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Financial Risk Analysis Of Indian Public Sector Banks By Using Altman Z-Score

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ABSTRACT
This paper aims to analyse the effect of risk on the financial performance by using Z score factors of Indian public sector banks listed by Bombay stock exchange and also study the interconnection among the financial factors of Z score. This study is focused on Indian public sectors banks over the period of 5 years from 2021-2025. To justify the objectives descriptive statistics, regression model and other statistical tools are used. The data are collected from the secondary sources like money control, trendline, annual reports etc. The regression results indicate that among the corporate financial indicators, book value to total liabilities (BVTL) is the most influential factors in determining the financial risk of banks. This analysis can be extended by studying longitudinal approach in the global context. Private sector banks can also be considered in further research; other attributes like governance mechanism and corporate reporting factors can be taken into consideration. This study has given a deep knowledge about the z score parameters which are most influencing mechanism to strengthen the overall performance of banking sectors..
Keywords: Z Score, Corporate financial indicators, financial risk..

INTRODUCTION:

Financial distress is technically defined as a company's inability to meet its creditor obligations. It typically reflects a sustained cash shortage that, if unresolved, may lead to bankruptcy and involve substantial legal costs **(Mamo, 2011)**. Prolonged financial distress can ultimately result in insolvency or bankruptcy. The banking sector is particularly significant in financial distress prediction due to the complexity and interdependence of its operations. Therefore, developing a model capable of forecasting financial distress in banks would be valuable for the Reserve Bank of India and other regulatory or funding institutions. Additionally, banks strive to mitigate default risk by reducing non-performing assets, often through the application of default prediction models **(Altman et al., 2017)**. Over time, the field of bankruptcy prediction has witnessed considerable development.

The Indian economy has encountered numerous challenges over time **(Sangvikar et al., 2019)**. Banks, as financial institutions, manage cash, debt, and various other financial transactions. They offer services such as secure deposits for cash, gold, and important documents, along with credit facilities. Common banking products include savings accounts, certificates of deposit, and checking accounts. Banks utilize these funds to issue loans and support credit creation. The banking sector plays a crucial role in the Indian economy, serving as a backbone for financial stability and growth. Organizational outcomes are also significant across the sector **(Cahyono et al., 2020)**. A well-developed and efficient banking system is essential for maintaining a healthy economy. In modern economies, banks drive economic development by generating demand through loans and mortgages and facilitating both domestic and international trade. The Reserve Bank of India (RBI), as the central bank, regulates the country's banking system and upholds financial stability. According to the RBI, the Indian banking sector is robust, well-regulated, and operates at a level of efficiency comparable to global standards. Leadership plays a critical role in this sector's success **(Setyaningrum & Pawar, 2020)**. Furthermore, the reach of the Indian banking system extends beyond urban areas into rural and remote regions, highlighting the importance of effective talent management in driving inclusive growth **(Pawar et al., 2022)**.

REVIEW OF LITERATURE

Identifying a firm's operational and financial challenges has long been a focus of financial ratio analysis. Numerous studies have demonstrated the effectiveness of financial ratios in predicting financial distress **(Altman, 1968; Ohlson, 1980; Shumway, 2001; Y. Wu et al., 2010)**. Owing to their predictive reliability and widespread acceptance, these ratios have been widely adopted in academic research. For instance, **Sajjan (2016)** employed the Z-score model to assess the default risk of selected companies listed on the BSE and NSE over a five-year period. The findings indicated that a majority of these firms fell within the distress zone, signaling a high likelihood of imminent default. Similarly, **Pradhan (2014)** evaluated the Z-scores of public sector banks such as State Bank of India, Punjab National Bank, and Oriental Bank of Commerce using back propagation

neural networks (BPNN). Despite the financial instability during 2005-2010, the BPNN model accurately predicted Z-score values, closely aligning with actual results.

BANKRUPTCY CODE

In 2014, the Bankruptcy Legislative Reforms Committee, chaired by T. K. Viswanathan, proposed the Insolvency and Bankruptcy Code (IBC) to streamline and amend laws related to insolvency and reorganization for companies, partnerships, and individuals. Enacted in 2016, the IBC aims for time-bound resolution (initially 180 days, extendable to 330 days) to maximize asset value, promote entrepreneurship, and improve credit availability while balancing stakeholder interests. It introduced a professional-led process and shifted adjudication from Debt Recovery Tribunals (DRTs) to the National Company Law Tribunal (NCLT), thus addressing inefficiencies of past laws. With IBC, India adopted a unified insolvency framework, reducing the relevance of earlier legislations. The RBI aligned its policy by issuing a circular on 12 February 2018, replacing existing resolution frameworks with a simplified structure. Although the Supreme Court struck down this circular in April 2019, it marked a significant move toward strengthening the enforcement of debt contracts and resolving non-performing assets (NPAs).

NON- PERFORMING ASSETS (NPAs)

Non-Performing Assets (NPAs) refer to loans or advances that cease to generate income for banks when the borrower does not repay interest or principal for more than 90 days. This definition is commonly used in Indian banking regulation (Reserve Bank of India, 2025). NPAs are considered an important measure of the financial soundness of banks because a high level of bad loans reduces profits, weakens liquidity, and limits the ability of banks to provide new credit to businesses and individuals. Banks generally classify NPAs into sub-standard, doubtful, and loss assets depending on the length of default and the possibility of recovery. In recent years, the Indian banking sector has shown improvement in asset quality. Reports based on central bank data indicate that the gross NPA ratio of scheduled commercial banks declined to nearly 2–2.5 percent during 2024–2025, reflecting better loan monitoring, recovery through insolvency processes, and improved credit discipline (Reserve Bank of India, 2025; Vyas, 2025). Despite this progress, NPAs remain a matter of concern because economic slowdown, poor credit appraisal, and wilful default can still increase bad loans. Therefore, continuous supervision, strong risk management, and effective recovery mechanisms are essential to maintain the stability of the banking system.

RESEARCH PROBLEM

The banking sector grapples with intricate and interconnected research challenges related to corporate governance, profitability, and insolvency risks. Inadequate management of financial assets marked by poor credit appraisal, lack of internal control, weak recovery system, insufficient accountability can result in heightened risk exposure which undermine the quality of assets. Despite its importance, limited research has critically explored the financial risk of Indian banks and the key financial determinants that influence it. There is a pressing need to investigate how financial factors influence Assets qualities of the sample banks and help the sector confront potential bankruptcy threats.

RESEARCH OBJECTIVES

- To assess the financial soundness of the sample public sector banks in India.
- To determine the interconnection among the financial predictor of sample public sector banks in India.
- To study the impact of Z score parameters on GNPAs of sample public sector banks in India.

RESEARCH QUESTIONS

- Are the sample public sector banks financially stable?
- Are there any financial discrepancies among Z score factors of sample banks?
- Are there any impact of financial factors on GNPAs of sample public sector banks?

HYPOTHESIS OF THE STUDY

- H_0 = There is no significant impact of financial factors on GNPAs of sample public sector banks in India.
- H_1 =There is significant impact of financial factors on GNPAs of sample public sector banks in India.

METHODOLOGY

This study focuses on the public sector banks in India listed by BSE. The data are collected from secondary sources, such as official bank websites, annual reports, Money control, Screener, trenlyne and other financial databases. Due to unavailability of data two banks are eliminated i.e. PNB and IOB. The analysis spans the period from 2020-2021 to 2024-2025. Alongside the application of the Z-score model for assessing financial stability, various statistical methods including the descriptive statistics, ANOVA and regression model have been used to support the findings.

FORMULATION OF FINANCIAL MODEL & ECONOMETRIC MODEL

The Altman Z-score is used in this study to analyze the financial performance of the sample banks. The model is explained as follows.

Altman Z-Score Model (Non-Manufacturing sectors) = 6.56X1+3.26X2+6.72X3+1.05X4

This study used regression model to justify the impact of financial factors on Assets qualities of sample banks.

Regression Model: $GNPA = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 \ldots\ldots\ldots + €i$

Where, β_0 represents the intercept term,

β_1 β_2, β_3, β_4 denotes the coefficient of the independent variables,

$€i$ = Error

X_1, X_2, X_3 & X_4 = Independent variables

Table No-1

Description of Z Score Factors & Assets Quality Factor

Variable	Financial Factor	Performance Area
WCTA (X1)	(Working Capital / Total Assets)	Liquidity
RETA (X2)	(Retained Earnings / Total Assets)	Profitability over time
EBITTA (X3)	(EBIT / Total Assets)	Operating efficiency
BVTL (X4)	(Book Value of Equity / Total Liabilities)	Leverage
GNPA	Gross NPA to Gross Advances	Assets Quality

Table No-2

Source: Self Authored

The Z-score model is predicting financial distress based upon four key variables, each representing a crucial aspect of a company's financial health. The first variable, X1, is the ratio of working capital to total assets, which measures a firm's liquidity and ability to meet short-term obligations. X2, the ratio of retained earnings to total assets, which reflects the company's cumulative profitability over time and its ability to reinvest earnings. X3, calculated as EBIT divided by total assets, which assesses the company's operating efficiency in generating profits from its assets. X4, the ratio of the book value of equity to total liabilities, which serves as an indicator of leverage and financial strength. GNPA is the financial ratio which indicates the quality of assets and financial stability of the banks.

Standards for Z-Score

Value	Decision Zone	Description
Z > 2.6	Safe Zone	Financially stable and unlikely to face bankruptcy
1.1 < Z < 2.6	Grey Zone	Company shows signs of potential risk and uncertainty
Z < 1.1	Distress Zone	Financially vulnerable with a high probability of insolvency

Source: Self Authored

The Z-score, a powerful indicator of financial stability, is used to categorize a company's risk of bankruptcy into three distinct zones. If the Z-score value is exceeding 2.6 then it indicates the company is in Safe Zone. If the z score value ranges between 1.2 to 2.6 then it indicates that the company is in Grey zone which signs of potential risk. If the value is below below 1.1, signals the Distress Zone, where the company is considered financially vulnerable with a high likelihood of future bankruptcy.

DATA ANALYSIS AND INTERPRETATION

This study uses the altman Z score techniques to evaluate the performance of sample public sector banks and study the impact of Z score factors on quality of assets. This study focuses the Indian public sector banks over the period of 5 years from 2021-2025.

TABLE NO-3

WORKING CAPITAL TO TOTAL ASSETS OF SAMPLE BANKS

YEAR	SBI	BOB	UBI	CANARA	INDIAN	BOI	BOM	UCO	CENTRAL	PNSIND
2020-21	0.58	0.71	0.64	0.7	0.67	0.7	0.61	0.5	0.56	0.67
2021-22	0.57	0.69	0.67	0.7	0.7	0.7	0.66	0.53	0.6	0.62
2022-23	0.57	0.68	0.69	0.69	0.7	0.7	0.71	0.65	0.63	0.64
2023-24	0.58	0.7	0.71	0.68	0.69	0.7	0.74	0.68	0.64	0.63
2024-25	0.59	0.72	0.37	0.7	0.7	0.7	0.74	0.7	0.68	0.67

Source: Self Authored

Interpretation:

Table no. 3 indicates that the data on Working Capital to Total Assets (WCTA) for the sample public sector banks over the five-year period from 2020-21 to 2024-25 reveals a generally stable and improving trend in liquidity and short-term financial health. Most banks maintained WCTA ratios above 0.60 throughout the period, indicating a healthy proportion of working capital relative to their total assets. Bank of Baroda (BOB), Canara Bank, Indian Bank, and Bank of India (BOI) consistently recorded high WCTA values around 0.68 to 0.72, reflecting strong working capital positions. Bank of Maharashtra (BOM) showed improvement from 0.61 in 2020-21 to 0.74 by 2024-25, suggesting a strengthening

liquidity profile. On the other hand, Union Bank of India (UBI) showed a notable dip in 2024-25, with its WCTA dropping to 0.37 from consistently higher values in previous years, which may indicate a sudden decline in short-term financial flexibility. UCO Bank, Central Bank of India, and Punjab & Sind Bank (PNSIND) demonstrated steady growth in WCTA over the years, though their values remained slightly lower than the top-performing banks. Overall, the data indicates a positive trend for most banks.

TABLE NO-4

RETAINED EARNINGS TO TOTAL ASSETS OF SAMPLE BANKS

YEAR	SBI	BOB	UBI	CANARA	INDIAN	BOI	BOM	UCO	CENTRAL	PNSIND
2020-21	0.06	0.07	0.05	0.05	0.06	0.06	0.03	0.04	0.04	0.04
2021-22	0.06	0.07	0.05	0.05	0.06	0.07	0.03	0.04	0.05	0.06
2022-23	0.06	0.07	0.06	0.06	0.07	0.07	0.03	0.05	0.05	0.06
2023-24	0.06	0.07	0.06	0.06	0.07	0.07	0.04	0.05	0.05	0.06
2024-25	0.07	0.08	0.07	0.06	0.08	0.07	0.06	0.05	0.06	0.04

Source: Self Authored

Interpretation:

Table no. 4 indicates that the Retained Earnings to Total Assets (RETA) ratios for the sample public sector banks from 2020-21 to 2024-25 indicate a gradual and consistent improvement in internal capital accumulation and profitability retention. State Bank of India (SBI), Bank of Baroda (BOB), and Indian Bank maintained relatively higher RETA values, increasing steadily from around 0.06 in 2020-21 to 0.07 or 0.08 by 2024-25, reflecting their strong earnings retention capacity. Bank of India (BOI) also showed stable and healthy RETA figures, consistently around 0.07 in the later years. Union Bank of India (UBI) and Canara Bank displayed modest but stable growth, moving from 0.05 to 0.06 or 0.07 during the period. Bank of Maharashtra (BOM) showed notable improvement from 0.03 in 2020-21 to 0.06 in 2024-25, indicating strengthened reserves. UCO Bank, Central Bank of India, and Punjab & Sind Bank (PNSIND) recorded moderate RETA values, with minor improvements, though PNSIND showed a slight decline to 0.04 in the final year. Overall, the data reflects a positive trend in retained earnings for most banks.

TABLE NO-5

EBIT TO TOTAL ASSETS OF SAMPLE BANKS

YEAR	SBI	BOB	UBI	CANARA	INDIAN	BOI	BOM	UCO	CENTRAL	PNSIND
2020-21	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.01
2021-22	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.01
2022-23	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01
2023-24	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.01	0.02	0.01
2024-25	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.01

Source: Self Authored

Interpretation:

Table no. 5 shows that the EBIT to Total Assets (EBITTA) ratios for the selected public sector banks from 2020-21 to 2024-25 indicate relatively stable but low levels of operating profitability in relation to total assets. Most banks, including SBI, BOB, UBI, Canara, and Indian Bank, consistently maintained EBITTA ratios of around 0.02 throughout the five-year period, reflecting steady operational earnings. Bank of India (BOI) and Central Bank showed slight improvement over the years, moving from 0.01 to 0.02, indicating marginal gains in operational efficiency. Bank of Maharashtra (BOM) exhibited a positive trend, increasing from 0.02 in the initial years to 0.03 in the last two years. On the other hand, UCO Bank remained mostly constant at 0.01 - 0.02, while Punjab & Sind Bank (PNSIND) maintained the lowest EBITTA ratios, stuck at 0.01 across all years, pointing to relatively weaker operational performance. Overall, while most banks sustained moderate EBITTA levels, a few demonstrated marginal improvements, reflecting slight gains in operational efficiency over the observed period.

TABLE NO-6

BOOK VALUE OF EQUITY TO TOTAL LIABILITY OF SAMPLE BANKS

YEAR	SBI	BOB	UBI	CANARA	INDIAN	BOI	BOM	UCO	CENTRAL	PNSIND
2020-21	0.06	0.07	0.03	0.06	0.07	0.07	0.07	0.09	0.06	0.08
2021-22	0.06	0.07	0.06	0.06	0.07	0.08	0.06	0.10	0.08	0.13
2022-23	0.06	0.07	0.07	0.06	0.07	0.08	0.06	0.09	0.08	0.12
2023-24	0.07	0.08	0.07	0.06	0.08	0.08	0.07	0.09	0.08	0.12
2024-25	0.07	0.09	0.08	0.06	0.09	0.08	0.08	0.09	0.08	0.09

Source: Self Authored

Interpretation:

Table no. 6 indicates that the Book Value of Equity to Total Liability (BVTL) ratios for the sample public sector banks from 2020-21 to 2024-25 show a generally positive trend, indicating gradual strengthening of equity positions relative to liabilities. State Bank of India (SBI), Bank of Baroda (BOB), Indian Bank, and Bank of India (BOI) consistently maintained stable BVTL ratios around 0.06 to 0.09, reflecting steady capital strength. Union Bank of India (UBI) demonstrated improvement from a low of 0.03 in 2020-21 to 0.08 in 2024-25, indicating enhanced equity capital relative to liabilities over the period. Bank of Maharashtra (BOM) showed consistent values between 0.06 and 0.08, while Canara Bank remained constant at 0.06 throughout the five years. UCO Bank maintained high BVTL ratios, peaking at 0.10 in 2021-22 and remaining at 0.09 in later years, reflecting a strong equity position. Central Bank and Punjab & Sind Bank (PNSIND) also showed healthy equity ratios, with PNSIND peaking at 0.13 in 2021-22 before slightly declining to 0.09 in 2024-25. Overall, the data suggests a stable or improving trend in capital adequacy across most banks, contributing positively to their financial resilience.

TABLE NO-7

GROSS NPA TO GROSS ADVANCES

YEAR	SBI	BOB	UBI	CANARA	INDIAN	BOI	BOM	UCO	CENTRAL	PNSIND
2020-21	0.05	0.09	0.05	0.04	0.03	0.03	0.02	0.04	0.06	0.04
2021-22	0.04	0.07	0.04	0.03	0.02	0.02	0.01	0.03	0.04	0.03
2022-23	0.03	0.04	0.03	0.02	0.01	0.02	0	0.01	0.02	0.02
2023-24	0.02	0.03	0.03	0.02	0.01	0.02	0	0.01	0.02	0.02
2024-25	0.02	0.02	0.03	0.02	0.01	0.01	0	0.01	0.02	0.02

Source: Self Authored

Interpretation:

Table No. 7 shows a consistent decline in the Gross NPA to Gross Advances ratio for most selected public sector banks from 2020-21 to 2024-25. State Bank of India and Bank of Baroda demonstrate steady improvement, reducing their ratios significantly over the period. Similarly, Canara Bank and Indian Bank show stable and controlled NPA levels. Bank of Maharashtra records the lowest ratio, reaching near zero in recent years. Overall, the downward trend reflects enhanced credit monitoring, improved recovery mechanisms, and strengthened risk management practices across these banks, indicating better asset quality and improved financial stability during the study period.

TABLE NO-8

Z- score Decision Zone Table

Name of the Bank	Average	Decision Zone
SBI	4.15	Safe Zone
PNB	4.89	Safe Zone
BOB	5.04	Safe Zone
UBI	4.44	Safe Zone
CANARA	4.49	Safe Zone

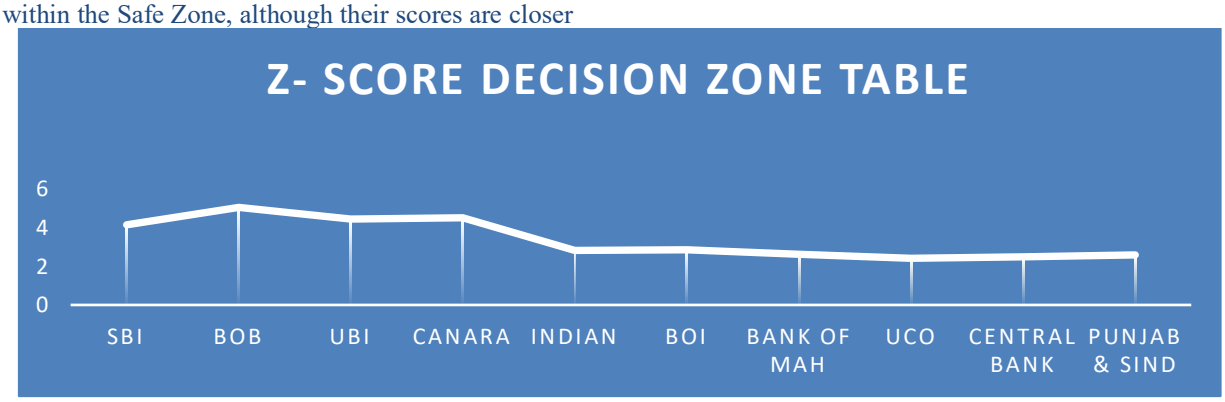
INDIAN	2.82	Safe Zone
IOB	2.35	Grey Zone
BOI	2.84	Safe Zone
BANK OF MAH	2.62	Safe Zone
UCO	2.41	Grey Zone
CENTRAL BANK	2.47	Grey Zone
PUNJAB & SIND	2.58	Grey Zone

Source: Self Authored

Interpretation:

Table no.8 and figure no.1 shows that the Z-score decision zone analysis of selected public sector banks indicates that the majority are operating within the Safe Zone, reflecting strong financial health and a low risk of insolvency. Banks such as Bank of Baroda (5.04), Punjab National Bank (4.89), Canara Bank (4.49), Union Bank of India (4.44), and State Bank of India (4.15) have high Z-scores, showcasing robust financial stability. Indian Bank (2.82), Bank of India (2.84), and Bank of Maharashtra (2.62) also fall within the Safe Zone, although their scores are closer to the Grey Zone threshold, suggesting the need for regular monitoring. On the other hand, Indian Overseas Bank (2.35), UCO Bank (2.41), Central Bank of India (2.47), and Punjab & Sind Bank (2.58) fall within the Grey Zone, indicating moderate financial health and a potential vulnerability to financial distress under unfavourable conditions. Overall, while the public sector banking sector appears largely stable, certain banks in the Grey Zone require strategic oversight to strengthen their financial position.

FIGURE NO-1



Source: Self Authored

TABLE NO-9

Descriptive Statistics of financial indicators of Z score

Name of the Banks	N	Min.	Max.	Mean	Std. Dev.
SBI	20	0.01	0.59	0.1555	0.21881
BOB	20	0.02	0.72	0.1880	0.26641
UBI	20	0.02	0.71	0.1590	0.23411
CANARA	20	0.02	0.70	0.1760	0.26678
INDIAN	20	0.02	0.70	0.1840	0.26078
BOI	20	0.01	0.70	0.1850	0.26542
BOM	20	0.02	0.74	0.1760	0.26438
UCO	20	0.01	0.70	0.1655	0.22984
CENTRAL	20	0.01	0.68	0.1650	0.23561
PUNJABSIND	20	0.01	0.67	0.1795	0.24369

Source: Self Authored

Interpretation:

Table no. 9 describes that the descriptive statistics of the financial indicators contributing to the Z-score for Indian public sector banks provide insights into their financial performance and variability over the observed period. Each bank has 20 observations, with the minimum values ranging from 0.01 to 0.02, indicating similar lower bounds across banks. The maximum values fall between 0.67 and 0.74, showing some variation in peak performance. The mean values are relatively close, ranging from 0.1555 for SBI to 0.1880 for BOB, reflecting consistent average financial indicator levels across banks. BOB records the highest mean (0.1880), suggesting slightly stronger average performance among the group. The standard deviations, ranging from 0.21881 (SBI) to 0.26678 (CANARA), indicate moderate variability in the financial indicators, with most banks displaying similar levels of fluctuation. Overall, the statistics reveal a relatively stable financial performance pattern among the banks, with minor differences in average values and dispersion.

Regression Model: $GNPA = \beta_0 + \beta_1 WCTA + \beta_2 RETA + \beta_3 EBITTA + \beta_4 BVTL$

Table No-10

Regression Results of Dependent Variable: GNPA

MODEL 1	**R**	**R^2**	**Adj. R^2**	**Std. Error**	
	0.472[a]	0.223	0.154	0.01585	
ANOVA					
MODEL 1	**Sum of Sqr.**	**Df**	**Mean Sqr.**	**F**	**Sig.**
Regression	0.003	4	0.001	3.225	0.021[b]
Residual	0.011	45	0.000		
Total	0.015	49			
COEFFICIENT					
		Coefficients β	**Std. Error**	**t**	**Sig.**
MODEL 1	(Constant)	0.100	0.026	3.774	0.000
	WCTA	-0.066	0.034	-1.922	0.061
	RETA	0.277	0.187	1.478	0.146
	EBITTA	-0.874	0.494	-1.768	0.084
	BVTL	-0.393	0.143	-2.751	0.009

Source: Self Authored

Interpretation:

Table no-10 describes the regression analysis of sample factors which examines the impact of liquidity, profitability, operating efficiency, and leverage on Gross NPA (GNPA). The model shows a moderate correlation ($R = 0.472$) and explains about 22.3% of the variation in GNPA ($R^2 = 0.223$). The ANOVA results indicate that the model is statistically significant overall ($F = 3.225$, $p = 0.021$), hence the H_1 is accepted. It is suggesting that the selected financial factors jointly influence asset quality. Among the variables, BVTL has a significant negative effect on GNPA ($p = 0.009$), implying that stronger equity relative to liabilities helps reduce non-performing assets. WCTA and EBITTA show negative relationships with GNPA, indicating that better liquidity and operating efficiency may lower NPAs, although their effects are not statistically significant at the 5% level. RETA shows a positive but insignificant relationship, suggesting limited influence on GNPA in this model.

CONCLUSION & FURTHER RESEARCH

The study concludes that the Altman Z-score model is an effective tool for assessing the financial stability and asset quality of Indian public sector banks during 2020-21 to 2024-25. Most banks operated within the Safe Zone, indicating sound financial health and low insolvency risk. The financial indicators-liquidity, profitability, operating efficiency, and leverage-showed overall improvement and statistical significance. Regression results reveal that leverage (BVTL) significantly reduces Gross NPAs, while liquidity and efficiency display a negative but moderate influence. Overall, the strengthened capital structure and prudent financial management have contributed to improved asset quality and stability in the banking sector.

This study leaves a room for further research by using longitudinal data and Indian private sector banks. Secondly, this study can be extended to global context. Thirdly, this research can consider other factors of governance attributes and corporate reporting factors.

Conflict of Interest

The authors have no conflict of interest.

Abbreviations

ANOVA: Analysis of Variation

BSE: Bombay Stock Exchange

GNPAs: Gross Non- Performing Assets.

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