

A STUDY OF NPAs & ITS IMPACTS ON PROFITABILITY OF SELECTED PUBLIC & PRIVATE SECTOR BANKS IN INDIA

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Abstract

The NPA is one of the biggest problems that the banks are facing today. NPA plays an important role in performance measurement of any bank as it reduces the overall profitability of the bank. NPA also has adverse effects on liquidity and creditability of a bank. High level of NPA indicates the inefficiency of management of a bank and vice-versa. The main objective of this paper is to examine the relationship between Net Profit and Net NPAs and to analyse the impacts of NPAs on Profitability and Liquidity of selected public and private sector banks in India. For this purpose five public (Corporation, BOI, IOB, PNB and Andhra bank) and five private (Axis, HDFC, ICICI, Lakshmi Vilas and Indusind) sector banks are selected. The present study covers time period of ten years (2006-07 to 2015-16). The study is based on secondary data and has been analysed through correlation and multiple regression analysis using SPSS Software. The study reveals that there significant impacts of NPAs on Profitability and Liquidity of selected public and private sector banks in India. The result of correlation indicates that there is significant correlation between net profit and net NPA of Corporation bank, PNB, IOB and BOI. In case of private sector banks, AXIS and HDFC bank have significant relationship between net profit and net NPA.

Key Words: Non-performing Assets, Public and Private Sector bank, profitability, Liquidity, Correlation, multiple regression analysis etc.

1. INTRODUCTION:

The banking industry in India has been witnessing a series of revolutionary changes and noteworthy transformation since 1991 after introduction of LPG policy and new economic and financial sector reforms. The process of Liberalization aimed to free banks from too much of regulations. The focus was on self-regulation. Self-regulation requires prudential norms to be laid down. On the eve of economic reforms in 1991, it was recognized that the banks were burdened with huge amount of Non-Performing assets (NPA's) which were not revealed in the balance sheets. The banks had gone very weak. Balance sheets were hiding more than what they revealed. After the first nationalization of Banks in 1969, certain tendencies emerged in the banks that lead to the emergence of NPAs.

The concept of NPAs emerged as a contemporary issue when Reserve Bank of India (RBI) introduced the prudential norms on the recommendations of the Narsimham committee in the year 1992-93. The prudential norms as laid down by RBI states that "An asset is considered as Non Performing if interest or instalment of principal due remains unpaid for more than 90 days". In simple words as long as the expected income is realized from the assets, it is treated as performing asset but when it fails to generate income or deliver value on due date, it is treated as non-performing asset". With a view to moving towards International best practices and to ensure greater transparency, the "90 Days overdue" norm for identification NPAs had been adopted from the year ending 31st march, 2004.

2. LITERATURE REVIEWS:

- **Zahoor Ahmad and DR.M.JEGADEESHWARAN (2013)** in their study on Comparative Study on NPA Management of Nationalized Banks said that The reason being mounting non-performing assets (NPAs), NPA account not only reduces profitability of banks by provisioning in the profit and loss account, but their carrying cost is also increased which results in excess & avoidable management attention. Apart from this, a high level of NPA also puts strain on a bank's net worth because banks are under pressure to maintain a desired level of Capital Adequacy and in the absence of comfortable to assess the health of various categories of loan assets in various categories of banks. The data was collected for a period of five years and analysed by mean, CAGR, ANOVA and ranking banks. The individual banks got ranks as per their performance in management of NPAs. It was also tested, whether there is significant difference between nonperforming assets of banks, it was found that there is significant difference in the level of NPAs of nationalised banks which reflect their varied efficiency in the management of nonperforming assets.
- **Suresh Kumar (2014)** the present study mainly aims at examining the impact of NPAs on profitability of banks and to find out trend of NPAs of banks in India. Trend analysis has been conducted to find out the trends of NPAs of banks in India. The study indicates that The NPAs have adverse impact over Return on Assets (ROA) and Capital Adequacy Ratio (CAR) of banks; therefore NPAs have always been a big worry for the banks in India. To improve the efficiency and profitability,

the NPAs have to be controlled. It also indicates that the extent of NPAs is comparatively higher in Public Sector Banks than in Private sector banks.

- **Dr. D. JaganMohana Rao (2014)** in his research paper on Management of Non-Performing Assets Problems said that the issue of Non- Performing Assets (NPA), the root cause of the recent global financial crisis has been drawing the attention of the policy makers and academicians alike. The objectives of the study were to explain the concept, definition & categories of NPAs and to explain NPA norms and trends and also to explain recovery mechanism of NPA. The researcher has collected the data for the time period of 8 years (2002 to 2009) and used trend analysis to find out the trends of NPAs. The study indicated that the functioning of different mechanism or channel for recovering NPA assets is not satisfactory needs overbalancing of the system for speedy recovery.
- **Sameer S. Manek (2015)** in his study on non-performing assets with special reference to UCO bank studied that there is an improvement seen because the percentage of Net and Gross NPA,s have been decreasing which a good sign for the UCO bank. The objectives of the study were to study the causes of NPA of Bank, to study the trends of gross and net NPA and to check the effect of NPA on the performance of the bank. The researcher has collected the data for four years (2011 to 2014) and used percentage method to analyse the data. He found out that Gross and Net NPAs have been increasing and then after decreasing in terms of percentage.
- **VivekRajbahadur Singh (2016)** in his research paper entitled A Study of Non-Performing Assets of Commercial Banks and it's recovery in India said that The NPAs growth has a direct impact on profitability of banks. Non-performing assets are one of the major concerns for scheduled commercial banks in India. In this research paper he made an attempt to know the status of NPAs in scheduled commercial banks in India and to know the impact of NPAs on banks. Data has been collected for the time period of 14 years i.e. from the year 2000 to the year 2014. Percentage and trend analysis have been used for analysing the data. He concluded that the most notable impact of NPA is change in banker's sentiments which may hinder credit expansion to productive purpose. Banks may incline towards more risk-free investments to avoid and reduce riskiness, which is not conducive for the growth of economy.

3. Research Methodology:

3.1 Objectives of the Study:

- To examine the relationship between Net Profit and Net NPA of selected public and private sector banks.
- To analyse the impacts of NPAs on Profitability (return on net worth) and liquidity of selected public and private sector banks.

3.2 Research Design:

This study is designed in a simpler manner that enables to study the problem more easily and clearly. Descriptive research design has been used in this study.

3.3 Sampling Plan and Sample Size:

The Convenience method of sampling is used for the present study. The sample size for the present study is 10 units. The sample consists of five public sector and five private sector banks in India. Following banks are selected:

Public Sector: Corporation bank, PNB, BOI, IOB and Andhra bank

Private Sector: Axis, HDFC, Indusind, Lakshmi Vilas and ICICI bank

3.4 Data Source:

The present study is based on secondary data. The relevant data have been collected from various sources available such as journals, websites of banks, website of RBI, annual reports of banks, annual reports on banking trend and progress in India (publication of RBI) etc.

3.5 Time Period :

The present study covers the time period of 10 years i.e. from 2006-07 to 2015-16.

3.6 Tools and Techniques:

The data has been analysed through following techniques:

Correlation Analysis: to examine the relationship between NNPA and Net profit correlation Analysis is done.

Multiple Regression: to examine impacts of NPAs on Profitability and liquidity of selected public and private sector banks multiple regression is used. Following three models have been adopted for this purpose. For this purpose SPSS software is used.

▪ Model: 1

Model one represent return on net worth as dependent variable while GNPA ratio, NNPA ratio, provision coverage ratio and capital adequacy ratio are taken as independent variables.

$$Y_1 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + u$$

▪ Model: 2

Model 2 represents current ratio as dependent variable while others as independent variables.

$$Y_2 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + u$$

▪ **Model: 3**

In model 3 quick ratio is taken as dependent variable while others are taken as independent variables.

$$Y_3 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + u$$

Where, Y_1 = Return on Net Worth

Y_2 = Current Ratio

Y_3 = Quick Ratio

a = Intercept

b = Regression Parameters

X_1 = GNPA Ratio

X_2 = NNNPA Ratio

X_3 = Provision Coverage Ratio

X_4 = Capital Adequacy Ratio

u = errors

3.7 Hypothesis of the study:

a) **H₀**: there is no significant impact of NPAs on profitability of selected public and private sector banks.

H₁: there is significant impact of NPAs on profitability of selected public and private sector banks.

b) **H₀**: there is no significant impact of NPAs on liquidity of selected public and private sector banks.

H₁: there is significant impact of NPAs on liquidity of selected public and private sector banks.

4. DATA ANALYSIS:

4.1 Correlation Analysis:

Table 4.1.1 correlation analysis of public sector banks

Year	Corporation		PNB		IOB		BOI		Andhra	
	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit
2007	141.93	536.14	725.62	1540	257.83	1008.48	632.03	1123.17	47.25	537.9
2008	126.93	734.99	753.78	2049	363.2	1202.33	591.98	2009.4	53.7	575.57
2009	138.3	892.77	263.85	3091	999.14	1325.79	628.21	3007.35	79.22	653.05
2010	197.25	1170.25	981.69	3905	1994.47	706.96	2207.45	1741.07	95.72	1045.85
2011	397.74	1413.27	2038.63	4433	1328.42	1072.54	1944.99	2488.71	273.68	1267.07
2012	869.38	1506.04	4454.23	4884	1907.44	1050.12	3656.42	2677.52	755.85	1344.67
2013	1410.8	1434.67	7236.5	4748	4027.21	567.23	5947.31	2749.35	2409.18	1289.13
2014	3180.56	561.72	9916.99	3343	5658.12	601.74	7417.22	2729.27	3342.47	435.58
2015	4464.98	584.26	15396.5	3062	9813.33	-454.33	13517.57	1708.92	3688.63	638.44
2016	9160.14	-506.48	35422.57	-3974	19212.57	-2897.33	27964.4	-6089	6035.65	539.84
R	-0.79*		-0.774*		-0.983*		0.861*		-0.327	
Sig.(2-tailed)	0.007		0.009		0.000		0.001		0.356	

The above table shows the net NPAs, net profit, value of correlation coefficient and its significant value of selected public sector banks. From the above table we can say that BOI NPA is having strongly relationship with net profit. Whereas Corporation bank, PNB, IOB, and Andhra bank have negative correlation between net NPAs and net profits. The correlation of Corporation bank, PNB, IOB and BOI is significant at $\alpha=0.01$ level (2-tailed).

Table 4.1.2 correlation analysis of private sector banks:

Year	AXIS		HDFC		Indusind		LVB		ICICI	
	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit	Net NPA	Net Profit
2007	266.33	659.03	202.89	1141.50	273.75	68.22	56.95	17.58	1992.04	3110.22
2008	248.29	1071.03	298.52	1590.20	291.02	75.05	59.52	25.27	3490.55	4157.73
2009	327.13	1815.36	627.62	2245.00	179.13	148.34	64.85	50.29	4553.94	3758.13
2010	419.00	2514.53	392.05	2948.70	101.83	350.31	257.78	30.66	3841.11	4024.98
2011	410.35	3388.49	296.41	3926.40	72.82	577.32	72.88	101.14	2407.36	5151.38
2012	472.64	4242.21	352.33	5167.10	94.67	802.61	177.09	107.02	1860.84	6465.26
2013	704.13	5179.43	468.95	6726.30	136.76	1061.18	283.81	91.57	2230.56	8325.47
2014	1024.6	6217.67	820.03	8478.40	184.05	1408.02	443.39	59.66	3297.96	9810.48
2015	1316.7	7357.82	896.28	10215.92	210.48	1793.72	302.49	132.29	6255.53	11175.35
2016	2522.1	8223.66	1320.67	12296.21	321.75	2286.45	231.64	180.24	12963.08	9726.29

r	0.868*	0.881*	0.229	0.306	0.482
Sig.(2-tailed)	0.001	0.001	0.524	0.390	0.158

The above table shows the net NPAs, net profit, value of correlation coefficient and its significant value of selected private sector banks. From the above table it can be said that the correlation of all the selected private sector banks is positively related between net NPAs and net profits. It is seen that HDFC bank NPA is have strong relationship with net profit. The correlation of AXIS and HDFC bank is significant at $\alpha=0.01$ level (2-tailed).

4.2 Multiple Regression:

Table 4.2.1 multiple regression analysis of private sector banks

Variables	Model 1			Model 2			Model 3		
	Return on Net Worth			Current Ratio			Quick Ratio		
	β	T-stat	Sig.	β	T-stat	Sig.	β	T-stat	Sig.
Constant	14.748	4.231	-	-0.161	-0.402	-	2.472	0.357	-
GNPA	-1.275	-1.820	0.075	0.028	0.341	0.735	-1.674	-1.202	0.236
NNPA	-2.332*	-2.157	0.036	0.174	1.396	0.170	6.189	2.880	0.006
PCR	0.031	0.807	0.424	0.008	1.754	0.086	0.334*	4.389	0.000
CAR	0.168	0.656	0.515	0.014	0.479	0.634	-0.796	-1.561	0.126
R square	0.702			0.227			0.356		
F-Ratio	26.549			3.306			6.210		
Sig.	0.000*			0.019*			0.000*		

- **Interpretation of Model 1:**

- **Estimated Model:**

$$RONW = 14.748 - 1.275GNPA - 2.332NNPA + 0.031PCR + 0.168CAR$$

From the above estimated model, it is seen that PCR and CAR have positive impact on RONW while GNPA and NNPA have negative impact on it. NNPA has negative significant impact on RONW. It is also seen that NNPA, followed by GNPA contributes most in determination of RONW. The value of R Square in the above table is 0.702 which indicates that 70.2% variance in RONW is explained by all independent variables and hence the model is said to be good model. The p value in the above table is 0.00 which is less than level of significance that means there is significant impact of NPAs of RONW of selected private sector banks.

- **Interpretation of Model 2:**

- **Estimated Model:**

$$CR = -0.161 + 0.028GNPA + 0.174NNPA + 0.008PCR + 0.014CAR$$

In this model CR (current ratio) is taken as dependent variable. From the above estimated model, it is seen that all independent variables have positive impact on current ratio. The value of R Square in the above table is 0.227 which indicates that only 22.7% variance is explained by all independent variables and hence the model is said to be weak model. In the above table p value is 0.019 which is less than $\alpha = 0.05$ which means there is significant impact of NPAs of CR of selected private sector banks.

- **Interpretation of Model 3:**

- **Estimated Model:**

$$QR = 2.472 - 1.674GNPA + 6.189NNPA + 0.334PCR - 0.796CAR$$

In this model QR (quick ratio) is taken as dependent variable. From the above estimated model it is seen that NNPA and PCR have positive impact on QR while GNPA and CAR have negative impact on QR. PCR has positive significant impacts on QR. It can be seen that the contribution of NNPA and GNPA are comparatively higher in determination of QR. The value of R Square is 0.356 which indicates that only 35.6% in QR is explained by all independent variables in the model and therefore the model is to be considered as weak model. The p value (0.00) is less than the level of significance which indicates significant impacts of NPAs on QR.

Table 4.2.2 multiple regression analysis of private sector banks

Variables	Model 1			Model 2			Model 3*		
	Return on Net Worth			Current Ratio			Quick Ratio		
	β	T-stat	Sig.	β	T-stat	Sig.	β	T-stat	Sig.
Constant	-5.152	-0.435	-	0.850	1.310	-	26.259	2.309	-
GNPA	-2.251	-1.227	0.226	-0.112	1.310	0.271	-5.429*	-3.080	0.004
NNPA	0.259	0.092	0.927	0.266	-1.113	0.089	8.863*	3.296	0.002
PCR	0.103	.896	0.375	-0.001	1.736	0.816	-0.186	-1.676	0.101
CAR	1.572*	2.012	0.050	-0.008	-0.233	0.856	0.852	1.136	0.262
R square	0.708			0.448			0.482		
F-Ratio	27.340			9.139			10.455		
Sig.	0.000*			0.000*			0.000*		

- **Interpretation of Model 1:**

- **Estimated Model:**

$$RONW = -5.152 - 2.251GNPA + 0.259NNPA + 0.103PCR + 1.572CAR$$

In this model RONW is taken as dependent variable whereas GNPA, NNPA, PCR & CAR are taken as independent variables. From the above estimated model, it is seen that NNPA, PCR and CAR have positive impact on RONW whereas

GNPA has negative impact on RONW. Besides this, CAR has positive significant impacts on it. The GNPA, followed by CAR is major contributing factor. The value of R Square in the above table is 0.708 which indicates that 70.8% variance in RONW is explained by all the independent variables in the model and hence it can be said that the model is good model. The p value (0.00) is less than level of significance that there is significant impacts of NPAs on RONW of selected public sector banks.

- **Interpretation of Model 2:**

- **Estimated Model:**

$$CR = 0.850 - 0.112GNPA + 0.266NNPA - 0.001PCR - 0.008CAR$$

In this model CR (current ratio) is taken as dependent variable. From above model it is seen that GNPA, PCR and CAR have negative impact on CR whereas NNPA is positively related with CR. The value of R Square in the above table is 0.448 which indicates only 44.8% variance in CR is explained by all independent variables and therefore it can be said that the model is weak model. The p value in the above table is 0.00 which is less than $\alpha = 5\%$ level of significance which indicates the significant impacts of NPAs on CR of selected public sector banks.

- **Interpretation of Model 3:**

- **Estimated Model:**

$$QR = 26.259 - 5.429GNPA + 8.863NNPA - 0.0186PCR + 0.852CAR$$

In this model QR (quick ratio) is taken as dependent variable. From the above estimated model it is seen that the NNPA, PCR, and CAR have negative impact on QR while GNPA has negative significant impact on QR. Moreover, GNPA and NNPA have significant impacts on QR. They are also major contributing factor in determination of QR. The value of R Square in the above table is 0.436 which indicates that only 43.6% variance in QR is explained all independent variables and hence the model is weak. In the above table p value (0.00) is less than assumed level of significance. So, it can be said that there is significant impacts of NPAs on QR of selected public sector banks.

5. Findings:

- The result of correlation indicates that Corporation, PNB, IOB and BOI have significant correlation between net profit and net NPA. While in case of private sector banks, AXIS and HDFC bank have significant relationship between net profit and net NPA.
- From the multiple regression analysis it can be said that there is significant impacts of NPAs on RONW and Liquidity of selected public and private sector banks.

5.1 Conclusion:

The NPAs have always been a big worry for banks in India. It is just not a problem for the banks; they are bad for economy too. In our study it is seen that NPAs have adverse impacts on profitability and liquidity of selected public and private sector banks in India. This is because the money locked in NPA is not available for the productive activities and at the same time banks are required to provide provision for NPAs from their current profits. To improve efficiency and profitability NPA needs to be controlled.

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