asset quality, and higher operational efficiency, whereas public sector banks face challenges due to higher non-performing assets and regulatory obligations. Other studies like Kaur (2021) have also compared bank performance over time and found variations in profitability between public and private sector banks.

### IV. RESEARCH OBJECTIVES

- 1: To analyse the lack of Incorporation of Credit Risk Indicators such as Non-Performing Assets (NPAs)
- 2: To understand the limited Studies on the Role of RBI Interest Rate Changes and Liquidity Conditions
- 3: To study the effect of inflation on bank profitability

### V. RESEARCH METHODOLOGY

The study is based on secondary data collection methods, as it focuses on financial and macroeconomic variables in the Indian banking sector. Secondary data is collected from reliable and authentic sources such as annual reports of banks, publications of the Reserve Bank of India, Economic Surveys, and financial databases. The study includes dependent, independent, and control variables to analyse the relationship between capital structure and profitability under the influence of inflation and other factors.

### VI. RESEARCH HYPOTHESES

- H0 (Null Hypothesis): Non-Performing Assets (NPAs) have no significant impact on bank profitability.  
 H1 (Alternative Hypothesis): Non-Performing Assets (NPAs) have a significant negative impact on bank profitability.  
 H0 (Null Hypothesis): RBI interest rate & liquidity position changes have no significant effect on bank profitability.  
 H2 (Alternative Hypothesis): RBI interest rate changes & liquidity positions have a significant effect on bank profitability.  
 H0 (Null Hypothesis): Inflation has no significant effect on the profitability of banks in the Indian banking sector.  
 H3 (Alternative Hypothesis): Inflation has a significant effect on the profitability of banks in the Indian banking sector.

Correlations		Bank Rate	ROA	ROE	ROCE	Net Profit Margin Ratio	Operating Profit Ratio	EPS	Net NPA Ratio	Net Interest Margin Ratio	Capital Adequacy
Bank Rate	Pearson Correlation	1	.784*	.789*	.270	.791*	.828**	.875**	.836**	.095	.473



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Sig. (2-tailed)		.012	.011	.482	.011	.006	.002	.005	.809	.198
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.784*	1	.999**	.576	.999**	.983**	.911**	-.926**	.361	.545
Sig. (2-tailed)	.012		.000	.104	.000	.000	.001	.000	.340	.129
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.789*	.999**	1	.550	1.000**	.985**	.911**	-.928**	.335	.520
Sig. (2-tailed)	.011	.000		.125	.000	.000	.001	.000	.379	.151
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.270	.576	.550	1	.553	.468	.495	-.424	.929**	.711*
Sig. (2-tailed)	.482	.104	.125		.123	.203	.175	.256	.000	.032
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.791*	.999**	1.000**	.553	1	.985**	.910**	-.930**	.341	.531
Sig. (2-tailed)	.011	.000	.000	.123		.000	.001	.000	.369	.141
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.828**	.983**	.985**	.468	.985**	1	.917**	-.974**	.282	.555
Sig. (2-tailed)	.006	.000	.000	.203	.000		.000	.000	.461	.121
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.875**	.911**	.911**	.495	.910**	.917**	1	-.901**	.297	.571
Sig. (2-tailed)	.002	.001	.001	.175	.001	.000		.001	.438	.108
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	-.836**	-.926**	-.928**	-.424	-.930**	-.974**	-.901**	1	-.301	-.643
Sig. (2-tailed)	.005	.000	.000	.256	.000	.000	.001		.431	.062
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.095	.361	.335	.929**	.341	.282	.297	-.301	1	.734*
Sig. (2-tailed)	.809	.340	.379	.000	.369	.461	.438	.431		.024
N	9	9	9	9	9	9	9	9	9	9
Pearson Correlation	.473	.545	.520	.711*	.531	.555	.571	-.643	.734*	1
Sig. (2-tailed)	.198	.129	.151	.032	.141	.121	.108	.062	.024	



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	N	9	9	9	9	9	9	9	9	9	9
** . Correlation is significant at the 0.01 level (2-tailed).											
* . Correlation is significant at the 0.05 level (2-tailed).											

The correlation matrix shows the strength and direction of relationships between different financial variables. The results reveal a strong negative correlation between Net NPA and profitability indicators such as ROA (-0.926), ROE (-0.928), and Net Profit Margin (-0.930), all significant at 1% level. This clearly indicates that as NPAs increase, profitability decreases, supporting the hypothesis that asset quality plays a crucial role in bank performance. A strong positive correlation exists between profitability indicators themselves, such as ROA and ROE (0.999), and Net Profit Margin (1.000), indicating consistency among profitability measures.

S. No.	Hypothesis	Null Hypothesis (H <sub>0</sub> )	Alternative Hypothesis (H <sub>1</sub> )	Hypothesis Expected Relationship	Decision (Accepted/Rejected)
1	NPAs and Profitability	NPAs have no significant impact on profitability.	NPAs have a significant negative impact on bank profitability.	Negative	Based on p-value H1 accepted
2	RBI Interest Rate & Liquidity	RBI interest rate & changes have no significant effect on bank profitability.	RBI interest rate & liquidity changes have a significant effect on bank profitability.	Mixed	Based on p-value H2 accepted
3	Inflation and Profitability	Inflation has no significant effect on bank profitability.	Inflation has a significant effect on bank profitability.	Mixed	Based on p-value H3 Accepted

### VII. FINDINGS

The present study aimed to analyze the impact of capital structure and selected macroeconomic factors on the profitability of banks in the Indian banking sector. Based on the data analysis using correlation, regression, and ANOVA techniques, the following key findings have been derived:

#### 1. Impact of Net NPAs on Profitability

The study found that Net Non-Performing Assets (NPAs) have a strong negative and statistically significant impact on bank profitability. The correlation analysis showed a high negative relationship between NPAs and profitability indicators such as ROA, ROE, and Net Profit Margin. Regression results further confirmed this relationship with a negative coefficient and significant p-value.

#### 2. Influence of RBI Interest Rate and Liquidity Conditions

The results indicate that RBI interest rate and liquidity conditions have a significant impact on bank profitability. The regression analysis shows a positive and statistically significant relationship between bank rate and profitability.

#### 3. Effect of Inflation on Profitability

The study reveals that inflation has a dynamic and mixed impact on bank profitability. Although the regression results show a positive coefficient, the relationship is not always statistically significant.

### VIII. SUGGESTION

The future researchers can conduct research work based on collecting primary data which may give them better and accurate results since the whole study has been conducted by the researchers based on only secondary sources of available information and data. The future researchers can also take a greater number of banks into consideration with their variables of capital structure and profitability such that more definite results can be ascertained. The current study is based on few years of data and therefore the future researchers can consider more years of sample period to get better and accurate results. Geographical area specific or state specific sample can also be considered by the future researchers to find out exactly how particular bank's profitability in that state or area is getting affected on account of



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its capital structure. Also suitable and appropriate sophisticated statistical tools along with other econometrics models can be used in future research studies such that to gather more in depth knowledge regarding the relationship between capital structure and its profitability in a banking industry.

### IX. SCOPE FOR RESEARCH AND LIMITATIONS

While the present study provides valuable insights into the relationship between capital structure, macroeconomic factors, and bank profitability, there are several areas where further research can be conducted to enhance understanding and provide deeper insights.

Firstly, the study is limited to a specific bank and a relatively small time period. Future research can expand the scope by including multiple banks across public and private sectors and extending the time horizon to capture long-term trends and economic cycles. This would improve the generalizability of the findings.

Secondly, the study focuses on a limited number of variables such as Net NPAs, Bank Rate, and Inflation. Future studies can incorporate additional macroeconomic variables such as GDP growth rate, exchange rates, unemployment levels, and monetary policy indicators to provide a more comprehensive analysis of factors affecting bank profitability.

Thirdly, advanced statistical techniques such as panel data analysis, time series models, and machine learning approaches can be applied in future research to improve prediction accuracy and better understand complex relationships between variables.

### X. CONCLUSION

The study's goal was to see how capital structure affected bank performance in India. The study examined panel data from 10 public and private banks throughout the country during a ten-year period. To quantify the association between firm capital structure and firm performance, the researchers utilized a multiple regression model. The model estimation results show that overall debt to capital and long term debt to capital have a substantial negative correlation and causation relationship with banks' Return on Assets (ROA), Return on Equity (ROE), and Earning per Share. According to the findings of the study, public and private sector banks in India rely on debt financing more than equity financing. Here, we have studied the impact of capital structure on profitability of Public and Private sector banks. We have found that the Public sector banks are very weaker than the Private sector banks. In Public sector banks, we have found that it has more impacted of capital structure on the profitability rather than the private sector banks. The above strategies, if implemented and monitored closely, will ensure the early restructuring of a bank. The quality of product, service and process will be highly critical for the success of any business enterprise in the new era. This chapter mainly deal with basic finding related to data analysis. The findings related to various profitability ratio, correlation and regression model. And also give some suggestion related to how improve banks profit.

### REFERENCES

1. NAGESH, B. (2022). Impact of Pre-and post-merger Acquisition Activities on the Financial and Operational Performance Analysis of Banks: A Study of Indian Banking Sector (Doctoral dissertation, PRESIDENCY UNIVERSITY).
2. Pooja, S. K. (2019). *Growth aspects of PNB and SBI: A comparative study*. International Journal of Research in Commerce, Economics & Management, 9(12), 1–6.  
<https://scholar.google.com/scholar?q=Growth+aspects+of+PNB+and+SBI+A+comparative+study>
3. Sharma, G., & Sharma, D. (2017). *Comparison and analysis of profitability of top three Indian private sector banks*. International Journal of Engineering Technology Science and Research, 4(6), 173–180.  
<https://scholar.google.com/scholar?q=Comparison+and+analysis+of+profitability+of+top+three+Indian+private+sector+banks>
4. Khan, W. A., & Sattar, A. (2014). *Impact of interest rate changes on the profitability of four major commercial banks in Pakistan*. International Journal of Accounting and Financial Reporting, 4(1), 142.  
<https://scholar.google.com/scholar?q=Impact+of+interest+rate+changes+on+the+profitability+of+four+major+commercial+banks+in+Pakistan>



## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

5. Das, P., Verburg, R., Verbraeck, A., & Bonebakker, L. (2017). *Barriers to innovation within large financial services firms: An in-depth study into disruptive and radical innovation projects at a bank*. European Journal of Innovation Management.  
<https://scholar.google.com/scholar?q=Barriers+to+innovation+within+large+financial+services+firms>
6. Tyler, K., & Stanley, E. (2007). *The role of trust in financial services business relationships*. Journal of Services Marketing.  
<https://scholar.google.com/scholar?q=The+role+of+trust+in+financial+services+business+relationships>
7. Mishkin, F. S. (1981). *The real interest rate: An empirical investigation*. In Carnegie-Rochester Conference Series on Public Policy (Vol. 15, pp. 151–200). North-Holland.  
<https://scholar.google.com/scholar?q=The+real+interest+rate+An+empirical+investigation>
8. Schmelzing, P. (2019). *Eight centuries of global real interest rates, R-G, and the 'suprasecular' decline, 1311–2018*.  
<https://scholar.google.com/scholar?q=Eight+centuries+of+global+real+interest+rates>
9. Eichengreen, B., Watson, M. W., & Grossman, R. S. (1985). *Bank rate policy under the interwar gold standard: A dynamic probit model*. The Economic Journal, 95(379), 725–745.  
<https://scholar.google.com/scholar?q=Bank+rate+policy+under+the+interwar+gold+standard>



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