

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

Comparative Analysis of Internal Determinants of NPAs: The Case of SBI (India) and CRDB (Tanzania)

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Abstract: Non-performing assets (NPAs) arise because bank customers who borrowed funds from the bank were not properly scrutinized to assess their repayment capability. This affects the profitability of the bank because its profits will be reduced by the amount of interest unpaid by the defaulters. Banks should therefore put in place mechanism that will screen out bad loan applicants to ensure that only qualified borrowers are advanced loans and therefore the banks do not suffer unnecessary NPAs. Reasons that lead to banks suffering losses on account of NPA can be broadly classified into internal (within the control of bank management) and external (outside the control of the individual bank management). This paper attempted to assess the influence of internal factors on incurrence of NPA for banks from India and Tanzania, namely SBI and CRDB respectively. The factors considered were reflected in performance indicators of LAR, CAR, LG, EFF and INTS.

Keywords: NPA, loan-asset ratio, capital-asset ratio, loan-growth percentage, inefficiency ratio, interest spread, significant difference, and significant influence.

I. INTRODUCTION

Banks possess a variety of assets, both physical and non-physical. Among the most important type of assets owned by banks are the moneys advanced to borrowers which are expected to be received back from them. Such assets are referred to as loan assets. Normally, these loan assets (advances or loans) issued to borrowers (who are indeed customers to the banks) are repaid together with interest. The importance of these assets stems from the fact that they are the source of income to the bank. The interest received is an income to the banks and is an important determinant of the survival of banking institutions. When these loan assets do not perform by earning the expected income, they are referred to as non-performing assets (NPAs).

Rao and Nirmada (2006) observe that an asset becomes non-performing when it ceases to generate income for the bank. At this time, the customer will not be paying interest as required by the terms of the loan. This affects the profitability of the bank because its profits will be reduced by the amount of interest unpaid by the defaulters. K. Rao, Y.Rao and Kumar (2012) viewed an NPA as a loan or an advance where interest or an instalment of the principal remains overdue for a period of more than 90 days. This perception of NPA is consistent with Basel II Accord and as such it is internationally agreed that an account becomes an NPA when it is overdue for a period exceeding 90 days (Veerakumar, 2012).

It is observed that a loan becomes an NPA because the advance was given to a person who ultimately defaulted in fulfilling the obligations stipulated in the loan agreement. Therefore NPAs arise because banks issue loans to applicants who do not deserve to be advanced. Banks should therefore put in place mechanism that will screen out bad loan applicants to ensure that only qualified borrowers are advanced loans and therefore the banks do not suffer unnecessary NPAs. It has also been established that there are some causes of NPAs that are beyond the control of the management of individual banks. Issues like inflation, exchange rate, unemployment, Gross Domestic Product (GDP) have all been to have an influence on NPAs incurred by banks. However, there are some indicators of NPAs in banks that arise out of the internal decisions of bank management. This is the focus of this article.

II. LITERATURE REVIEW

Bihari (2012) observed that an account does not become an NPA overnight. It gives signals sufficiently in advance and that steps may be taken to prevent the slippage of the account into NPA category. An account becomes an NPA due to causes attributable to the borrower, the lender and for reasons beyond the control of both.

Siraj and Pillai (2013) investigated the efficiency of NPA management among different bank groups; the research reviewed the growth in movement of major performance indicators. They made the conclusion that additions to NPA occur as a result of ineffective credit appraisal.

The NPA study by Joseph, et al. (2012) on the CBZ Bank Ltd of Zimbabwe, involved an interview of seven senior bank officers and 30 bank staff members involved in credit management and corporate lending activities for at least five years. They found out that the top three significant factors causing non performing loans in CBZ Bank Limited were natural disasters, government policy, and integrity of the borrowers.

Dash and Kabra (2010) studied the factors that determined non-performing assets in Indian commercial banks for a period of 10 years from 1998/99 to 2008/09. They found out that there was a positive association between the loan to asset ratio and NPAs.

Chijoriga (2010) made a study about the interrelationship between bank failure and political interventions in Tanzania in the pre-liberalisation period. She found out that political reasons which resulted into directed or biased lending were the main reasons for the pile up of NPAs in Tanzania before the financial reforms.

Richard (2010) made study on factors that determined non performing loans in post-financial reforms Tanzania for the period 1999 to 2004. He found out that one of the major reasons for incurrence of NPAs was weak loan portfolio management, especially weak credit analysis at the application stage.

Kaur and Saddy (2011) concluded their study on NPAs by categorising the causes of NPAs in the Indian banks into internal and external factors. Internal factors included inappropriate technology, improper SWOT analysis, poor credit appraisal, and absence of regular industrial visits. External factors included wilful defaults, natural calamities, lack of demand, and change of government policies.

Ahmed and Bashir (2013) found a strong association between NPAs and credit growth. They also established the existence of significant influence of cost inefficiency on NPAs. Cost inefficiency reflected the ability of management to control operating costs and was measured as the operating costs expressed as a percentage of operating income.

Collins and Wanjau (2011) in their study on the effect of interest spread on the level of NPAs for commercial banks in Kenya found a positive association between the magnitude of interest spread and level of NPAs in commercial banks.

Ghosh (2005) studied the association between corporate leverage and banks' NPAs. Using data on Indian manufacturing sector for the period 1993-2004 he found out that leverage was an important determinant of NPAs of banks. He concluded that the leverage ratio could serve as a useful indicator of asset quality for banks.

III. OBJECTIVES

- i. To determine the difference in the movement of NPAs for the period 2008 to 2014 between the two banks namely, SBI and CRDB.
- ii. To determine the difference in the movement of the five variables namely loan-asset ratio; loan growth percentage; capital-asset ratio; inefficiency and interest spread between the two banks during the period.

- iii. To establish the difference in the influence of the five variables on the NPAs incurred by the two banks for the study period.

IV. METHODOLOGY

This study employed mainly the quantitative approaches to research. Kothari (2008) observes that there are two basic approaches to research namely, quantitative and qualitative approaches. Whereas quantitative approach generates data in quantitative form, the qualitative approach is concerned with assessment of attitude, opinions and behaviour (Kothari, 2008). Data in quantitative form were generated when establishing the levels of NPAs in banks, the amount of loans given out and related information concerning incidences of NPAs.

A number of documents were inspected to provide secondary data. The most important were the banks' financial statements for the period under review. Twenty-eight (28) quarterly financial statements of each bank for the period 2008 to 2014 were examined. The financial statements provided information about the amount of NPAs and other line items for each bank in each period. This made it possible to relate the NPAs with other pertinent financial statements items. On the basis of the line items, important measures related to NPAs like loan growth ratio, loan asset ratio, etc could easily be computed and related to the amounts of NPAs in each period.

The collected data were sorted, coded, classified and analysed accordingly. To the extent possible, classified data were tabulated to facilitate analysis. Quantitative techniques were employed to analyse quantitative data especially those derived from banks' financial statements. Use was made of the Microsoft Excel program and the Statistical Package for Social Sciences (SPSS) for quantitative as well as descriptive analysis. Standard regression analysis was conducted to establish relations between variables that were hypothesized to affect NPAs. Frequency tables and charts were formulated to explain important findings. The important tools of analysis employed included mean, standard deviation, variance, t-test, F-test, R Square, and beta coefficient.

V. ANALYSIS OF FINDINGS

5.1 Relative amounts of NPAs and determining variables for the banks

The magnitude of NPAs and the variables hypothesized to influence the levels of NPAs in the two banks were determined and the findings are summarized in table 1 below.

Table 1: Level of NPA and the determining variables 2008 – 2014

Variable	SBI	CRDB
NPA RATIO		
Mean	4.04%	8.15%
Standard deviation	1.08%	2.41%
LOAN-ASSET RATIO		
Mean	63.89%	53.95%
Standard deviation	4.32%	5.61%
LOAN GROWTH PERCENTAGE		
Mean	4.25%	6.33%
Standard deviation	2.96%	7.82%
CAPITAL-ASSET RATIO		
Mean	6.12%	10.34%
Standard deviation	0.43%	0.63%
INEFFICIENCY PERCENTAGE		
Mean	49.34%	55.03%
Standard deviation	4.74%	5.16%

INTEREST SPREAD		
Mean	0.65%	3.43%
Standard deviation	0.12%	0.29%

Source: Researchers construction from gathered data

The relative amount of NPAs for the CRDB bank exceeded that of the SBI for the whole period under study. The mean NPA ratio for CRDB was 8.15% while that of SBI was 4.04%. This suggests that the loss suffered on account of NPAs by the CRDB was about 200% of the loss suffered by the SBI. On testing the significance of the difference of the two means, it was found that the difference was significant at 1% level of significant ($t = 8.226$; $p < 0.001$). This particular observation was not in any way a surprise since the reports of the two countries' central banks showed that for the period 2007 to 2013, the levels of NPAs in the two countries were such that commercial banks in Tanzania suffered almost three times as much as their Indian counterparts.

Five variables were analysed to find their influence on NPAs for the two banks. The variables were the loan –asset ratio (LAR), the loan growth percentage (LG), the capital-asset ratio (CAR), inefficiency (EFF) and interest spread (INTS).

The mean LAR for SBI significantly exceeded that of CRDB at 1% level of significance ($t = -7.429$; $p < 0.001$). This indicates that SBI was a more risk taker than CRDB and therefore more likely to suffer more NPAs but also more likely to earn more profit. The CAR for the CRDB was significantly higher than that of SBI at 1% level of significance ($t = 29.348$ and $p < 0.001$). This implies that SBI was a more leveraged bank than the CRDB and therefore more risky since the amount of debt in its capital structure exceeded that of CRDB. However, the bank had the potential of earning more profit although existing literature also suggest that its likelihood of suffering more NPAs was also higher.

The mean LG percentage for CRDB was significantly higher than that of SBI at 10% significance level ($t = 1.315$ and $p = 0.098$). Under such circumstances, the CRDB was more likely to incur more NPAs than the SBI on account of loan growth. The mean EFF for CRDB was significantly higher than that of SBI at 1% level of significance ($t = 4.292$ and $p < 0.001$). Since the CRDB was more inefficient (less efficient) in cost control, it was likely to suffer more NPAs than SBI on account of cost inefficiency.

INTS being the difference between lending and borrowing interest rates was found to be significantly higher for CRDB at 1% level of significance ($t = 8.226$ and $p < 0.001$). Having a higher interest spread CRDB was made more likely to suffer NPAs compared with SBI because their borrowers would find it more expensive to repay their loans compared with the customers (borrowers) of SBI.

5.2 Influence of the determining variables on NPAs

Influence of the determining variables on NPAs was determined by running a standard regression taking LAR, CAR, LG, EFF and INTS as the independent variables while NPA ratio was the dependent variable. The result of regression shows that only two and three (of the five) variables had a significant influence on the level of NPAs incurred by CRDB and SBI respectively. LAR was the only common variable that had a significant influence for the NPA level for both banks.

Table 2 below presents the details of the variables that were observed to have significant influence on the level of NPAs incurred by the banks.

Table 2: Variables observed to have a significant influence on NPAs level

Variable	SBI	CRDB
LOAN-ASSET RATIO		
Beta coefficient	0.185	-0.394
P value	< 0.001	0.001
LOAN GROWTH PERCENTAGE		
	<i>not significant</i>	
Beta coefficient		0.151
P value		0.049

CAPITAL-ASSET RATIO		<i>not significant</i>
Beta coefficient	0.493	
P value	0.070	
INEFFICIENCY PERCENTAGE		<i>not significant</i>
Beta coefficient	0.047	
P value	0.048	

Source: Researchers construction from SPSS output

LAR had a positive influence on the NPA level for the SBI (beta = 0.185 and $p < 0.001$) although its influence on the level of NPAs for CRDB was negative (beta = -0.394 and $p = 0.001$). The explanation for a negative coefficient (beta) might be that the changes in this ratio had been such insignificant that changes in other variables that determined NPA could cause the level to increase even when the LAR was decreasing. The LAR beta for SBI was positive indicating that as more loans were issued in relation to its assets, the NPAs for the bank increased. LG had a significant positive influence on the incurrence of NPAs for the CRDB (beta = 0.151 and $p = 0.049$). This variable was deemed significant at 5% for CRDB although its influence on the NPAs of SBI was insignificant. These results tell that as the CRDB intensify its efforts to increase its level of loans, it also increases its level of NPAs.

The SBI had two other variables that had a significant positive influence on its level of NPAs. These were CAR (beta = 0.493 and $p = 0.070$) and EFF (beta = 0.047 and $p = 0.048$). These results show that CAR had a significant influence at 10% level and EFF at 5% level. The lesson obtainable is that as CAR increased, the SBI found it safer to issue more loans since the risk involved was not as much as using creditors' money to lend to customers. INTS was found to have no significant influence on the NPAs for any of the banks.

VI. CONCLUSION AND RECOMMENDATION

6.1 Conclusions

Based on the findings of the study, the following conclusions are made:

- i. The level of NPAs suffered by the CRDB bank of Tanzania is significantly higher than that suffered by the SBI. There are several reasons for this situation including the fact that the environments in which the banks are operating is also different.
- ii. The SBI is more aggressive in giving out loans which is the core activity of any bank or financial institution. This is derived from the fact that the amount of SBI's loans relative to its assets (LAR) was significantly higher than that of CRDB.
- iii. The influence of LAR, CAR, LG, EFF and INTS on the levels of NPAs differ between the banks. Whereas the level of CRDB's NPAs was found to be significantly influenced by LAR and LG, the level of NPAs for SBI was influenced by LAR, CAR and EFF. One variable, INTS, did not have a significant influence on the NPAs level of any of the banks.

6.2 Recommendations

This study explored internal determinants of NPAs, focusing the CRDB of Tanzania and the SBI of India as the cases under study. From the findings made out of the research, the followings recommendations are made:

- i. It was observed that the SBI's LAR significantly exceeded that of CRDB implying that the SBI had more appetite for risk thereby giving more loans relative to its asset size in anticipation of higher returns in terms of profits. Since the LAR was a significant determinant of NPAs for the bank, it can be argued that the level of the SBI's NPAs in relation to its total loans issued could be reduced if fewer loans were issued. It is therefore recommended that the SBI bank

should review its lending policy and tighten its loan eligibility criteria in order that only customers capable of willingly repay the amounts borrowed funds are allowed credit from the bank.

- ii. The CRDB appear to underutilize its assets. Its LAR is significantly lower than that of SBI. Apparently, the bank has recognized that weakness and has started to be aggressive in the credit market to the extent that its loans have been growing at a faster rate than that of SBI (its LG is significantly higher than that of SBI). However, the LG for CRDB has been observed to be a significant determinant of NPAs for the bank. In this respect, it is recommended that in the endeavours to increase its customer (borrowers base), CRDB should not compromise its principles of screening applicants to ensure only qualified applications are granted loans.

References

1. Ahmad, F. & Bashir, T. (2013). Explanatory power of bank specific variables as determinants of non-performing loans: Evidence from Pakistan banking sector. *World Applied Sciences Journal*, 22, 9, 1220-1231.
2. Bihari, J. K. (2012) A study on NPA management in Indian banking industry. *Asian Journal of Research in Business Economics and Management*, 2, 6, 126-145.
3. Chijoriga, M. (2000). The interrelationship between bank failure and political interventions in Tanzania in the pre-liberalisation period. *African Journal of Finance and Management*, 9, 1, 14-30.
4. Collins, N. & Wanjau, K. (2011). The effects of interest rate spread on the level of non-performing assets: A case of commercial banks in Kenya. *International Journal of Business and Public Management*, 1, 1, 58-65.
5. Dash, M. K. & Kabra, G. (2010) The Determinants of non-performing assets in Indian commercial bank: An econometric study. *Middle Eastern Finance and Economics*, 7, 94-106.
6. Ghosh, Saibal. (2005). Does leverage influence non performing loans? Evidence from India. *Applied economics letters*, 12, 15, 913-918.
7. Joseph, M. T., Edson, G., Manuere, F., Clifford, M. & Michael, K. (2012). Non performing loans in commercial banks: A case of CBZ Bank Limited in Zimbabwe. *Interdisciplinary Journal of Contemporary Research in Business*, 4, 7, 467-488.
8. Kaur, H. & Saddy, N. K. (2011). A comparative study of non-performing assets of public and private sector banks. *International Journal of Research in Commerce & Management*, 2, 9, 82- 89.
9. Kothari, C. R. (2008). *Research methodology: Methods and techniques*. New Delhi, India: New Age International Publishers.
10. Rao, K., Rao, Y. & Kumar, K. (2012). Management of non performing assets in Indian banks- A qualitative analysis. *IQRA International Management Journal*, 1, 1, 100-109.
11. Rao, R. V. & Nirmada, D. (2006). Performance evaluation of urban co-operative banks. *The Indian Journal of Commerce*, 59, 4.
12. Richard, E (2010). Factors that cause non – performing loans in commercial banks in Tanzania and strategies to resolve them. *Journal of management policy and practice*, 12, 7, 50-58.
13. Siraj, K. K. & Pillai, P.S. (2013). Efficiency of NPA management in Indian SCBs – A bank-group wise exploratory study. *Journal of Applied Finance & Banking*, 3, 2, 123-137.
14. Veerakumar, K. (2012). Non-performing assets in priority sector: A threat to Indian Scheduled Commercial Banks. *International Research Journal of Finance and Economics*, 93, 6-23.