A Study on Impact of Non-Performing Assets on Banks' Liquidity and Profitability

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***Abstract*- Non-Performing asset (NPA) denotes a classification for loans or advances that are if the scheduled payments of principal or interest amount default are in arrears. In most cases, when loan amount have not been paid for a period of 90 days then debt is classified as non –performing assest. Non-Performing Assets in Indian Banks are considered as the wealth, health & financial status of the industry and trade is the reflection of it. The accruing NPA exposes the banks to higher credit risk, rising due to the failure of non-recovery of loans. This study is make as attempt to analyse such impact of NPA on Bank's performance. The methodology adopted for the study is by calculating select Liquidity and Profitability ratios and performing statistical tools to understand the relationship between liquidity and profitability of the banks and to measure the impact of NPA on Bank's performance. The study revealed liquidity of the bank have a positive relation and profitability has a negative correlation with NPAs of the bank. Also, the findings reflect a major impact of NPA on Liquidity and a very less impact on Profitability. Suggestions have also been given such that, Allahabad Bank can reduce the amount of accumulated NPAs. Effective NPA Management has become very vital in view of the multifarious impact NPAs have on profitability.**

***Index terms*- Bank Performance, Gross NPA, Liquidity, Net NPA, Profitability**

INTRODUCTION

After liberalization the growth of Indian banking sector was much appreciated. The RBI took initiation to nationalize many commercial banks proving socio economic services to the people of the nation. The public Sector banks have shown remarkable performance with respect to the financial operations. The drastic increase in the non-performing assets is the only problem that hampers the possible financial performance of the public Sector Banks. These non-performing assets have extremely impacted the working of the banks. The efficiency of a bank is reflected both by the size of its Balance sheet and the level of return on its assets. As NPAs do not generate interest income for its Bank, thus it is mandatory for the banks to make provisions for such NPAs from their current profits.

Though RBI has also tried to develop many schemes and tools to reduce the Non- Performing assets, it could not succeed fully. In order to improve NPAs each bank should be motivated to introduce their own strategies. Bank must evaluate the borrower's credit worthiness; evaluate the feasible financial and operational prospective results, before lending.

The banking business is of mobilizing the deposits and utilizing it for lending. Lending business is generally encouraged because it has the effect of funds being transferred from the system to production purposes which results into economic growth. One of the major threats to the health of the Indian banking system comes from the high level of Non-Performing Assets (NPAs). NPAs of banks are the loans which are unlikely to be paid. This means either interest or principle payments have been outstanding on these loans for more than 90 days. Increasing NPAs have a direct impact on bank's profitability as legally banks are forced to make provisions on such assets as per the RBI guide lines. Banking system in our country is burdened with a huge volume of Non-Performing Assets or loans on which borrowers have defaulted on interest and amortization of payment. Evidences show that Allahabad Bank was also involved in the recent NPA issues that spurt in the market. Therefore, the researcher found it apt to conduct a study on the NPAs with special reference to Allahabad Bank.

REVIEW OF LITERATURE

D.D Dubey (2018) in a study on Non-Performing Assets (NPA), found the impact of NPAs in the banks across the world have adverse effect on economic development. NPA can possibly be stated to be relating to lending gone bad, but it can possibly be related to various processes and systems which were unable to reject unfavorable borrowers at the right time, leading to their build up. The study concluded that non-performing assets is a huge problem for any bank and need to be handled in order to preserve the financial health of the bank and the entire financial system.

Vivek Rajbahadur Singh (2017) in research on, "A Study of Non- Performing Assets of Commercial Banks and it's recovery in India" studied the status of NPAs and its impact on commercial banks. The study revealed that Gross NPAs of select commercial banks had increased from Rs. 708 Billion in year ending 2001 to Rs 2642 Billion in the year ending 2013 and Net NPAs of scheduled commercial banks had increased from Rs.355 Billion in the year 2000- 01 to Rs. 986 Billion by the year 2012-13. Additionally, study revealed that NPAs as a percentage of net advances was lowest at 1.0 % in the years 2007-08 & 2008-09 and it was the highest at 5.5 % in the year 2001-02. In the year 2013-14, it was at 2.2%. it was further suggested that the management of banking sector to adopt better strategies for the speedy recovery of the NPAs.

Dubey, D.D. &Binilkumar, A.S. & Chattopadhyay, Utpal& Gupta, V. (2016) highlighted, RBI‟s financial stability report, June, 2016 states that the problems in banking sector were tremendously increasing due to deteriorated asset quality and decreasing profitability, as systemic risk had increased because of changes in the nature of bank exposure. The study revealed that restructuring & recapitalization process had resulted in decline in the ratio of gross NPAs to gross advances from 15.7 % in 1996-97 to 2.3 % in the year 2008-09. However, since then there is a trend reversal, with the NPA ratio increasing to 3.4 % in 2012-13, 4.6 % in 2014-15 and7.6percent in 2015-16.

Narula and Singla (2014) in their study attempted to measure the NPAs of Punjab National Bank and its impact on its profitability & also to evaluate the association between Total Advances, Net Profits, Gross NPAs and Net NPAs during 2007-2012. It was concluded that there was a positive relation between Net Profit & NPAs of Punjab National Bank and the reason was due to mismanagement in the conduct of banking system.

Sulagna Das, Abhijit Dutta (2014) in their study on NPAs in public sector banks in India, the researchers used secondary data of net non-performing assets of 26 public sector banks for the period of six years (2008 to 2013). The study aimed at evaluating any mean variation of NPAs of select banks. Study was also investigated the causes of NPAs and its impact on banking operations. The study revealed that there was no significant difference between the means of NPA of the banks at 5% level of significance. Hence, it was concluded that in the recent years, most of the banks had similar NPAs irrespective of their operations and management policies.

Prof Ganesan. D. and Prof Santhanakishnan. R. (2013) made an attempt in their study to analyse the category wise and sector-wise NPAs, and impact of spread on NPAs. The study emphasised on the reasons for an assets becoming NPA and remedial measures to be taken and resolved that due to various steps initiated by the Government of India, NPAs had been reduced to considerable level.

RESEARCH METHODOLOGY

The main objectives of the study are to Evaluate NPAs of Allahabad Bank, to understanding the relationship between NPA, Liquidity, and Profitability and to analyse the impact of NPAs on the Liquidity and Profitability position of Allahabad Bank. The Data required for the study are collected through secondary sources, like Annual General Meeting Reports, Financial statements of the Bank, articles, newspapers and journals etc.

For the study, Gross NPA, Net NPA, liquidity ratio (Capital Adequacy Ratio, Cash to Total deposit ratio and Cash to Total asset Ratio) and Profitability ratio (Return on Equity, Return on Assets, P/E ratio, Asset turnover ratio) are calculated for a period of 5 years i.e.2016 to 2020. To find the association between NPAs and liquidity and profitability of the bank correlation coefficient is calculated using those ratios. Finally to find the impact of NPS on liquidity and profitability of the bank regression analysis is performed using SPSS 21.0. To understand the association an impact of NPAs and profitability and liquidity position the following hypotheses are framed.

H_{01}: NPAs and liquidity position of a Allahabad Bank are positively correlated.

H02: NPAs and Profitability of Allahabad Bank are positively correlated.

H03: There is no impact of NPA on the Bank's Liquidity and Profitability.

ANALYSIS AND DISCUSSION

Gross non-performing assets are the sum of all the unpaid loans which are classified as non-performing loans. Gross NPA (non-performing asset) refers to overall quantity of loans that have gone bad and doubtful debts.

Net non-performing assets are the sum of the non-performing loans less provision for bad and doubtful debts. Generally banks tend to provide a precautionary amount to cover the unpaid debts. Therefore, if provision for unpaid debts are deducted from the unpaid debts, the resulting amount is referred as net non-performing assets.

It was observed that, from the past three years, the Gross NPA is increasing thereby assuming to have an impact on Equity and Company's goodwill. It also indicates the low credit portfolio of bank. And during 2017 bank records the maximum % NPA ratio impacting the profitability and liquidity position. The reasons may be due to the changes in Economic conditions of the country, industrial sickness along with the post-demonetization effect& GST policy.

Table no. 1, showing Gross NPA, % Gross NPA, Net NPA and % Net NPA

Year	Gross NPA (in Cr)	% Gross NPA	Net NPA (in Cr)	% Net NPA
2016	8068.04	6	5721081	4
2017	20687.83	13.09	13433.51	8.92
2018	26562.76	15.96	12229.13	8.04
2019	8357.97	5.46	5978.88	6.99
2020	15385	9.76	10293	6.76

Source: Compiled and computed from Annual Reports of the Bank

Liquidity Measures:

The capital adequacy ratio (CAR) measures the bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures. The capital adequacy ratio, also known as capital-to-risk weighted assets ratio (CRAR), is used to protect depositors and promote the stability and efficiency of financial systems.

Cash to total deposits ratio: Cash Deposit ratio (CDR) is the ratio of how much a bank lends out of the deposits it has mobilised. It indicates how much of a bank's core funds are being used for lending, the main banking activity. It can also be defined as Total of Cash in hand and Balances with RBI divided by Total deposits.

Cash to total asset ratio: The cash asset ratio is the current value of marketable securities and cash, divided by the company's current liabilities. Also known as the cash ratio, the cash asset ratio compares the amount of highly liquid assets (such as cash and marketable securities) to the amount of short-term liabilities. This figure is used to measure a firm's liquidity or its ability to pay its short-term obligations. Thus these ratios are calculated for the said period and tabulated in Table-2.

Table no. 2. Showing the liquidity ratios utilized

Year	Capital Adequacy Ratio (%)	Cash to total Deposits (%)	Cash to Total Asset Ratio (%)
2016	9.96	4.62	2.48
2017	10.445	4.99	3.302
2018	11.23	4.72	4.45
2019	11.6	4.25	5.74
2020	8.83	4.34	4.84

Source: Complied and computed from Annual Reports of Bank

Table no 2, remarks that Capital Adequacy Ratio of the bank for the past five years is more than the minimum ratio i.e 8% hence, the bank is performing well in terms of its Capital Adequacy Ratio. Also, the higher Cash to total deposits ratio, higher is the Liquidity position of the Bank. Highest Cash to total deposits ratio is observed in the FY 2016-17. Furthermore, it is evident that there has been a fluctuation in the cash to total asset ratio due to reasons like increase in Gross NPA, increase in wilful defaulters etc. The ratio measures the proportion of the Bank's assets held in cash or marketable securities. A lower ratio indicates that the bank relies too heavily on inventory to meet its obligations.

Profitability Measures:

Return on Equity (ROE) is considered as a measure of how effectively management is using a company's assets to create profits. ROE is expressed as a percentage and can be calculated for any company if net income and equity are both positive numbers.

Return on assets provides how much profit a company is able to generate from its assets. In other words, return on assets (ROA) measures how efficient a company's management is in generating earnings from their economic resources or assets on their balance sheet.

The price-to-earnings ratio (P/E ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings (EPS). The price-to-earnings ratio is also sometimes known as the price multiple or the earnings multiple.

The asset turnover ratio measures the value of a company's sales or revenues relative to the value of its assets. The asset turnover ratio can be used as an indicator of the efficiency with which a company is using its assets to generate revenue. The higher the asset turnover ratio, the more efficient is the bank. Conversely, if the bank has a low asset turnover ratio, it indicates it is not efficiently using its assets to generate sales.

The measures of profitability are calculated and tabulated in table no. 3.

Table no. 3, showing the profitability ratios utilized

Year	ROE (%)	ROA (%)	P/E Ratio (%)	Asset turnover ratio (%)
2016	2.152035401	0.53	-3.966798	9.52
2017	-1.086667367	-0.27	-8.630378	9.59
2018	-1.210997067	-0.31	-4.18375	8.91
2019	-0.421573505	-0.13	1.68349	8.66
2020	-5.538090612	-1.86	0.81083	7.61

Source: Complied and computed from Annual Reports of Bank

Table no. 3 indicates that for the past four years the bank shows a negative ROE. Years 2017 to 2020 reflect a negative return which indicates that the shareholders could not receive any dividends. Also, the table no. 3 remarks that the ROA of the bank was far more in 2016 than from 2017 to 2020. The possible reasons could be the impact on NPA, economic changes like change in income, new and stringent tax policies etc. A higher P/E ratio could mean that a stock's price is high relative to earnings. However, when we look at table no 3, we see that the years 2018, 2017, 2016 have a negative P/E ratio which clearly shows that the earnings per share derived by the is in absolute negative and that the earnings through the share price of the bank in the market is next to zero. Furthermore, table no. 3 shows how the years 2016 and 2017 mark the highest Asset Turnover ratio as against the other years.

RELATIONSHIP BETWEEN NPA AND LIQUIDITY

To understand the relationship between NPA, Capital Adequacy Ratio, Cash to total deposits ratio and Cash to total assets ratio correlation analysis using SPSS 21.0 is performed and the results are as shown in table no.4

Table no. 4, showing the correlation analysis between NPA and the select Liquidity ratios

	% Net NPA	CAR (%)	Cash to total Deposits (%)	Cash to total asset ratio %
% Net NPA	1			
CAR (%)	0.1683572	1		
Cash to total Deposits (%)	-0.8491556	0.0621494	1	
Cash to total asset ratio	0.9613222	0.3146505	-0.7025836	1

Source: computed and compiled using SPSS21.0

Table no. 4, reveals the % Net NPA and Capital Adequacy Ratio (CAR) and Cash to total Assets ratio of the Bank are positively correlated i.e., 0.168357287 and 0.961322 respectively, which means that when % Net NPA increase the CAR and Cash to total assets ratio will also increase. The % Net NPA and Cash to total Deposits ratios of Allahabad Bank are negatively correlated, that is, (-0.849155644) which indicates that an increase in % Net NPA leads to the decrease in the cash to total deposit ratio.

Thus, H01 is partially accepted because CAR is though positively correlated, the coefficient of correlation is very low, Cash to total deposits and NPAs are negatively correlated and cash to total assets ratio is positively correlated with high value of correlation coefficient.

RELATIONSHIP BETWEEN NPA AND PROFITABILITY

In order to identify the relationship between NPA and each of the select profitability ratios, correlation analysis is performed using SPSS 21.0 and shown in table no.5.

Table no. 5, showing the correlation analysis of NPA and the select Profitability ratios

	% Net NPA	ROE	ROA	P/E ratio	Asset turnover
% Net NPA	1				
ROE	-0.595653878	1			
ROA	-0.645702606	0.995875695	1		
P/E ratio	-0.869891276	0.126047665	0.191895792	1	
Asset turnover	-0.805012217	0.951058015	0.963042118	0.407958382	1

Source: computed and compiled using SPSS21.0

Table no 5, indicates the % Net NPA and all the select measures of profitability are negatively correlated indicating that increase in NPAs results in decrease in the profitability of the bank. Hence, the null hypothesis H02 is rejected and alternative hypothesis H2 is framed i.e.

H2: NPAs and Profitability of Allahabad Bank are negatively correlated.

IMPACT OF NPAs ON THE BANK'S LIQUIDITY AND PROFITABILITY

H03: There is no impact of NPA on the Bank's Liquidity and Profitability.

To test the hypothesis i.e to understand the Impact of NPA on the measures of liquidity i.e CAR, Cash to total deposits ratio, Cash to total assets ratio regression analysis is performed using SPSS and the results are consolidated and tabulated in table no.6

Table no. 6, showing the regression analysis of NPA and select Liquidity ratios

MODEL	R SQUARE	ADJ. R SQUARE	STD ERROR OF ESTIMATE	INTERCEPT	% NET NPA (X)	SIG.
CAR	0.028344	-0.295541	1.248785	9.889966958	0.082491061	0.786657833
Cash to total deposits	0.721065	0.628087	0.181238	5.307480981	-0.112755961	0.068714499
Cash to total assets	0.92414	0.898853	0.408809	0.64906366	0.55212435	0.00907799

Table no. 6 shows, that the R² value of CAR is 0.028344 which implies that NPA has 2.83 percent impact on CAR. The P-value of the test is 0.786657833, which is greater than the significant level of 0.05. Hence, the null hypothesis is accepted and it can be concluded that the there is no significant impact of NPA on CAR of Allahabad Bank.

Also, the R² value (0.721065) of Cash to total deposits states that NPA has 72.18 percent impact on Cash to Total Deposits. The P-value of the test is 0.068714499, which is greater than the significant level of 0.05. Nonetheless, the P-value being so close to the significant level of 0.05 does indicate a considerable amount of impact of NPA on Cash to total deposits ratio of Allahabad Bank.

Furthermore, R² value (0.92414) of Cash to total assets states that NPA has 92.41 percent impact on Cash to Total Assets The P-value of the test is 0.00907799, which is less than the significant level of 0.05. Hence, the null hypothesis H03 is rejected and alternative hypothesis H3 is accepted i.e.

H3: There is impact of NPA on the Bank's Liquidity measure cash to total assets.

Thus, it can be concluded that the there is a significant impact of NPA on Cash to total assets of Allahabad Bank.

To understand the impact of NPAs on the measures of profitability i.e. ROE, ROA, P/E Ratio, Asset turnover ratio regression analysis is performed using SPSS and the results are as follows:

Table no. 7, showing regression analysis of NPA and select Profitability ratios

MODEL	R SQUARE	ADJ. R SQUARE	STD ERROR OF ESTIMATE	INTERCEPT	% NET NPA (X)	SIG.
ROE	0.354803	0.139738	20.40751	29.68229457	-5.855852883	0.289192888
ROA	0.416932	0.222576	0.825968	1.419722	-0.27026	0.23924289
P/E ratio	0.75671	0.675674	5.365235	21.231694	-3.6613769	0.0552243
Asset turnover ratio	0.648347	0.53113	0.549232	10.65764359	-0.28376594	0.1001393

Table no 7, shows that the R² value (0.354803) of ROE states that though NPA has 35.48 percent impact on ROE. The P-value of the test is 0.289192888, which greater than the significant level of 0.05. Hence, the null hypothesis is accepted, and it can be concluded that the there is no significant impact of NPA on ROE of Allahabad Bank.

Also, the R² value (0.416932) of ROA states that NPA has 41.69 percent impact on ROA. The P-value of the test is 0.23924289, which more than the significant level of 0.05. Hence, the null hypothesis is accepted, and it can be concluded that the there is no significant impact of NPA on ROA of Allahabad Bank.

Also, the R² value (0.75671) of P/E ratio states that NPA has 75.67 percent impact on P/E ratio. The P-value of the test is 0.0552243, which slightly more than the significant level of 0.05. Hence, the null hypothesis is accepted, and it can be concluded that the there is no significant impact of NPA on P/E ratio of Allahabad Bank. Nonetheless, the P-value being so close to the significant level of 0.05 does indicate a considerable amount of impact of NPA on P/E ratio of Allahabad Bank.

Furthermore, the R^2 value (0.648347) of Asset turnover ratio states that NPA has 64.83 percent impact on Asset Turnover ratio. The P-value of the test is 0.10001393, which greater than the significant level of 0.05. Hence, the null hypothesis is accepted, and it can be concluded that the there is no significant impact of NPA on Asset turnover ratio of Allahabad Bank.

Thus, it can be concluded that the null hypothesis i.e there is no significant impact of NPA on the measures of profitability.

FINDINGS OF THE STUDY

The Capital Adequacy Ratio once computed shows that the Bank is able to maintain the minimum acceptable ratio of 8% from the past 5 years and marking it highest in the FY 2018-19 at 11.60 percent. Correlation Analysis of NPA and Bank's Liquidity reveals that Cash to total deposits ratio is negatively correlated and that of Capital adequacy ratio and Cash to Total Asset ratio is positively correlated. Correlation Analysis of NPA and Bank's Profitability reveals that ROE, ROA, P/E ratio and Asset turnover ratio is negatively correlated. Regression analysis results of Bank's Liquidity indicates that the Cash to total asset ratio alone shows that there is a significant of NPA on Cash to total asset. Regression analysis results of Bank's Profitability reveals that there is very slight or no impact of NPA on Bank's profitability.

CONCLUSION

The Indian Banking sector is the important service sector that helps the people of the India to achieve the socio-economic objective. The Indian banking sector is developing with good appreciate as compared to the global benchmark banks. The public sector banks play very important role in developing the nation in terms of providing good financial service. The public sector banks have also shown good performance in the last few years. The only problem is that the public sector banks are facing today is the problem of nonperforming assets.

Allahabad Bank has set a target to bring down its net nonperforming asset (NPA) to below 1% by the end of current fiscal and expects its balance sheet size to double during the next two-three years if it managed to maintain the existing growth rate of 30-35%.

The Bank targeted the gross NPA to be around 5% and net NPA of less than 1%. Nonetheless, when we analyse the past five years data, we couldn't find any such impressive figures rather we can observe the acute growth of NPAs over the years.

The Bank initiated various measures to arrest fresh slippage and restricted it to `12903.28 crores for the FY18 compared to `11417.00 crores for the FY17. Provision Coverage Ratio (PCR) also improved to 62.91% in FY18 from 50.11% in FY17.

RBI had introduced a number of measures to reduce the problem of increasing NPAS of the bank such as Corporate Debt Re-structuring (CDR) mechanism, one-time settlement schemes, enacted of SRFAESI ACT etc. However, the bank may also adopt the suggestions given below:

1 Advances provided by banks need to be done pre-sanctioning evaluation and post-disbursement control so that NPA can decrease.
2 Good management needed on the side of the bank to decrease the level of NPA.
3 Bank need to be more conservative in granting loans to sectors that have been traditionally found to be the contributors of NPAs.
4 The bank should bring out new schemes at time-to-time so that more people can be attracted.
5 Even some gifts and prizes may be offered to the customers for their retention.
6 Some customers can repay the amount but they purposely choose not to pay, identify such customers and recovery may be done.
7 No loan is to be given to a group whose one or the other undertaking became a defaulter.
8 Willful default of bank loans should be made a criminal offence.

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