A Comparative Analysis of Selected Public Sector Banks with Reference to Management of Non-Performing Assets

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Introduction

Economic growth and development process of a country depends on its banking system. This banking system primarily includes the public sector banks and private sector banks. According to the world bank, inspite of several reforms being introduced in Indian Banking sector such as improvement in transparency of funds in real estate sector, system of unique identification number, codes of bankruptcy etc. the Banking system in India is still at crossroads[1]. While there are instances of public sector commercial banks working towards clearing non-performing assets, there's still considerable amount of efforts to be done for a sustainable and strong banking sector. The banking regulatory bodies have prescribed creation of provisions for regulations of bad assets[2]. In other words, banks now have to continuously monitor and regulate the amount of loans and provisions made to accommodate for any losses. It becomes the responsibility of the banking regulatory bodies to keep an eye on the banks taking excessive risks with respect to advancing loans however there always remains a possibility that banks in expectation of higher earnings and profits would take extra risk in giving the loans. Hence, it becomes important to analyse the efficiency and performance of the commercial banks in relation to non-performing assets. The present study analyses the performance of top 5 public sector banks with special reference to the Non-Performing Assets.

Accepting deposit and advancing loans is the primary function of the commercial banks. When commercial banks advance loans, there are instances when the banks fail to recover the money i.e., principal and interest for e.g., if a bank lends Rs.100 Crores to an individual or an institution and the individual or an institution fails to repay the amount then the bank would classify this outstanding as non-Performing assets. In banking terms, a loan or advance for which the principal or interest payment has remained overdue for a period of 90 days is termed as non-performing assets. On the basis of the time period for which the amount (principal and interest) remains overdue the banking regulations require these non-performing assets to be classified into substandard assets, Doubtful assets or loss assets[3]. The management of non-performing assets reflects the managerial efficiency of the banks. The public sector banks in India are facing a significant increase in the amount of Non-PerformingAssets. Increasing non-performing assets for public sector banks is a burning and critical issue not only for the entire banking sector but for the Indian economy as well. According to RBI the sum of all loan assets which have been classified as NPA are termed as Gross NPA. NPA of any bank is considered as a crucial financial component in analyzing the managerial efficiency and performance of a bank. NPA and related ratios provide an outlook about the asset quality of the banks which can be compared with other banks[4].

Objective of the study

The primary objective of the present study is to analyse and compare the performance of selected public sector banks during past 5 financial years with special reference to performance related to management of non-performing assets. The present study will analyse and compare the gross and net NPA in relation to the gross advances and total assets of top five public sector banks.

Research Methodology

The present study is descriptive and analytical in nature. The present study makes use of past year financial statement of selected public sector banks hence, can be said to be primarily based on secondary data. This data has been collected from the Annual Reports available on the Bank's website. Based on the market capitalization the researcher has selected top five public sector commercial banks viz. State Bank of India (SBI),Bank of Baroda (BOB),Punjab National Bank (PNB), Canara Bank and Bank of India (BOI).

The period of the present study is limited to last five financial years i.e. 2014-2018. For the purpose of comparison five ratios i.e. (Gross NPAs to Gross Advances Ratio, Gross NPA to Total Assets Ratio,Net NPAs to Net Advances, Net NPAs to Total Assets and Gross NPAs Ratio to Net NPAs Ratio)have been selected which represent the managerial efficiency in management of Gross and net non-performing assets.

For the purpose of analyzing data using statistical tools hypothesis have been made as "There is no significant difference between the managerial efficiency of selected banks (using five different ratios as mentioned above) in management of gross and net NPA's during the period of study".

The collected data is analysed using Ratio Analysis and ANOVA (at 5% level of significance). ANOVA test is used to analyse significant difference between the ratios of selected public sector banks. The average value of the ratios may seem close or distant however to check the reliability of this observation ANOVA is being used. The results of ANOVA would provide whether there exists a significant difference between the banks performance or the difference between the average is merely by chance. The results of ANOVA using MS-Excel are summarized in tabular form. The performance of selected banks on the basis of calculated ratio would be similar if the value of F calculated abbreviated as (F) is less than F critical abbreviated as (F crit) and vice versa[5].

Data Analysis

Gross NPA Ratio is the ratio of total gross NPA to total advances (loans) of the bank. This ratio indicates the financial stability and sustainability of the banks. If this ratio is higher, it implies that the financial stability and sustainability of the bank is weak and vice versa. In other words, the lower the ratio the better it is. Banks with higher ratio should try to control this ratio[6]. The table below presents the gross NPA's to gross advance ratio for selected banks for the past five years.

Table-1 Gross NPAs to Gross Advances Ratio (Figures in %)

	2018	2017	2016	2015	2014	Average	SD
State Bank of India (SBI)	10.91	6.90	6.50	4.25	4.95	6.70	2.59
Bank of Baroda (BOB)	12.26	10.46	9.99	3.72	2.94	7.87	4.24
Punjab National Bank (PNB)	18.38	12.53	12.90	6.55	5.25	11.12	5.32
Canara Bank	11.84	9.63	9.40	3.89	2.49	7.45	4.03
Bank of India (BOI)	16.58	13.22	13.07	5.39	3.15	10.28	5.72

Source: Compiled from Annual reports of Bank

The gross NPA to Gross Advances ratio for State Bank of India is lowest whereas it is highest for Punjab national Bank among the selected banks in the past five years. On the basis of lowest average ratio SBI ranks first among the selected banks while Punjab National bank ranks last. The high value of Standard deviation for Bank of India and Punjab National Bank implies inconsistent performance in maintaining gross NPA to Gross Advances ratio whereas low value of Standard deviation for State Bank of India implies that the bank has maintained consistent gross NPA to Gross Advances ratio.

Table-2 Table Showing Analysis of Variance (ANOVA) of Gross NPAs to Gross Advances

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	73.02304	4	18.25576	0.894789	0.485356	2.866081
Within Groups	408.04576	20	20.402288			
Total	481.0688	24				

The table above clearly indicates that the value of F calculated (F) is less than F critical (F crit) implying there is no significant difference between the selected banks with reference to average of Gross NPAs to Gross Advances Ratio contradicting the results as observed using simple average of ratios.

Gross NPA to Total Assets Ratio is the ratio of gross NPA to total assets of the bank. This ratio also indicates the financial stability and sustainability of the banks. If this ratio is higher, it implies that the financial stability and sustainability of the bank is weak and vice versa. In other word the lower the ratio the better it is. Banks with higher ratio should try to control this ratio. The table below presents the Gross NPA to Total Assets Ratio for selected banks for the past five years.

Table-3 Gross NPA to Total Assets Ratio (Figures in %)

	2018	2017	2016	2015	2014	**Average**	**SD**
State Bank of India (SBI)	6.47	4.15	4.16	2.77	3.44	4.20	1.39
Bank of Baroda (BOB)	7.84	6.15	6.04	2.27	1.8	4.82	2.65
Punjab National Bank (PNB)	11.31	7.69	8.36	4.26	3.43	7.01	3.21
Canara Bank	7.69	5.86	5.72	2.38	1.54	4.64	2.58
Bank of India (BOI)	10.22	8.31	8.18	3.59	2.07	6.47	3.47

Source: Compiled from Annual reports of Bank

The gross NPA to Total assets ratio for State Bank of India is lowest whereas it is highest for Punjab national Bank among the selected banks in the past five years. On the basis of lowest average ratio SBI ranks first among the selected banks while Punjab National bank ranks last. The high value of Standard deviation for Bank of India and Punjab National Bank implies inconsistent performance in maintaining gross NPA to Total assets ratio whereas low value of Standard deviation for State Bank of India, Canara Bank and Bank of Baroda implies that the bank has maintained consistent gross NPA to Total assets ratio.

Table-4 Table Showing Analysis of Variance (ANOVA) of Gross NPAs to Total Assets

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	30.51752	4	7.62938	1.006280333	0.427592003	2.866081402
Within Groups	151.63528	20	7.581764			
Total	182.1528	24				

The table above clearly indicates that the value of F calculated (F) is less than F critical (F crit) implying there is no significant difference between the selected banks with reference to average of Gross NPAs to Total Assets contradicting the results as observed using simple average of ratios.

Net NPAs to Net Advances Ratio represents relationship between amounts of Net NPAs to Advances in percentage (%) terms. This ratio acts as indicator of the financial stability and sustainability of the banks. If this ratio is higher, it implies that the financial stability and sustainability of the bank is weak and vice versa. In other word the lower the ratio the better it is. Banks with higher ratio should try to control this ratio. The table below presents the gross NPA's to gross advance ratio for selected banks for the past five years.

Table-5 Net NPAs to Net Advances Ratio (Figures in %)

	2018	2017	2016	2015	2014	Average	SD
State Bank of India (SBI)	5.73	3.71	3.81	2.12	2.57	3.59	1.40
Bank of Baroda (BOB)	5.49	4.72	5.06	1.89	1.52	3.74	1.88
Punjab National Bank (PNB)	11.24	7.81	8.61	4.06	2.85	6.91	3.43
Canara Bank	7.48	6.33	6.42	2.65	1.98	4.97	2.48
Bank of India (BOI)	8.26	6.9	7.79	3.36	2	5.66	2.81

Source: Compiled from Annual reports of Bank

The Net NPA to Net advances ratio for State Bank of India is lowest whereas it is highest for Punjab national Bank among the selected banks in the past five years. On the basis of lowest average ratio SBI ranks first among the selected banks while Punjab National bank ranks last. The highest value of Standard deviation for Punjab National Bank implies inconsistent performance in maintaining Net NPA to Net advances ratio whereas lowvalue of Standard deviation for State Bank of India and Bank of Baroda implies that these banks have maintained consistent Net NPA to Net advances ratio.

Table-6 Table Showing Analysis of Variance (ANOVA) of Net NPAs to Net Advances

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	38.45294	4	9.613234	1.536771	0.22974	2.866081
Within Groups	125.1095	20	6.255474			
Total	163.5624	24				

The table above clearly indicates that the value of F calculated (F) is less than F critical (F crit) implying there is no significant difference between the selected banks with reference to average of Net NPAs to Net Advances contradicting the results as observed using simple average of ratios.

Net NPAs to Total Assets Ratio represents relationship between amounts of Net NPAs to Total assets in percentage (%) terms. This ratio also is an indicator of the financial stability and sustainability of the banks. If this ratio is higher, it implies that the financial stability and sustainability of the bank is weak and vice versa. In other words, the lower the ratio the better it is. Banks with higher ratio should try to control this ratio. The table below presents the net NPA's to total assets ratio for selected banks for the past five years.

Table-7 Net NPAs to Total Assets Ratio (Figures in %)

	2018	2017	2016	2015	2014	Average	SD
State Bank of India (SBI)	3.21	2.15	2.37	1.35	1.73	2.162	0.70
Bank of Baroda (BOB)	3.26	2.6	2.89	1.13	0.92	2.160	1.06
Punjab National Bank (PNB)	19.97	13.2	13.54	6.75	5.41	11.77	5.88
Canara Bank	4.63	3.71	3.77	1.59	1.21	2.98	1.50
Bank of India (BOI)	4.63	4.04	4.59	2.18	1.29	3.35	1.52

Source: Compiled from Annual reports of Bank

The Net NPA to Total Assets ratio for State Bank of India is lowest whereas it is highest for Punjab national Bank among the selected banks in the past five years. On the basis of lowest average ratio SBI ranks first among the selected banks while Punjab National bank ranks last. The highest value of Standard deviation for Punjab National Bank implies inconsistent performance in maintaining Net NPA to Total Assets ratio whereas lowvalue of Standard deviation for State bank of India, Bank of Baroda, Canara Bank and Bank of India imply that these banks have maintained consistent Net NPA to Total Assets ratio.

Table-8 Table Showing Analysis of Variance (ANOVA) of Net NPAs to Total Assets

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	337.439	4	84.35976	10.36364	0.000103	2.866081
Within Groups	162.7994	20	8.13997			
Total	500.2384	24				

The table above clearly indicates that the value of F calculated (F) is more than F critical (F crit) implying there is a significant difference between the selected banks with reference to average of Net NPAs to Total Assets supporting the results as observed using simple average of ratios.

Gross NPA to Net NPA Ratio represents the relationship between amounts of Gross NPA to Net NPA Ratio in percentage (%) terms. This ratio also is an indicator of the financial stability and sustainability of the banks. If this ratio is high, it implies that the financial stability and sustainability of the bank is strong and vice versa. In other words, the higher the ratio the better it is. Banks with lower ratio should try to control this ratio. The table below presents the gross NPA's to gross advance ratio for selected banks for the past five years.

Table-9 % of Gross NPA to Net NPA Ratio (Figures in %)

	2018	2017	2016	2015	2014	Average	SD
State Bank of India (SBI)	1.90	1.86	1.71	2.00	1.93	1.88	0.108
Bank of Baroda (BOB)	2.23	2.22	1.97	1.97	1.93	2.06	0.148
Punjab National Bank (PNB)	1.64	1.60	1.50	1.61	1.84	1.64	0.125
Canara Bank	1.58	1.52	1.46	1.47	1.26	1.46	0.120
Bank of India (BOI)	2.82	2.01	1.92	1.68	1.60	2.01	0.485

Source: Compiled from Annual reports of Bank

The Gross NPA to Net NPA ratio for Bank of Baroda is highest whereas it is lowest for Canara Bank among the selected banks in the past five years. On the basis of highest average of ratio Bank of Baroda ranks first among the selected banks while Canara bank ranks last. The low value of Standard deviation all the five banks (selected for the study) imply that the banks have maintained their Net NPA to Total Assets ratio consistently.

Table-10 Table Showing Analysis of Variance (ANOVA) of Gross NPAs to Net NPAs

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.306584	4	0.326646	5.465049	0.003857	2.866081
Within Groups	1.1954	20	0.05977			
Total	2.501984	24				

The table above clearly indicates that the value of F calculated (F) is greater than F critical (F crit) implying there is a significant difference between the selected banks with reference to average of Gross NPAs to Net NPAs supporting the results as observed using simple average of ratios.

Conclusion

The table below summarises the findings of the study

Ratio	Fcal	Ftab	Result	Findings
Gross NPAs to Gross Advances Ratio	0.894789	2.866081	Fcal<Ftab	Ho: Accepted There is no significant difference in Gross NPAs to Gross Advances Ratio among the Private Banks.
Gross NPAs to Total Assets Ratio	1.0062803	2.8660814	Fcal<Ftab	Ho: Accepted There is no significant difference in Gross NPAs to Total Assets Ratio among the Private Banks.
Net NPAs to Net Advances Ratio	1.536771	2.866081	Fcal<Ftab	Ho: Accepted There is no significant difference in Net NPAs to Net Advances Ratio among the Private Banks.
Net NPAs to Total Assets Ratio	10.36364	2.866081	Fcal>Ftab	Ho: Rejected There is a significant difference in Net NPAs to Total Assets Ratio among the Private Banks.
Gross NPAs to Net NPAs Ratio	5.465049	2.866081	Fcal>Ftab	Ho: Rejected There is a significant difference in Gross NPAs to Net NPAs Ratio among the Private Banks.

The table above concludes that there is no significant difference in financial stability and sustainability of the selected banks in terms of the Gross NPAs to Gross Advances Ratio, Gross NPAs to Total Assets Ratio and Net NPAs to Net Advances Ratio however there is a significant difference in financial stability and sustainability of the selected public sector banks in terms of the Net NPAs to Total Assets Ratio and Gross NPAs to Net NPAs Ratio. The performance of State Bank of India in maintaining gross NPA to Gross Advances ratio, gross NPA to Total assets ratio, Net NPA to Net advances ratio and net NPA's to total assets ratio is better than other public sector banks. Out of the five public sector banks the State bank of India has fared well on most of the dimensions.

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