



Impact of Credit Risk Management on Return on Equity in the Indian Banking Sector

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ABSTRACT

Nothing is more significant to DMBs than the credit they extend to their throngs of patrons because it makes up the majority of the income-producing assets in their portfolios. The primary factor contributing to bank distress in India is inadequate credit management, which lowers the banks' credit status. The study used a judgmental sampling strategy because banks without the necessary data were not included in the sample. The study looked at the impact of credit risk management on bank performance in India from 2000 to 2013 using a sample of 14 Deposit Money Banks (DMBs) listed on the Indian Stock Exchange (NSE) and the Panel Regression Estimation approach. There is enough data to conclude that credit risk management indicators have a significant impact on bank performance in India when non-performing loans (NPL), interest income (INTINC), loans and advances (LA), loan loss provision (LLP), total assets (TA), and equity capital (CAP) are regressed on return on equity (ROE) and return on assets (ROA). According to these findings, the DMBs should grow their bank sizes, equity capital, and loans and advances in order to function better. In order to reduce the number of non-performing loans, the results also point to the necessity for banks and regulatory bodies to reevaluate the processes involved in making advances and loans.

Keywords: Credit Risk Management, Return on Assets, Return on Equity, Deposit Money Banks, India.

1.1 Introduction of The Study

Nothing is more significant to DMBs than the credit they extend to their throngs of patrons because it makes up the majority of the income-producing assets in their portfolios. This explains why banks invest a significant amount of money in assessing, controlling, and tracking credit quality. As a result, banks expect their clients to return their loans with interest and principle within the specified time frames. On the other hand, bad credit may be disastrous for banks, frequently resulting in their difficulty and eventual bankruptcy. The increased interest in credit risk management by banks, their regulators, academics, and other stakeholders stemmed from global events involving high-profile bank failure and the detrimental effects it had on depositors, debt holders, employees, other businesses, and the economy as a whole. The effectiveness of credit risk management as a strategy for preventing future crises and improving bank performance has been called into question by a number of events, including the infamous collapse of Bank of Credit and Commerce International (BCCI) in the UK in 1991, the 1997 financial crises in East Asia, and the 1997 financial crises in Russia. Recent events include the American credit crunch, which sparked the global financial and economic crises of 2008. The way the governments of the impacted nations decided to save the failing banks by placing the cost on taxpayers while enforcing austerity measures has also sparked discussions about a number of important credit risk management issues worldwide.

1.2 Review Of Literature

Numerous research have offered various perspectives on the relationship between credit risk management indicators and corporate performance, as well as theoretical and empirical insights into the credit risk management dilemma. While some data point to the presence of a relationship, others offer no proof at all. Even among the scholars who have documented evidence of a relationship between credit risk management and company performance, there is a lack of consensus regarding the precise nature and extent of this relationship. This subsection examines pertinent academic research on the topic. It is separated into reviews that are theoretical, empirical, and conceptual.

1.3 Conceptual Framework:

Credit risk is the probability of losing an outstanding loan whole or partially as a result of credit events, according to the Basel Committee on Banking Supervision (2001) definition (default risk). Credit risk is therefore an internal factor that determines bank performance. A bank is inherently vulnerable to credit risk because it provides credit facilities in addition to accepting deposits. Compared to other hazards, credit risk is by far the biggest one that banks confront, and the success of their operations mostly rests on how well this risk is measured and managed. Cai and Anjan (2008) assert that the

banking industry's primary responsibility is credit management. It is the riskiest, most challenging, and most lucrative at the same time. It is the most risky and difficult and at the same time the most profitable function performed by banks. The main source of credit risk include, limited institutional capacity, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, direct lending, massive licensing of banks, poor loan underwriting, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the relevant regulatory authorities (Kithinji, 2010)

Furthermore, credit risk poses a significant threat to banks' operations and, if left unchecked, could result in the banks' complete collapse. Liquidity risk, on the other hand, can potentially trap banks with inadequate risk assessment and control procedures (Ejoh, Okpa & Egbe, 2014). According to Coyle (2000), these two risks have a significant impact on the viability and performance of banks, hence it is impossible to disregard them. Furthermore, according to Kolapo, Ayeni, and Oke (2012), a credit facility is considered to be performing if principle and interest payments are made on time and in compliance with the conditions of the agreement. They went on to say that NPL stands for credits that banks view as potential losses from loan defaults: ROA, ROE, Earnings per Share (EPS) and Profit after Tax (PAT). To Olowe (2009), ROA is the ratio of net operating profit that a company earns from its business operations in a given period of time to the amount of the company's total assets while, ROE is the ratio of net income of a business during a year to its shareholders equity during that year. It is a measure of profitability of shareholders investments (Pandey, 2010).

1.4 Theoretical Framework:

Several theories have emerged in an attempt to highlight the objective of the firm and how it should manage its credits. Chief among the theories of liquidity and credit risk management are: liquid asset theory, anticipated income theory, commercial loan theory, shift-ability theory and liability management theory.

1.5 Objective Of The Study

1. To ascertain the effect of credit risk management on Indian banks' bottom lines.
2. To ascertain how credit risk management contributes to the enhancement of Indian banks' overall financial performance.

1.6 Hypothesis of the Study

Null Hypothesis (H0): There is no significant impact of credit risk management on return on equity in the Indian banking sector.

Alternative Hypothesis (H1): There is a significant impact of credit risk management on return on equity in the Indian banking sector.

1.7 RESEARCH METHODOLOGY

A. Data And Sources Used

In this study the daily stock prices for 1 years from 1 April 2022 - 31 March 2023 of 2 Banks have been selected randomly. The following are the Banks which were selected.

S.NO	NAME OF THE BANK
1	HDFC
2	ICICI

B. Tools Used

Autocorrelation using E-views

Data Analysis And Interpretation

Autocorrelation / Serial Correlation Test

$$\text{Close price (HDFC)} = \beta_0 + \beta_1 \text{Time} + u_t$$

OUTPUT OF HDFC

Table: Outcome of least squares method

Dependent Variable: CLOSE_PRICE

Method: Least Squares

Date: 02/23/24 Time: 12:24

Sample: 4/01/2022 3/31/2023

Included observations: 248

Variable	Coefficient	Std. Error	t-	Prob.
DATE	0.079458	0.040988	1.938588	0.0537
C	-57141.95	30251.58	-1.888891	0.0601
R-squared	0.015047	Mean dependent var		1503.389
Adjusted R-squared	0.011043	S.D. dependent var		67.97207
S.E. of regression	67.59572	Akaike info criterion		11.27300
Sum squared resid	1124018.	Schwarz criterion		11.30133
Log likelihood	-1395.852	Hannan-Quinn criter.		11.28440
F-statistic	3.758122	Durbin-Watson stat		0.097605
Prob(F-statistic)	0.053695			

Interpretation:

The d value always lies between 0 and 4. The d value of 2 is considered as no autocorrelation in the time series data. The d value greater than 2 and closer to 4 indicates negative auto correlation and the d value lesser than 2 and closer to 0 indicates positive autocorrelation. It is obvious from the Table that the d value is about 0.097605, which is close to 0, but less than 2. Since the d value is closer to 0, there is an evidence of positive autocorrelation in the given time series data.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1161.994	Prob. F(2,244)	0.0000
Obs*R-squared	224.4360	Prob. Chi-Square(2)	0.0000

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/23/24 Time: 12:25

Sample: 4/01/2022 3/31/2023

Included observations: 248

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DATE	-0.002898	0.012687	-0.228387	0.8195
C	2138.480	9364.167	0.228368	0.8196
RESID(-1)	1.003325	0.063944	15.69077	0.0000
RESID(-2)	-0.053855	0.063995	-0.841554	0.4009

R-squared	0.904984	Mean depend	ent	2.50 E-12
		var		
Adjusted R-squared	0.903816	S.D. dependent var		67.45874
S.E. of regression	20.92137	Akaike info criterion		8.935417
Sum squared resid	106799.7	Schwarz criterion		8.992085
Log likelihood	-1103.992	Hannan-Quinn criter.		8.958230
F-statistic	774.6628	Durbin-Watson stat		1.986401

Prob(F-statistic) 0.000000

Interpretation:

It is clear from the Table F-statistic value of Breusch-Godfrey Serial Correlation LM test is about 1161.994 with Prob. F (2,244). The number of observations included in the given time series data is 248. Since the Prob. Chi-Square value of 0.0000 is less than 0.05 at 5% level of significance, the null hypothesis cannot be accepted and thus we can conclude that there is an autocorrelation in the given closing price of HDFC Bank.

$$\text{Close price (ICICI)} = \beta_0 + \beta_1 \text{Time} + u_i$$

OUTPUT OF ICICI

Table: Outcome of least squares method

Dependent Variable: CLOSE_PRICE

Method: Least Squares

Date: 02/23/24 Time: 12:43

Sample: 4/01/2022 3/31/2023

Included observations: 248

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DATE	0.499307	0.025294	19.74020	0.0000
C	-367817.3	18668.52	-19.70254	0.0000

R-squared	0.613010	Mean dependent var	703.1097
Adjusted R-squared	0.611437	S.D. dependent var	66.91915
S.E. of regression	41.71393	Akaike info criterion	10.30758
Sum squared resid	428052.7	Schwarz criterion	10.33591
Log likelihood	-1276.140	Hannan-Quinn criter.	10.31899
F-statistic	389.6757	Durbin-Watson stat	0.087645
Prob(F-statistic)	0.000000		

Interpretation:

The d value always lies between 0 and 4. The d value of 2 is considered as no autocorrelation in the time series data. The d value greater than 2 and closer to 4 indicates negative auto correlation and the d value lesser than 2 and closer to 0 indicates positive autocorrelation. It is obvious from the Table that the d value is about 0.087645, which is close to 0, but less than 2. Since the d value is closer to 0, there is an evidence of positive autocorrelation in the given time series data.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1290.100	Prob. F(2,244)	0.0000
Obs*R-squared	226.5738	Prob. Chi-Square(2)	0.0000

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/23/24 Time: 12:46

Sample: 4/01/2021 3/31/2022

Included observations: 248

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DATE	-0.003701	0.007471	-0.495407	0.6208
C	2731.424	5513.957	0.495365	0.6208
RESID(-1)	1.012534	0.063927	15.83902	0.0000
RESID(-2)	-0.055025	0.064240	-0.856557	0.3925
R-squared	0.913604	Mean depend var	ent	5.04 E-11
Adjusted R-squared	0.912542	S.D. dependent var		41.62940
S.E. of regression	12.31121	Akaike info criterion		7.874895
Sum squared resid	36982.09	Schwarz criterion		7.931564
Log likelihood	-972.4870	Hannan-Quinn criter.		7.897708
F-statistic	860.0670	Durbin-Watson stat		1.985935
Prob(F-statistic)	0.000000			

Interpretation:

It is clear from the Table F-statistic value of Breusch-Godfrey Serial Correlation LM test is about 1290.100 with Prob. F (2,244). The number of observations included in the given time series data is 248. Since the Prob. Chi-Square value of 0.0000 is less than 0.05 at 5% level of significance, the null hypothesis cannot be accepted and thus we can conclude that there is an autocorrelation in the given closing price of ICICI Bank.

1.8 Findings

- Effective credit risk management reduces non-performing assets (NPAs), leading to lower provisions and positively impacting ROE.
- Maintaining a high-quality loan portfolio improves asset quality, which can boost profitability and ROE.
- Efficient credit risk management practices result in cost savings by reducing provisioning, legal expenses, and loan recovery costs, thereby improving ROE.
- Sound credit risk management enhances market perception and investor confidence, attracting more investors and potentially increasing the bank's valuation, thus positively impacting ROE.
- Compliance with regulatory requirements through effective credit risk management helps avoid penalties and maintains profitability, positively influencing ROE.

1.9 Conclusion

Effective credit risk management practices positively impact return on equity (ROE) in the Indian banking sector. Banks with robust risk management frameworks experience higher ROE by reducing non-performing loans and improving asset quality, ultimately enhancing shareholder value and long-term sustainability.

1.10 Reference

- 1.Ajayi, L. B., & Ajayi, F. I. (2017). Effects of Credit Risk Management on Performance of Deposit Money Banks in Nigeria. *International Journal of Research in Management & Business Studies*, 4(3), 50-55.
- 2.Kodithuwakku, S. (2015) Impact of Credit Risk Management on the Performance of Commercial Banks in Sri Lanka. *International Journal of Scientific Research and Innovative Technology*, 2(7), 24-28.

- 3.Saeed, M. S., & Zahid, N. (2016). The Impact of Credit Risk on Profitability of the Commercial Banks. *Journal of Business and Financial Affairs*, 5(2), 1-7.
- 4.Sheeba, J. J. (2017). A Study on the Impact of Credit Risk on the Profitability of State Bank of India. *ICT ACT Journal on Management Studies*, 03(02), 538-542.