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A Comparative Study of Effect of Non-Performing Assets on Banks' Profitability: Publics Sector Banks vs. Private Sector Banks

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Abstract: - **Indian banking sector is currently running through a phase where deteriorating asset quality has become a major cause of concern for all the banks. This paper attempts to evaluate how differently NPAs affect the financial statements of public sector banks (PSBs) and private sector banks (PVBs). To support the study, Pearson's correlation coefficient has been used to find out the correlation between NPAs of banks with their net profits. The research resulted into an interesting finding that all selected six PSBs were found to have a negative correlation between NPAs and net profits whereas and only two out of six selected PVBs resulted into negative correlation of NPAs and net profits. The rest four PVBs resulted into a positive correlation with their net profits which technically proves that their other incomes are high enough to absorb the losses by their NPAs and still be able to add it to their net profits. It also reflects that they have an effective recovery mechanism. This proves the fact that PVBs are far ahead in managing their stressed assets than PSBs. The study also evidently proves that a continuous increasing trend in net NPAs is seen more prominent in public sector banks in comparison to private sector banks.**

Keywords: Gross Non Performing Assets, Interest Income, Net Non Performing Assets, Private Sector Banks, Public Sector Banks, Return on Average Assets, Stressed Asset Management.

1. Introduction

A non performing asset (NPA) is a term that every bank dreams to scrap off from their financial statements. Specially after RBI introducing Asset Quality Review Guidelines (2015), it has become difficult for banks to even underreport their level of NPAs, which was a usual practice by most banks before 2015. Showing less number of NPAs would present a rosy picture of the banks to the stakeholders which would push their stock values up in the market. This additional inspection has forced banks to disclose clear and correct figures on NPAs in banking sector now. Having financial statements flooded with NPAs reflects upon inefficient and unproductive nature of the bank. Though existence of non-performing asset is an inevitable part of bank's financial statements still a lot can be done to reduce these numbers. High level of NPAs is not just a matter of worry for a bank but also for the whole economy.

1.1 Non Performing Assets – The Concept

An asset turns into a non-performing asset when it stops generating income for the bank. As per RBI, as asset becomes an NPA when:

(i) In case of a Term Loan - When interest or installment of principal or both remains unpaid by the due date for a period of more than 90 days.

(ii) In case of Overdraft or Cash Credit (OD/CC) – When the account remains out of order for a period of more than 90 days. An account is treated as 'out of order' if the outstanding balance remains continuously in excess of the sanctioned limit / drawing power.

(iii) In case of Bills – When the bill remains unpaid by the due date for a period of more than 90 days.
(v) In case of other Accounts – When any amount to be received remains unpaid by the due date for a period of more than 90 days.

(vi) In case of direct agricultural loans:

a) A loan granted for short duration crops - if the installment of principal or interest remains unpaid by the due date for two crop seasons.

b) A loan granted for long duration crops - if the installment of principal or interest remains unpaid by the due date for one crop season.

1.2 Asset Classification

As per Reserve Bank of India, Banks should classify their assets into the following broad groups-

Standard Assets – These are assets with no problems and do not carry more than normal risk attached to the business.

Sub-standard Assets – An asset that has remained NPA

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for a period less than or equal to 12 months.

Doubtful Assets –An asset that has remained NPA for more than 12 months.

1.3. Provisioning Norms for NPAs

- Loss Assets: 100% provision.
- Doubtful Assets

(a) For unsecured portion - 100% of the extent to which the advance is not covered by the realizable value of the security.

(b) For the secured portion-

Tier I and Tier II Banks	
Period for which the advance has remained in 'doubtful' category	Provision Requirement
Up to one year	20%
One to three years	30%
Advances classified as 'doubtful for more than three years' on or after April 1, 2010	100%

Source: Reserve Bank of India

- Sub-standard Assets - 10% on total outstanding amount.
- Provision on Standard Assets - a minimum of 0.25% on standard assets.

1.4. Causes of NPAs

- Willful Defaults - When a borrower has defaulted in meeting their repayment obligations to the banks even when they have the repayment capacity. Siphoning or diversion of funds, misrepresentation, falsification of accounts and fraudulent transactions also come under willful defaults.
- Political pressure to grant loans.
- Change in Governments and their policies.
- Lack of due diligence while granting loans
- Lack of proper verification and screening of application.
- Relaxed lending norms especially for corporates when their financial status and credit rating is not analyzed properly.
- Economic conditions – Domestic as well as global
- Natural calamities.
- Pandemics like Covid 19.
- Delayed clearances of various projects.
- Aggressive expansion by corporate during the high growth phase etc.
- Shortfalls in the recovery mechanism of banks
- Priority sector lending.
- Loans made under social obligations.

2. Review of Literature

NPA as an area of research has been very interesting subject for researchers nationally and internationally. Various researches have been conducted on NPAs, both descriptive as well as empirical. This section covers a summary of the researches done before on NPAs and profitability of Indian Banks.

Shetty & Sandesha(2016) in their paper titles "A comparative study on Non performing asset management of selected public sector and private sector banks" concluded that the decline of NPA is essential to improve the profitability of banks. Advances provided by banks need to be done pre-sanctioning evaluation and post-disbursement control to constrain rising non-performing assets in the Indian Banking sector. They also found for SBI there is a positive relation between Net Profits and NPA.

Bhaskaran (2016) et.al in his study titled "Non-performing assets of public and private sector banks in India – a comparative study", concluded with evidences that private sector banks are performing well in reducing the level of NPAs than public sector banks therefore public sector banks have to take necessary steps in recovery of loans like war footing method.

Pradhan (2014) "A Study on Non- Performing Assets of Commercial Bank with References to SCBNL, RBB, Everest bank, NB bank and NBBL" aimed to find out the proportion of non-performing loan and the level of NPA in total assets, total deposit and total lending in the selected commercial bank and impact of non-performing assets in the performance of commercial banks. The study concluded improper credit policy, political pressure to lend, lack of supervision and monitoring, economic slowdown, overvaluation of collateral were the major cause of occurring NPA. The objective of his study was to find out the proportion of non-performing loan and the level of NPA in total assets, total deposit and total lending in the selected commercial bank and impact of non-performing assets in the performance of commercial banks.

Singh (2013) in his paper "Recovery of NPAs in Indian commercial banks" states that the root cause of increasing NPA's lies in how credit risk management is handled by the banks. Banks need to have adequate preventive measures in fixing pre- sanctioning appraisal responsibility and an effective post-disbursement supervision also strong monitoring of loans needs to be done to identify accounts having high probability of becoming NPA.

Gupta (2012) "A Comparative Study of Non-Performing Assets of SBI & Associates & Other Public Sector Banks" concluded that each bank should have its own independence

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credit rating agency which should evaluate the financial capacity of the borrower before credit facility and credit rating agencies should regularly evaluate the financial condition of the clients.

3. OBJECTIVE

The study aims to evaluate the following objectives:

- To understand the concept of non performing assets (NPAs) of banks, the classification and its provisioning norms.
- To see the pattern of NPAs in Public sectors banks and private sector banks
- To evaluate the correlation of NPAs and profitability of selected banks
- To analyze how different correlation of NPA and profitability is in private sector banks and public sector banks.
- To analyse the reason for different directions of correlation in PSBs and PVBs

4. RESEARCH METHODOLOGY

Research Method: In the study analytical research method has been used to evaluate the correlation coefficients between NPAs and profitability of banks. Following 12 Banks have been identified for this study, six public sector banks and six private sector banks.

Public sector banks (PSBs)

- State Bank of India (SBI)
- Punjab National Bank (PNB)
- Bank of Baroda (BOB)
- Canara Bank
- Union Bank of India (UBI)
- Bank of India (BOI)

Private Sector Banks

- HDFC Bank
- ICICI Bank
- Axis Bank
- Indusind Bank
- Kotak Mahindra Bank
- Yes Bank

Period of the study: The study period considered is 10 years from 2010-11 to 2019-20.

Source of data: The required data for the study have been collected mainly from the online annual reports, journals, research paper, articles, books and websites.

Tools for the study: The study focuses on net NPAs and net profit of selected banks over a period of ten years to run a correlation test through SPSS. The significance level of the correlation has been tested through two tailed t test on SPSS and to compare the Net NPAs of selected banks, line graph and averages has been used processed in Word Excel. The 12 Banks have been divided into two sets: public sector banks (six banks) and private sector banks (six banks).

Hypothesis: The study attempts to test the following hypothesis:

H0: There is no significant correlation between non performing assets and profitability of Banks.

H1: There is a significant correlation between non performing assets and profitability of Banks.

5. DATA ANALYSIS & INTERPRETATION

Banks	NPA	Net Profit	Sig. (2-tailed)@95% confidence level		Correlation
Public Sector Banks					
State Bank of India	1	-.757	0.011	Significant	Negative
Punjab National Bank	1	-.833	0.003	Significant	Negative
Bank of Baroda	1	-0.411	0.238	Insignificant	Negative
Canara Bank	1	-.857	0.002	Significant	Negative
Union Bank of India	1	-.844	0.002	Significant	Negative
Bank of India	1	-.897	0.000438	Significant	Negative
Private Sector Banks					
HDFC Bank	1	.898	0.000416	Significant	Positive
ICICI Bank	1	0.096	0.792	Insignificant	Positive
Axis Bank	1	-.659	0.038	Significant	Negative
Indusind Bank	1	.735	0.016	Significant	Positive
Kotak Mahindra Bank	1	0.072	0.843	Significant	Positive
Yes Bank	1	-0.893	0.000507	Significant	Negative

Table 1: Pearson's Correlation Coefficient

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Table 1 represents the correlation coefficients of NPAs of banks and their profitability. From the analysis it can be seen that in all public sector banks have inverse relationship between their NPAs and profitability which means their profitability goes down as their level of NPAs increases. Out of six public sector banks, five are found to have significant negative correlation between the two parameters. Bank of Baroda was found to have negative correlation but insignificant as p value is more than .05. The private sector banks showed a bit different values of correlation as compared to public sector banks .Out of six private banks, four banks showed positive relationship with their NPAs, which is technically not possible because any loss in a bank cannot increase its profit. The reason of their increase in profit with increase in NPAs could either be their good recovery process or their source of other incomes is high enough to absorb the losses occurred by NPAs and still be able to add it to the profitability of these banks. Clearly, private sector banks have flared better in managing NPAs and not letting them bring down their profitability. The highest negative relation is of Bank of India and highest positive relationship is of HDFC. The study goes on further to analyze correlation of NPAs with following three more parameters to understand where exactly the problem lies.

- Interest Income
- Operating profit
- Return on average assets

For this further analysis out of six public sector banks following two banks have been selected.

- Bank of India (It being the highest correlated)
- State bank of India

And out of six private sectors following two banks have been selected:

- HDFC
- Indusind

So these two banks have been selected for further in depth analysis to find out the major causes of the extreme differences in the correlation coefficients.

		Net NPA	Interest Income To Working Funds	Net Profit	ROA	Operating Income to Working Fund
Net NPA (HDFC)	Pearson Correlation	1	-0.247	0.898	0.503	0.878
	Sig. (2-tailed)		0.492	0	0.138	0.001
	N	10	10	10	10	10
Net NPA (Indusind Bank)	Pearson Correlation	1	-0.284	0.735	-0.509	0.537
	Sig. (2-tailed)		0.427	0.016	0.133	0.11
	N	10	10	10	10	10
NPA (Bank of India)	Pearson Correlation	1	-0.853	-0.897	-0.88	-0.722
	Sig. (2-tailed)		0.002	0	0.001	0.018
	N	10	10	10	10	10
Net NPA (SBI)	Pearson Correlation	1	-0.547	-0.757	-0.799	-0.448
	Sig. (2-tailed)		0.102	0.011	0.006	0.195
	N	10	10	10	10	10

Table 2: Coefficient of Correlation (2 PVBs & 2 PSBs)

Table 2 shows the effect of net NPAs of above stated banks on their net interest income, operating profit and return on average assets. The result shows that both the selected PSBs, showed negative correlation of Net NPAs with all four selected parameters which means public sector banks are being affected by their huge NPAs right from interest income to net profit and even their return on assets whereas in case of PVBs, NPA has negative though insignificant correlation only with interest income. With other two parameters, it was found to be positively correlated. This means NPAs do not seem to have much effect on profitability of PVBs for the following possible reasons:

- Their NPA level isn't high enough to affect their balance sheets.

- Their recovery process of NPAs is better than that of PSBs.
- Their income from other sources (excluding interest income) is high enough to absorb the losses taking place due to NPAs, and still be able to add it to their profitability.
- Their cost to income ratio is improving and is better than those of PSBs.
- Their provisioning for NPAs is good.
- There are reversals of provisions due to aggressive recoveries of written off NPAs.
- Their stressed asset management is highly efficient.
- Their loans and advances increase at a faster rate than the rate of growth in Net NPAs, nullifying the effect of loss by them.

Financial Year	SBI	PNB	BOB	Canara Bank	UBI	BOI	Average
2010-11	1.63	0.85	0.35	1.10	1.19	0.91	1.01
2011-12	1.82	1.52	0.54	1.46	1.70	1.47	1.42
2012-13	2.10	2.35	1.28	2.18	1.61	2.06	1.93
2013-14	2.57	2.85	1.52	1.98	2.33	2	2.21
2014-15	2.12	4.06	5.06	2.65	2.71	3.36	3.33
2015-16	3.81	8.61	1.89	6.42	5.25	7.79	5.63
2016-17	3.71	7.81	4.72	6.33	6.57	6.9	6.01
2017-18	5.73	11.24	5.49	7.48	8.42	8.28	7.77
2018-19	3.01	6.56	3.33	5.37	6.85	5.61	5.12
2019-20	2.23	5.78	3.13	4.22	5.49	3.88	4.12

Table 3: Net NPAs of Publics Sector Banks (%) [Source: *Compiled by Annual Reports]*

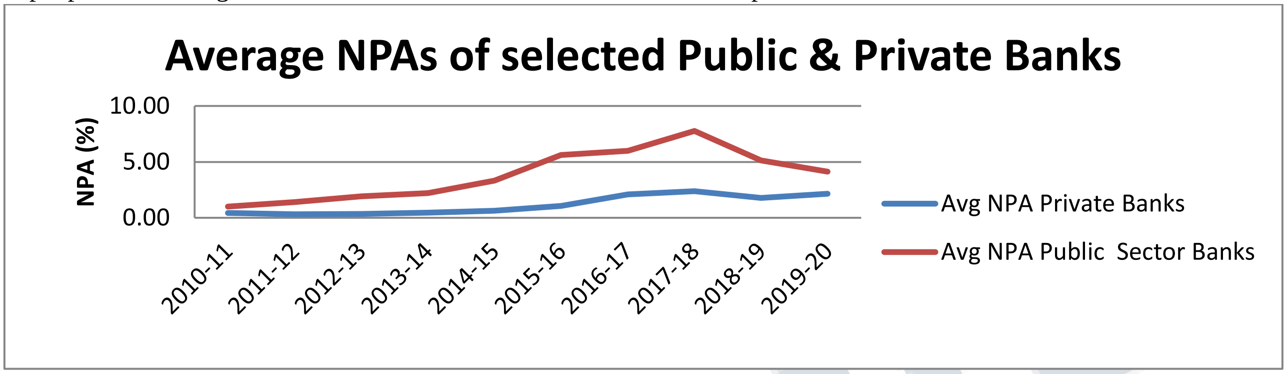
Financial Year	Kotak Mahindra	HDFC	ICICI	Axis	Indusind	Yes	Average
2010-11	0.72	0.19	1.11	0.26	0.28	0.03	0.43
2011-12	0.61	0.18	0.73	0.25	0.27	0.05	0.35
2012-13	0.64	0.20	0.77	0.32	0.31	0.01	0.38
2013-14	1.08	0.27	0.97	0.40	0.33	0.05	0.52
2014-15	0.92	0.25	1.61	0.44	0.31	0.12	0.61
2015-16	1.06	0.28	2.98	0.70	0.36	0.29	0.95
2016-17	1.26	0.33	5.43	2.11	0.39	0.81	1.72
2017-18	0.98	0.40	5.43	3.40	0.51	0.64	1.89
2018-19	0.75	0.39	2.29	2.06	1.21	1.86	1.43
2019-20	0.71	0.36	1.54	1.56	0.91	5.03	1.69

Table 4: Net NPAs fo Private Sector Banks (%) **[***Source: Compiled by Annual Reports]*

Table 3 and 4 shows the net NPAs of selected banks from FY 2001-11 to FY 2019-2020 in public and private sector category. In both the sectors financial year 2017-18 witnessed the highest % of net NPAs. As per an article of a magazine "The Week", dated June 10, 2018, the reasons of the increased NPA levels across economy could be as follows:

- Inadequate growth in the global economy and negative spillovers from the global financial markets.
- Less than adequate pick-up in domestic growth and declining exports; and
- Subdued demand leading to delays in realization of receivables
- Reduced market confidence
- Stress in power, steel, and infrastructure projects.

Chart below depicts year wise average NPAs of selected banks, which clearly shows that public sector banks fails badly to match up with the efficient management of NPAs by private sector banks. As per P. J. Nayak, who headed the Reserve Bank of India (RBI)-appointed committee in 2014, suggested for an urgent need to remove discriminatory external rules imposed on public sector banks (PSBs), so that these banks can compete fairly with their private peers. Their exposure to political pressures, lendings to priority sector like agriculture and allied activities, micro and small enterprises, poor people for housing, students for education and other low income groups and weaker sections to fulfill social obligations and their extreme inefficiencies and limitations in credit and recovery mechanisms are major causes of higher NPAs in public sector banks as compared to private sector competitors.



Source: Data collected from Annual Reports of selected Banks processed in Excel

6. Conclusion

The study concludes the following points:

1. Out of selected six PSBs, all six are found to have an inverse correlation of their net NPAs with net profits. Out of six, five are found to have a significant correlation between Net NPAs and Net profits of these banks. Only Bank of Baroda was found to have an insignificant adverse effect of net NPAs on its net profits.
2. On the other hand out of six selected PVBs, only two banks (Axis and Yes Bank) are found to be significant inverse correlation between NPAs and net profits. Rest four banks have shown positive relationship between their NPAs and net profits.
3. NPA always has an inverse relationship with the interest income of the banks. NPAs, being a loss may not always show inverse relationship with net profit for a reason that there could be other incomes and high amount of old recoveries increasing the net profit even when there is an increase in NPAs.
4. NPAs do not seem to have much effect on profitability of PVBs possibly because their NPA level isn't high enough to affect their balance sheets or their recovery process of NPAs is better setting good example of efficient stressed asset management. Another reason could be that their loans and advances increase at a faster rate than the rate of growth in net NPAs, nullifying the effect of loss.
5. Public sector banks fail badly to match up with the efficient management of NPAs by private sector banks. PSBs have had higher rate of NPAs than those of PVBs. The reason possibly could be to political pressures, priority sector lending - to fulfill social obligations and the extreme inefficiencies and limitations in credit and recovery mechanisms.

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