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Statistical Investigation Of The Non-Performing Assets Of Public And Private Sector Banks

By

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Abstract

Non-performing assets (NPAs) have been a major cause of concern for Indian commercial banks in the recent past years. Many studies have been reported on the different aspects of NPAs in Indian banking system.However there is a scarcity of detailed investigation in the field of identifying the types of banks in which the NPAs are concentrated more, the reasons etc. The purpose of this study is to investigate all these crucial issues through a systematic statistical testing. The outcome of this study will help in emphasising on the correlation of NPAs with the profitability of public and private sector banks and help to identify the areas of opportunity for targeting of NPAs. Use of statistical tools would help in testing the significance of the various attributes associated with the profitability and NPAs of banks.

Key words: Net NPA, Net profits ,public and private banks.

INTRODUCTION

Banks play a very crucial role in stimulating the economic growth. This scenario applies to India too. India has a history of banking from the very early periods. The reason for this is that India is in the state of the developing, it requires funds in all sectors and among various demographic conditions. From a small farmer or shop keeper to the government which rules. Everyone makes use of this service. As the demand for banks grew and competition increased, banks started providing finance support to almost everything that a society needs. From housing to business, from education to infrastructure. But the inefficiency from the part of banks in credit management, loopholes in the laws prevailing in the country and the wilful defaults from the part of borrowers have pushed these banks into the well of losses. There has been a huge piling of loans to be recovered in most of the banks in India. These unrecovered

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loans in total we term it as Non- Performing Assets. We term it as assets because the interest on these loans is the income that is received by the lender or banks so in a way these loans given are the bank's assets. So when the bank stops receiving income from it in the form of interest, it becomes non performing in nature. To cover up these NPAs, the banks keep a provision out of their profits to cover up these NPAs, as NPAs increase the provision also increases which in turns eats up the profits of the banks. This study focuses on the impact of NPAs on the banking sector in India taking into consideration the banks from both public and private sectors.

REVIEW OF LITERATURE

Karunakar (2008) in his study 'Are non - Performing Assets Gloomy or Greedy from Indian Perspective' has identifies that risk management plays a very crucial role in the banks. The inefficiency in risk management is the reason for the rise in NPAs and lower profitability. **Das (2010)**in his study analyses the reasons for NPAs. These include lack of credit management in banks, poor legal framework etc.

Kaur and Singh (2011) in their study on Non-performing assets of public and private sector banks (a comparative study) studied that the performance of the banks is analysed on the basis of the level of NPAs.

Prasad and Veena (2011) in their study on NPAs 'Reduction Strategies for Commercial Banks in India' stated that the banks do not earn any return from these NPAs. It rather takes away the profit by way of provision.

Chaudhary and Sharma (2011) in their research stated that the only way NPAs could be reduced is by way of establishing and efficient top management and ensuring that the employees work as per the ethics.

Gupta (2012) in his study on the effects of Non-Performing Assets of SBI and its associate banks, other public sector banks emphasised on the need to have an individual credit rating agencies to each banks. Based on this above information, in this research study attempted to explore about the relationship between the profitability non-performing assets among the public and private sector banks (ICICI, Axis, PNB and SBI).

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THEORETICAL FRAMEWORK

As mentioned earlier, this study focuses on the impact of NPAs on the profitability of the listed banks. The variables involved are net NPAs and net profits. Net NPA is the independent variable and net profit is the dependent variable.

OBJECTIVES OF THE STUDY

- To analyse the NPAs in the public and private sector banks.
- To find out the relationship between the profitability and the NPAs in these banks.

HYPOTHESIS of the study

H_0: There is no significant difference between the means of net NPAs and net Profits

H_1: There is a significant difference between the means of net NPAs and net Profits.

SOURCES OF DATA COLLECTION

The sources of data used are secondary. The sample size consist of 4 banks. Two from public and two from private. The banks taken as samples are ICICI bank, AXIS bank, State Bank of India(SBI), Punjab National Bank(PNB). The variables are taken for 8 financial years starting from 2011-2018. The statistical tools used for the analysis purpose are the correlation and T-test. In correlation we have used Karl Pearson's coefficient of correlation

DATA ANALYSIS

In this study various statistical tools like correlation and T-test are used. Correlation analysis is used to know the relationship between the profitability ratio and NPA's among the public and private sector banks. T-test is used for proving the theory, whether it is statistically significant or not.

Correlation

Correlation is defined as ' the tendency of two or more groups or series of items to vary together directly or inversely'. Boddingtons states that " Whenever some definite connection exists between the two or more groups, classes or series or data there is said to be correlation". The word correlation usually implies cause and effect relationship, that is, mutual interdependence.

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The formula used for correlation is:

(n∈dx.dy-(∈dx.∈dy))/(√n∈dx^2-(∈dx^2).√n∈dy^2-(∈dy)^2)

T-test

A t-test is an analysis framework used to determine the difference between two sample means from two normally distributed populations with unknown variances. A t- test is an analysis of two populations means through the use of statistical examination. Analysts commonly use a t-test with two samples with small sample sizes, testing the difference between the samples when they do not know the variances of two normal distributions. A t-test looks at the t-statistic , the t-distribution and digress of freedom to determine the probability of difference between populations. The test statistic in the test is the t-statistic.

Table 1.1

ICICI bank

YEAR	NET NPAs (crores)	NET PROFIT(crores)
2011	24,073.60	5,15,13,762
2012	18,608.40	6,46,52,572
2013	22,305.60	8,32,54,727
2014	32,979.60	9,81,04,770
2015	62,555.30	111753549
2016	129630.8	97262873
2017	252168.10	9,80,10,906
2018	278235.60	6,77,74,229

Coefficient of correlation, r = 0.1

Table 1.2

AXIS bank

YEAR	NET NPA (crores)	NET PROFIT(crores)
2011	410.35	3,38,84,906
2012	472.64	4,24,22,054
2013	704.13	5,17,94,329
2014	1,024.62	6,21,76,666
2015	1,316.71	7,35,78,223
2016	2,522.14	8,22,36,628
2017	8,626.55	3,67,92,792
2018	16,591.71	27,56,813

Coefficient of correlation, r = -0.7

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Table 1.3

PNB

YEAR	NET NPAs(crores)	NET PROFIT(crores)
2011	12,346.90	8264,51,90
2012	15,818.85	11707,28,86
2013	21,956.48	14104,98,49
2014	31,096.07	10891,17,17
2015	27,590.58	13101,57,20
2016	55,807.02	9950,65,37
2017	58,277.38	10484,10,26
2018	1,10,854.70	(6547,45,37)

Coefficient of correlation, r =-0.9

Table 1.4--SBI Bank

Coefficient of correlation, r = -0.9

YEAR	NET NPA(crores)	NET PROFIT(crores)
2011	2038.63	44334953
2012	4454.23	48842044
2013	7236.5	47476715
2014	9916.99	33425702
2015	15396.5	30615843
2016	35422.56	-39743960
2017	32702.1	13248018
2018	48684.29	-122828202

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Table 1.6
T-test of Net NPAs and Net profit of ICICI BANK

t-Test: Paired Two Sample for Means	NET NPAs	NET PROFIT
Mean	102569.625	84040923.5
Variance	11438270061	4.33559E+14
Observations	8	8
Pearson Correlation	0.112057887	
Hypothesized Mean Difference	0	
Df	7	
t Stat	-11.40843196	
P(T<=t) one-tail	4.4601E-06	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	8.92019E-06	
t Critical two-tail	2.364624252	

Table 1.7
T-test of Net NPAs and Net profit of AXIS BANK

t-Test: Paired Two Sample for Means	NET NPA	NET PROFIT
Mean	3958.60625	48205301.38
Variance	33481433.48	6.34904E+14
Observations	8	8
Pearson Correlation	-0.710413507	
Hypothesized Mean Difference	0	
Df	7	
t Stat	-5.4097764	
P(T<=t) one-tail	0.000498987	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.000997974	
t Critical two-tail	2.364624252	

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Table 1.8
T-test of Net NPAs and Net profit of PNB

t-Test: Paired Two Sample for Means	NET NPA	NET PROFIT
Mean	19481.475	6921389.125
Variance	295697751.6	3.58834E+15
Observations	8	8
Pearson Correlation	-0.912377035	
Hypothesized Mean Difference	0	
Df	7	
t Stat	-0.325801809	
P(T<=t) one-tail	0.377048647	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.754097294	
t Critical two-tail	2.364624252	

Table 1.9
T-test of Net NPAs and Net profit of SBI

t-Test: Paired Two Sample for Means	NET NPAs	NET PROFIT
Mean	41718.4975	89946048.5
Variance	1069850198	4.27371E+15
Observations	8	8
Pearson Correlation	-0.844711203	
Hypothesized Mean Difference	0	
Df	7	
t Stat	-3.888116925	
P(T<=t) one-tail	0.00299496	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.005989921	
t Critical two-tail	2.364624252	

RESULT OF THE STUDY

- The above correlation analysis table shows that except ICICI bank all other banks show a negative correlation. It means, if Npa is increased and their profit would be reduced because of insufficient funds.
- The above table 1.6 represents the T-test calculation between Net NPAs and Net Profits of ICICI BANK. It is seen that the t critical value (for one tail = 1.8945/for two tail = 2.3646) is greater than the t stat value (-11.4084), therefore we accept the

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null hypothesis. So we conclude that there is no significant difference between the means of the Net NPAs and the Net profits of ICICI BANK.

- The above table 1.7 represents the T-test calculation between Net NPAs and Net Profits of AXIS BANK. It is seen that the t critical value (for one tail = 1.8945/for two tail = 2.3646) is greater than the t stat value (-5.4097), therefore we accept the null hypothesis. So we conclude that there is no significant difference between the means of the Net NPAs and the Net profits of AXIS BANK.
- The table 1.8 given above represents the t-test calculation of Net NPAs and Net profits of PNB. It is seen that the t critical value (for one tail = 1.8945/for two tail = 2.3646) is greater than the t stat value (-0.3258), therefore we accept the null hypothesis. So we conclude that there is no significant difference between the means of the Net NPAs and the Net profits of PNB.
- The table 1.9 given above represents the t-test calculation of Net NPAs and Net profits of SBI. It is seen that the t critical value (for one tail = 1.8945/for two tail = 2.3646) is greater than the t stat value (-3.8881), therefore we accept the null hypothesis. So we conclude that there is no significant difference between the means of the Net NPAs and the Net profits of SBI.

CONCLUSION

The study was conducted to analyse the relationship of NPAs on the profitability of both the public and private sector banks. Through the analysis we come to the conclusion that there is a significant relationship between the NPAs and the profitability of the banks. The piling up of the NPAs have negatively impacted the profits of these banks. It is also noticed that irrespective of rise in NPAs, all the four listed banks haven't reduced their advances. The banks should cross verify before extending loan to the borrowers. Both the public and private sector banks have shown the same inefficient attitude towards the bad loans which has led to the downfall of the banking sector.

SUGGESTIONS

Though the banks are facing a tough situation currently, it can overcome via the following measures. It includes The bank should be careful regarding the advancement of loans. The credibility of the borrower should be assessed. The banks should start taking action before the

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time the company starts defaulting.The bank officials should act stringent and should verify that the documents submitted for the procurement of the loans are fair.The RBI should ensure that there is a strong and transparent internal as well as external auditing of the banks.The bank should follow a strong credit risk management.The bank should follow regular asset quality review.The employees of the bank should be trained with ethical values and norms so that they won't indulge into any illegal transactions of money in the bank.The Government of India should act more prudently in the case of wilful defaults like in the case of NiravModi and Vijay Mallya.The Banking Regulation Act may be amended to give RBI more powers to monitor bank accounts of big defaulters. The amendment in the banking law will enable setting up of a committee to oversee companies that have been the biggest defaulters of loans.The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act or SARFAESI ACT of 2002 was amended so that the bank can recover loans at a faster rate. So the banks should utilise these laws to the maximum.Legislations like Insolvency and Bankruptcy Code should be effectively implemented and utilised to the maximum by the Government as well as the banks to recover the bank loans. Apart from these, an effective measures is to have a constant insights into the customer or borrower behaviour on their purchasing and lending trends over the past years and taking constant and periodic assesment to avoid the non-repayment of the loan. It will help to increase the profit of the public and private sector banks.

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