RISK MANAGEMENT IN BANKING SECTOR WITH REFERENCE TO SBI AND HDFC BANK

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ABSTRACT

The modern banks are facing many risks in their day to day operations due to many external and internal changes. The present study has made an attempt to examine the credit risk management of the banking in India. The study has considered the SBI from public sector bank and HDFC bank from private sector. The Altman Z score has been applied to know the credit risk of the banks. The study found that the SBI has entered in critical zone after the year of 2017-18 and HDFC bank is in critical zone from the year of 2009-10 onwards. It is evident that the Indian banks are having the risk exposure from the capital risk. The banking regulator should alarm the bells to minimize the credit risk, so that the bigger Indian commercial banks will be in safe zone in future.

Keywords: Altman Z score, Credit risk, Equity ratio, HDFC Bank, Sale Ratio, SBI and Working Capital Ratio

INTRODUCTION

Banks are consistently encountered with different kinds of threats that can possibly have a negative effect on their business during their activities. Banks are required to implement a detailed and effective risk management system that is incorporated into all business operations and ensures that the risk profile of the bank is always in line with the risk tendency established. Core leadership principles are directed at maximizing the wealth of

shareholders, according to the economic theory, and this principle should also maximize the anticipated profit from their company. If there are any losses from the operations that harm the key values and if the hazards that happen in the company are not properly managed, the profitability and soundness of the bank could be directly affected. So risk management is essential in banking to minimize risk.

While banks provide financial services, they also act in operations as a "middleman," but this function causes the banks different kinds of problems. Therefore, this is the focus of the discussion and the necessary risk management procedures. The balance sheet therefore involves the danger involved with the traditional and trading activities of the bank. The idea of risk management starts with the debate about why these problems should be managed.

Credit risk is the risk of debt default that may result from the failure of a borrower to make the necessary payments. Continuously updating market data and adapting trends, analyzing the effect of modifications, understanding new risks, and developing methods to mitigate the same must be achieved to implement credit risk management model efficiently. Communication of risk management policies, personnel preparation and tracking are fields where banks are faced with limitations.

REVIEW OF LITERATURE

Bagchi S.K. (2005): Author mentioned that in the banking world, credit risk is the most prevalent risk in banking and occupies about 90-95% of the risk section. The remaining fraction is due to market risk, risk of operations, etc. He feels that there is so much misplaced worry about operational risk. According to him, this could be just one to two percent of the danger of Bank. It may be unwarranted to set up an elaborate system for this tiny fraction. A well-designed risk management system should offer credit risk and market risk its proper attention. Banks appear to give equal priority to these three risks, namely, credit risk, operational risk and market risk, when setting up the risk management apparatus. This can be counter-productive.

Mrudul Gokhale (2009): Author discussed the issue of capital adequacy in banks in detail. According to her banks, the loan risk aspect is mostly adequately focused. From the qualitative risk assessment there is a change to quantitative risk management. Sophisticated risk models are being created in line with the regulatory insistence on capturing risks for capital charge purposes. These models assist banks quantify the prospective losses from various hazards, i.e. credit risk, market risk, and operational risk, almost appropriately. This

will allow the Regulator to determine if the risk profile of assets has been correctly collected by individual banks.

Banumathi M. (2005): Author tries to compare properly capitalized banks with under-capitalized banks. For her study, she used a set of 14 financial ratios and came to the conclusion that properly capitalized banks performed better with reduced operating costs and greater equity returns. However, her excessive dependence on capitalization alone makes her assessment somewhat short-sighted as a number of other variables, such as management effectiveness, banks culture in subjecting the accessible resources to optimum use, employee productivity, etc.

Kallu Rao P. (2010): Author says the origin of the current financial crisis is the U.S., where the banking system formed the 2007 sub-prime crisis. In many nations, the contagion effect has been felt. In two respects, the crisis has influenced financial contagion and spillovers spreading to securities markets and economic slowdown resulting in altering perceptions of trade methods, foreign direct investment, etc. This article addresses multiple problems in risk identification and management at length. The document proposes steps to minimize the spread of economic infection and achieve economic stability. The paper shows the financial sector policy agenda, including financial innovation, and the need to review the laws of the economic industry.

OBJECTIVES OF THE STUDY

1. To examine the credit risk management comparison between the SBI and HDFC bank
2. To study the impact of financial ratios on the credit risk management of SBI and HDFC bank.

HYPOTHESES OF THE STUDY:

H0: There is no difference of the credit risk between the SBI and HDFC bank.

H0: There is no impact of financial ratios on the credit risk of select banks.

SCOPE OF THE STUDY

The present has been emphasized on the credit risk management of the SBI and HDFC bank for the period 2009-10 to 2018-19. The study has considered the BASEL norm III for the credit risk management. The study has considered the following components for the calculation of credit risk management.

- Working Capital Ratio
- Retained Earnings Ratio

- EBIT Ratio
- Equity Ratio
- Sale Ratio

RESEARCH METHODOLOGY

The study has considered the secondary data to examine the credit risk management as per the BASEL norm III. The study has applied the following statistical method.

Credit Risk Management: The study examined the credit risk management of the selected banks i.e., SBI and HDFC bank. The study has adopted the basel norm III standard. The following is the equation which has been applied to measure the credit risk of the selected banks in the study.

$Z = (1.2*X1) + (1.4*X2) + (3.3*X3) + (0.6*X4) + (0.999*X5).$ Where,

X1 = Working Capital/Total Assets, **X2** = retained earnings / Total Assets, **X3** = EBIT / Total Assets, **X4** = Market Value of Equity/Book value of Total Liability, **X5** = Sales / Total Assets, **Z** = Credit Risk

Ordinary Least Square Method: The study has applied the OLS to examine the independent variables (financial ratio) impact on the dependent variables (credit risk).

TABULATION OF THE DATA ANALYSIS

1. **To examine the credit risk management comparison between the SBI and HDFC bank**

Table – 1

Credit risk comparison of SBI

Year	X1	X2	X3	X4	X5	Z (Credit Risk)
2009-10	0.86711	0.28398	0.33039	0.13368	2.75079	5.35941
2010-11	0.89193	0.10778	0.12491	0.09490	1.92581	3.61616
2011-12	0.85987	0.12711	0.15909	0.04740	1.99927	3.76251
2012-13	0.88672	0.11368	0.14233	0.03269	1.69497	3.40748
2013-14	0.87611	0.07937	0.09992	0.03503	1.73444	3.24763
2014-15	0.86218	0.07678	0.09624	0.02847	1.52762	3.00439
2015-16	0.86759	0.04800	0.06022	0.02452	1.34260	2.66436
2016-17	0.84378	0.03895	0.04875	0.02065	1.07155	2.31189
2017-18	0.88201	-0.02096	-0.04146	0.01192	0.73282	1.63222
2018-19	0.88238	-0.00183	0.00000	0.00823	0.66519	0.84378

Source: Secondary Data

The Table – 1 represents the credit risk of SBI Bank for 10 financial years, i.e. 2009-10 to 2018-19. Altman Z Score method has been applied to identify the credit risk of the SBI bank. SBI Bank was in safe zone from the financial year 2009-10 to 2014-15 (3.00439) as the credit risk value has been found above 2.99. SBI Bank credit risk entered into distress zone from the year 2017-18 (1.63222) and 2018-19 (0.84378) as the value of credit risk is below 1.81. SBI Bank gradually came to distress zone in the last two years.

Table – 2

Credit risk comparison of HDFC

Year	X1	X2	X3	X4	X5	Z (Credit Risk)
2009-10	0.81255	0.02691	0.01366	0.03475	0.07309	1.15173
2010-11	0.80204	0.02824	0.01445	0.03176	0.07211	1.14084
2011-12	0.80009	0.03098	0.01546	0.01782	0.08267	1.14785
2012-13	0.82308	0.03478	0.01692	0.01205	0.08795	1.18742
2013-14	0.82736	0.03689	0.01740	0.00967	0.08450	1.19221
2014-15	0.83967	0.03935	0.01762	0.00843	0.08346	1.20938
2015-16	0.84577	0.04101	0.01755	0.00705	0.08649	1.22099
2016-17	0.83101	0.04494	0.01713	0.00521	0.08211	1.20191
2017-18	0.85644	0.04804	0.01682	0.00332	0.07731	1.22980
2018-19	0.83583	0	0.01804	0.00465	0.08450	1.14980

Source: Secondary Data

The Table – 2 shows the credit risk of HDFC bank for the period of 10 years from 2009-10 to 2018-19. To calculate credit risk in HDFC Bank, Altman Z Score method has been applied. HDFC Bank is in distress zone for 10 years from 2009-10 to 2018-19 as credit risk values are below 1.81. In year 2010-11 (1.14084) HDFC Bank was in high distress zone while in 2017-18 (1.22980) it was in less distress zone compared remaining 9 years.

2. **To study the impact of financial ratios on the credit risk management of SBI and HDFC bank.**

The study has considered the historical data to examine the impact of selected financial ratios relating the credit risk on the SBI and HDFC bank credit risk with the help of OLS statistical method.

Table – 3

Impact of Financial Ratios on Credit Risk of SBI

Dependent Variable: SBI Credit Risk				
Method: Least Squares				
Sample (adjusted): 3 10				
Included observations: 8 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.454622	1.824211	-0.797398	0.0088
Working Capital Ratio	1.680758	2.072678	0.810911	0.0026
Retained Earnings Ratio	1.830132	3.962185	0.461900	0.0095
EBIT Ratio	2.693257	3.168411	0.850034	0.0048
Equity Ratio	0.047742	0.960981	0.049680	0.0049
Sales Ratio	1.046978	0.121900	8.588823	0.0133
R-squared	0.999413	Mean dependent var		0.465899
Adjusted R-squared	0.997945	S.D. dependent var		0.565230
S.E. of regression	0.025626	Akaike info criterion		-4.376700
Sum squared resid	0.001313	Schwarz criterion		-4.317118
Log likelihood	23.50680	Hannan-Quinn criter.		-4.778551
F-statistic	680.7008	Durbin-Watson stat		1.574364
Prob(F-statistic)	0.001468			

Source: Secondary Data

The table - 3 illustrates the credit risk management of the SBI for the period of 10 years i.e., 2009-10 to 2018-2019. The study has considered the BASEL norm III components of the credit risk management. The study has adopted the ordinary least square method and the result indicated that EBIT ratio (2.69) is found to be having the higher influence positively on the SBI credit risk. The equity ratio (0.04) observed to having the lower influence. The above data is strongly fit as the Adjusted R-squared is above 0.60, i.e. 0.99. As the Durbin-Watson stat value lies in between 1.5 to 2.5 there is no serial auto correlation between independent variables.

Table – 4

Impact of Financial Ratios on Credit Risk of HDFC Bank

Dependent Variable: HDFC Credit Risk				
Method: Least Squares				
Sample (adjusted): 3 10				
Included observations: 8 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.022887	0.004862	-4.707271	0.0023
Working Capital Ratio	1.360893	0.068375	19.90350	0.0025
Retained Earnings Ratio	0.566404	0.138786	4.081120	0.0251
EBIT Ratio	-2.057314	2.129692	-0.966015	0.0060
Equity Ratio	0.156711	0.276867	0.566017	0.0184
Sales Ratio	0.560129	0.225343	2.485675	0.0008
R-squared	0.996807	Mean dependent var		-0.009760
Adjusted R-squared	0.988824	S.D. dependent var		0.019145
S.E. of regression	0.002024	Akaike info criterion		-9.453753
Sum squared resid	8.19E-06	Schwarz criterion		-9.394172
Log likelihood	43.81501	Hannan-Quinn criter.		-9.855604
F-statistic	124.8633	Durbin-Watson stat		2.404982
Prob(F-statistic)	0.007964			

Source: Secondary Data

The table - 4 deals with the HDFC credit risk management for the period of 10 years 2009-10 to 2018-19. To evaluate credit risk of HDFC bank ordinary least square method has been applied by considering Basel norm III components. The study shows that there is high influence of Working Capital Ratio (1.36) on HDFC Credit risk. And there is lower risk influence of EBIT Ratio (-2.05) on HDFC Credit risk. Adjusted R-squared is 0.98, which implies that data is strongly fit. There is no serial auto correlation between independent variables as Durbin-Watson stat value lies in between 1.5-2.5.

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FINDINGS OF THE STUDY

1. SBI Bank was in safe zone till 2014-15. From 2017-18 it is in distress zone as credit risk value is below Altman Z Score 1.81.

2. Credit risk gradually increased in last two years. Credit risk value of the year 2018-19 (0.84378) is less than 1.81, which tells that credit risk management in SBI Bank is not at all effective in last two years.

3. In the financial year 2010-11, HDFC Bank was in distress zone as credit risk value (1.14084) was less than 1.81. All the 10 years HDFC bank was in distress zone, but in 2017-18 (1.22980) HDFC Bank was in less distress zone in all 10 years.

4. Credit risk of SBI Bank is highly influenced by EBIT ratio (2.6932), which suggests that there is inefficiency of EBIT ratio in SBI Bank. Equity Ratio (0.0477) is slightly influencing credit risk in SBI Bank Compared to EBIT Ratio (2.6932) which was highly influencing.

5. The study found that the working capital ratio (1.3608) is having the high influence on the HDFC bank credit risk. Hence it indicates that the bank credit risk is getting inflated at higher level due to the inefficiency of working capital ratio.

6. It has been observed that the HDFC credit risk has decreased due to the negative influenced by the EBIT ratio (-2.0573).

CONCLUSION OF THE STUDY

The present study has been emphasized on the credit risk management of the selected banks in India. The study has considered the SBI from the public sector bank and HDFC bank from the private sector banks. The study examined the credit risk as per the basel norm –III of Altman Z score. The SBI Z score result stated that from the period of 2009-10 to 2016-17 was observed to be in safe zone but from the year of 2017-18 it had entered into critical zone i.e., below 1.8. The HDFC bank credit risk during the study period found to be below the BASEL norm – III of Altman Z score. The study observed that the working capital ratio influence is having the higher, which is inflating the credit risk of the SBI and HDFC bank. The study it is clear that the Indian banks (SBI and HDFC bank) need to focus on the credit risk, so that they can avoid from the bankruptcy. Hence there is a need to do further research in this area by considering the more number of public and private sector banks including the

foreign banks located in India, so that the efficiency of the credit risk management will improve.

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