

# Non Performing Assets and Profitability of Scheduled Commercial Banks

\*Fareed Ahmed<sup>1</sup> & Dr. Akhilesh Tripathi<sup>2</sup>

(Research Scholar, SOM, Poornima University, Jaipur, India)

Chief Manager, SBI, Jaipur

Corresponding Author: \*Fareed Ahmed

---

**Abstract:** Since the global financial crisis of 2008-09, the asset quality and profitability of Indian banking deteriorated. The Gross NPA ratio rose sharply to 7.5% in FY16 compared to 2.2% in FY09. Once the account is classified as NPA, income from NPA is not recognized on accrual basis and the unrealized interest that was taken to Profit and Loss account on accrual basis shall also be reversed as the policy of income recognition. Operational effectiveness of the banks is affected by the quality of advances, which in turn has an impact on the profitability, cost effectiveness, liquidity, and solvency position of the banks. Hence, an attempt was made to study the impact of NPAs on the bank's performance. Data was collected on Scheduled Commercial Banks in India from RBI reports, and simple correlation and regression applied in order to establish linkages between selected variables—Profit, ROA, ROE, Cost to Income ratio and Provisions, and NPA. The results of statistical analysis indicate that NPAs have insignificant inverse relationship with profit, significant negative impact on ROA, ROE, and a significant positive impact on Cost to Income ratio and Provision. As such, NPAs put detrimental impact on the bank's performance.

**Keywords:** Cost to Income Ratio, NPA, Provisions, ROA, ROE

---

Date of Submission: 16-09-2017

Date of acceptance: 28-09-2017

---

## I. Introduction

The growth story of Indian banking industry is quite interesting and fascinating both in terms of extensive branch network spread across the country and wide range of services to the clientele over the years. The post reform era has brought many changes in accounting standards like introduction of Asset Classification and Income Recognition. One of the major challenges the banking industry is facing is mounting Non Performing Assets (NPAs). The NPAs is an important prudential indicator to assess the financial health of the banking sector. During the last five financial years, from April 2011, there was an alarming increase of distressed assets of the Indian banks. The gross NPAs of Scheduled Commercial Banks reached an alarming figure of ₹611948 crore, amounting to 7.6% of total advances as at March 2016. Besides NPAs, the restructured standard advances accounted for 3.9% of total advances, thus overall the stressed advances rose significantly to 11.5% of total advances as at end March 2016.

Among the bank-groups, Public Sector banks are particularly struggling with high NPAs and they continue to face the dual problem of significant asset quality stress and inadequate capitalization, which impact the growth. They continue to have distinctly higher stressed advances at 14.5% of total advances. The huge NPAs and their continued unmitigated increase in absolute terms have had an adverse impact on the banking system and hence an attempt has been made in this paper to assess the impact of NPAs on bank performance.

### 1.1 Non-Performing Asset (NPA)

An asset becomes non-performing when it ceases to generate income for the bank. Earlier, a non-performing asset was defined as a credit facility in respect of which the interest or instalment of principal or both have remained due for a specified period of time, which was reduced from four quarters to one quarter in a phased manner. Due to the improvements in the payment and settlement system, recovery climate, upgradation of technology in the banking system, etc., it has been decided to dispense with *past* due concept with effect from March 31, 2001. With a view to moving towards international best practices and to ensure greater transparency, it has been decided to adopt the 90 days overdue norms for the identification of NPAs from the year ending March 31, 2004. Banks are required to categorize non-performing assets further into three categories on the basis of the period for which the asset has remained non-performing and the reliability of the dues: Sub-standard Assets, Doubtful Assets, and Loss Assets.

#### 1.1.1 Substandard Assets

With effect from March 31, 2005, a sub-standard asset would be one, which has remained NPA for a period less than or equal to 12 months. Such an asset will have well defined credit weaknesses that jeopardise the liquidation of the debt and are characterised by the distinct possibility that the banks will sustain some loss, if deficiencies are not corrected.

#### 1.1.2 Doubtful Assets

With effect from March 31, 2005, an asset would be classified as doubtful if it has remained in the sub-standard category for a period of 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as substandard, with the added characteristic that the weaknesses make collection or liquidation in full – on the basis of currently known facts, conditions and values – highly questionable and improbable.

#### 1.1.3 Loss Assets

A loss asset is one where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted although there may be some salvage or recovery value.

## **II. Provisioning**

In conformity with the prudential norms, provisions should be made on the NPAs on the basis of classification of assets into prescribed categories. Taking into account the time lag between an account becoming doubtful of recovery, its recognition as such, the realisation of the security and the erosion over time in the value of security charged to the bank, the banks should make provision against substandard assets, doubtful assets and loss assets and banks were also asked to make provisions towards standard advances as prudent measures.

## **III. Objective of the study**

The objective of the study is to assess the impact of NPAs on the performance of Scheduled commercial banks.

## **IV. Review of Literature**

This section covers a snapshot of the previous studies on impact of NPAs on the financial performance of the banks, by various researchers. A high level of NPA puts strain on a bank net worth because banks are under pressure to maintain a desired level of Capital Adequacy and in the absence of comfortable profit level, banks eventually look towards their internal financial strength to fulfill the norms thereby slowly eroding the net worth. (Barge, 2012) [1]

NPA affects the profitability, liquidity and competitive functioning of Public and Private Sector Banks and finally the psychology of the bankers in respect of their disposition towards credit delivery and credit expansion. In a study examining the impact of NPAs on profitability and other financial parameters in selected public sector banks in the state of Haryana, it was concluded that impact of NPAs on the performance of the banks is manifold. 'Profitability' is the worst affected by NPAs followed by 'Credit deployment and investment policy', 'Achievement of capital adequacy ratio level' and reduction in 'Productivity'. (Chhikara, 2007) [2]

One of the studies investigated the impact of asset quality on performance of the private commercial banks in India. The relationship between the asset quality management proxies and profitability nexus were precisely examined. The results showed that a bad asset ratio is negatively associated with banking operating performance, after controlling for the effects of operating scale, traditional banking business concentration and the idle fund ratio. (Chisti, 2012) [3]

Researchers [4] (Aziz, Ibrahim, & Kamaruddin, 2009) focused on the relationship between profitability performance including Return on Assets (ROA), Return on Equity (ROE) and Net Profit Margin (NPM) against NPLs and loan recovery income for four banks in Malaysia. The test indicated that there is a significant impact of NPLs on profitability performance for foreign banks whereas for local banks it depends on the individual bank. It was also observed that NPAs result in loss of interest income, the current profit is reduced, as banks have to make provision for NPA. Capital adequacy ratio is also affected as it is directly related to the quality of assets. It also affects the liquidity position of bank as also recycling of funds due to asset liability mismatch. Banks at times have to borrow at high cost to fulfill their commitment/obligations, which increases the cost of funds. The credit rating of the bank also gets affected due to high NPA and consequently business prospects in the country and abroad. (Vora, 2007) [5]

Some studies also dealt with the concept of NPAs, its magnitude and impact. The profitability of all public sector banks affected at very large extent when NPAs work with other banking strategic variables and also affect productivity and efficiency. It has shown that the NPAs and profitability and productivity are negatively related. Statistically results revealed that the present level of NPAs in public sector banks affects fifty percent profitability of the banks and its impact has increased at very large extent when it works with other strategic banking variables. The high value of co-efficient of determination shows high degree of explanation of

variability in the productivity and efficiency of public sector banks in terms of business per employee and operating profit per employee. (Yadav, 2011) [6]

#### **V. Methodology**

The study relates to Scheduled Commercial Banks and covering the period from 2008-09 to 2015-16 (Eight years). Over the past seven years since the global financial crisis (2008-09), the Indian banking sector has depicted a distinct performance. Hence 2008-09 is selected as base year. The main sources of secondary data used in the study are from Statistical tables relating to banks, RBI Bulletin, RBI Reports, etc. Simple correlation and regression tests have been carried out. In order to identify the strength of relationship between selected independent and dependent variables and NPA, R<sup>2</sup> value is computed. To assess the significance of regression equation, we calculated F-value. To examine the statistical significance of selected independent variables on NPA, t-test is computed.

#### **VI. Findings and Discussions**

The gross non-performing advances (GNPAs) of Scheduled Commercial banks continued to display increasing trend and increased by 9 times in 7 years from ₹68328 during the year 2009 to ₹611948 crores during the year 2016. The GNPA ratio of all SCBs sharply increased to 7.6% as of March 2016 compared to 2.2% in 2009. Looking at the y-o-y growth of GNPAs there has been a significant rise in FY16. The annual rate of growth in gross NPAs which was 21.34 % in 2009 and fluctuated during the study period and stood at 88.70 % in 2016.

##### **1.2 Impact of NPA on Banks' Performance**

The NPAs have adverse impact on various parameters of bank performance. These are discussed below:

###### **1.2.1 Asset (Credit) contraction**

The increased NPAs put pressure on recycling of funds and reduce the ability of banks for lending more NPAs constitute a real economic cost to the Nation in that they reflect the application of scare capital and credit funds to the unproductive uses. The funds locked up in NPAs are not available for productive uses or recycling. As such this staggering proportion of gross NPA of ₹611948 crore as at end of March 2015 are not available for deployment and multiple credit creation process.

###### **1.2.2 Provisioning requirement**

Provisions towards NPAs are regarded as a controlling mechanism over expected loan losses. There is an effect on the Balance Sheet of the bank since NPAs need to be provided for and prudential regulation and accounting standards provide specific guidelines for loan loss provisioning in the banking industry and banks have to provide provisions ranging from 15% to 100% depending on the category of NPAs. So, hard earned money from Performing Assets has to be diverted towards meeting the provisioning needs of NPAs and eventually NPAs to be written off against capital and reserve. If adequate provisioning is not made against NPAs, it will impair the Bank's capital base, thus reducing the protection available to depositors. The details of provisions made towards NPAs and cumulative provisions held at the end of each year are furnished in Table No. 2 The net provisions made during the period 2009-2016 have shown fluctuating trends. NPAs put detrimental impact on the profitability as banks stop to earn income on one hand and attract higher provisioning compared to standard assets which have direct bearing on the profitability of the banks.

###### **1.2.3 Impact on Income**

- **Interest Income**

Non-performing Assets do not generate income as interest to be accounted only on receipt basis and moreover, if advances become NPAs as at close of any year, the unrealized interest accrued and credited to income account, should be reversed or provided for. Apart from this, uncollected fees, commissions and other income that due to any circumstances have accrued in NPAs during past periods should be reversed or provided for. When a bank does not really receive interest, there is loss of flexibility and the bank loses the opportunity to redeploy the income stream for a better purpose. Banks are losing interest income of about ₹46812 crore a year (Average yield@ 10% on average Gross NPA of ₹468124 crore during 2015-16).

- **Burden of Provisions and Write off**

Besides interest loss, banks profitability is affected adversely because of providing of doubtful debts and consequent to writing it off as bad debts. SCBs have lost an income of ₹494000 crore on account of NPAs during the study period. (Table. 2-4).

- **Return on Assets**

Return on assets is defined as net profit divided by average total assets. It gives an idea of the efficiency of the management in using its assets to generate earning by measuring a banks profit per currency unit of assets. This is the main indicator of profitability used in international comparisons and it is one among the guidelines of RBI

for performance analysis of banks. NPAs reduce earning capacity of the assets and thereby Return on Assets (ROA) also gets affected. It may be noted that the SCBs have registered lower returns on assets after global crisis and shown decreasing trend during the period 2009 to 2016 except the year 2011. The performance of the banks is said to be good if the ROA exceeds 1.25 %. The average return on assets of the SCBs is 0.93% for the study period with minimum ROA of 0.40% during the year 2016 and a maximum of 1.10% during 2011. SCBs are losing interest income on GNPA's and on realization of which, SCBs could have improved average ROA of SCBs for the study period by another 70 basis points to make it 1.63 (Table-5).

#### 1.2.4 Return on Equity

Return on Equity is an indicator of the profitability of banks from the shareholders point view. It is a measure of accounting profits of book equity capital. The price of shares largely depends upon ROE, in the absence of speculation. The ability of the banks to attract fresh capital in the market depends upon this indicator. The ROE of all scheduled commercial banks has decreased during the period 2009 to 2016 in consonance with the profitability and exhibited almost similar trends as that of ROA. The average ROE of the SCBs 11.86 % for the study period and it could have been 22.16 % on realization of income lost. (Table-5).

#### 1.2.5 Cost to Income ratio

The ratio reflects the ability of a bank to generate revenue from its expenditure. It captures the impact of off-balance sheet operations and is, thus, a better measure of efficiency than the cost to assets ratio. The Cost to income Ratio has increased from 44.68% in 2009 to 47.35 % in 2015 indicating poor efficiency. However, as per the international best practice norm, banks should strive to achieve cost-income ratio of less than 35%. Therefore, SCBs in India, with the cost to income ratio of 47.35% (2016), needs to cover a lot of ground to achieve international competitiveness and meet the best practice norm in rendering banking services (Table-5).

#### 1.2.6 Operational Cost

The operational cost of the banks will increase due to increase in the NPAs. Monitoring cost of the NPAs is too high. Both the preventive and curative measures for reducing the NPAs attract high expenses. The NPAs in one hand ceases to generate any income from interest and on the other hand it creates loss on account of cost towards effective management of NPAs.

#### 1.2.7 Liquidity

Banks are in a business where liquidity is of prime importance. Increasing NPAs not only critically affect the liquidity of the banks but also force the banks to maintain more liquid assets thereby increasing cost. As fund is blocked in bad assets the bank is bound to borrow money or mobilize deposits for the shorter period of time in order to maintain minimum cash in hand which results additional cost to the banks. The lending capacity of the banks is adversely affected due to their inability to recycle the resources. Hence, every time NPAs increase, deposits are mobilized to fund the incremental NPAs thereby increasing interest expenditure. As per RBI guidelines, banks have to maintain the minimum amount in statutory reserve ratios SLR and CRR (Presently SLR and CRR of 20 % and 4% respectively). So, the banks not only have to fund the NPAs but for every ₹100 of such assets, banks have to mobilize about ₹132 resources to meet statutory reserve requirements.

#### 1.2.8 Solvency and Capital Adequacy

Since the loans and advances issued by the banks is a principal part of the net assets, loan defaults are a primary cause of potential losses. The solvency of a bank is exhibited by Capital Adequacy Ratio (CAR) which is directly related to quality of assets. The CAR is defined as the ratio between the total banks capital and its risk-weighted assets. The CAR reveals the health and solvency position of a bank. NPAs have adverse impact on CAR. Decline in the profitability and liquidity ultimately affects the solvency position of the banks.

#### 1.2.9 Liability Management

In the light of high NPAs, Banks tend to lower the interest rates on deposits on one hand and likely to levy higher interest rates on advances to sustain NIM. This may become hurdle in smooth financial intermediation process and hampers banks' business as well as economic growth.

#### 1.2.10 Reserves and Surplus and Net worth

As there is reduction in the net profit on account of NPAs, the Reserves and Surplus and Net worth also get adversely affected.

#### 1.2.11 Shareholders' Confidence

Normally, shareholders are interested to enhance value of their investments through higher dividends and market capitalization which is possible only when the bank posts significant profits through improved business. The increased NPA level is likely to have adverse impact on the bank business as well as profitability thereby the shareholders do not receive a market return on their capital and sometimes it may erode their value of investments. As per extant guidelines, banks whose Net NPA level is 5% & above are required to take prior permission from RBI to declare dividend and also stipulate cap on dividend payout.

#### 1.2.12 Competency

In the context of severe competition in the banking industry, the banks with high NPAs at disadvantage for leveraging the rate of interest in the deregulated market and securing remunerative business growth in the competitive money and capital markets, inability to offer competitive market rates both to depositors and borrowers.

#### 1.2.13 Public Confidence

Credibility of banking system is also affected greatly due to higher level NPAs because it shakes the confidence of general public in the soundness of the banking system. The increased NPAs may pose liquidity issues which is likely to lead run on bank by depositors. Thus, the increased incidence of NPAs not only affects the performance of the banks but also affect the economy as a whole.

#### 1.2.14 Investments

There is a perceptible change in the complexion of banks since when the prudential norms came into force. The SCBs have developed a tendency to expand investments in preference to credit. This change has an adverse impact on the performance of the economy with cascading effects as flow of credit towards the productive ventures for creation of assets, employment etc., has not been at the desired level.

#### 1.2.15 Economic Value added

Economic Value Added or EVA is a tool that bankers can use to measure the financial performance of their bank. EVA has only been used in the U.S. banking industry since 1994 and is not as well-known as other measures of bank performance. As developed by Stern Stewart & Co., EVA in 1989 is calculated as a company's "net operating profit after taxes" (NOPAT) minus cost for the equity capital employed by the company. The cost of equity capital employed by a company is equal to the company's equity capital (reported on its balance sheet) multiplied by a percentage return that the company's shareholders require on their investment. Expressed as a formula: **EVA="Net Operating Profit after Taxes" – (Capital x% WACC).**

So, the economic value addition (EVA) by banks gets upset because EVA is equal to the net- operating profit minus cost of capital on account of NPAs. When the return on equity is less than the cost of equity, the negative spread leads to a negative EVA.

#### 1.2.16 Market Value Added (MVA)

Market value of invested capital refers to the market value of equity capital and debt capital, but the market value of debt is not easily available, as debts are not generally traded. Thus, the definition of MVA can be stated as

MVA = Market Capitalisation -Net worth.

Where, Market Capitalisation is the product of closing share price and number of outstanding shares as on that date ((i.e.) date of Balance sheet).

As the advance becomes NPA, it ceases to earn interest income and major income of public sector banks is interest income on advances as compared to private sector banks, which will have generally a good contribution of Non-interest income in their income. As such loss of interest income by Public Sector Banks will have impact on their share values

### 1.3 Statistical Analysis

In order to examine the relationship and impact of NPAs have with certain variables like Net Profit, ROA, ROE, Cost to Income Ratio, and Provisions, Simple correlation and regression tests have been carried out and the results are discussed in the following paragraphs. In order to identify the strength of relationship between dependent variables and NPA, R<sup>2</sup> value is computed. To assess the significance of regression equation, we calculated F-value. To examine the statistical significance of NPA on dependent variables t-test is computed.

### 1.4 Impact of NPAs

#### 1.4.1 Impact of NPAs on Net Profit

H<sub>1</sub>, There is no significant relationship between NPA and Net profit.

NPAs explain only 12 % of variation of net profit of SCBs as shown by the R<sup>2</sup>. Therefore, this means that some other factors not included in this model explain 88% of net profit of SCBs. The relationship is negative and the regression coefficient (-) 0.038, is tested through the 't' test and the results show that it is insignificant as the p-value is greater than the significance level (0.402>0.05). It reveals that NPA has insignificant negative effect on Net profit of SCBs. Hence, the hypothesis that there is no significant impact of NPAs on Net profit is accepted. Net Profit consists of income earned by the banks, which includes interest income & other non-interest income. Since the total advances are increasing so interest income is increasing and there is continuous increase in non-interest income which are responsible for insignificant negative impact of NPAs on profits.

#### 1.4.2 Impact of NPAs on ROA

H<sub>2</sub>, There is no significant negative impact of NPA on ROA.

Analysis indicates NPAs explain 97 % of return on assets of SCBs as shown by the R<sup>2</sup>. The findings show that there is an inverse relationship between NPAs and ROA and it is statistically significant as the p-value is less than the significance level (0.000<0.05) and the coefficient value is (-)0.134. It reveals that NPA has negative significant effect on ROA of SCBs and hence we reject the hypothesis. Therefore, it is evidently proved from the analysis that GNPAs have an inverse impact on ROA of banks, that means the bank can have an increasing trend of ROA by the effect of the declining trend of GNPAs ratio (Table-7).

#### 1.4.3 Impact of NPAs on ROE

H<sub>3</sub>, There is no significant negative impact of NPAs on ROE.

The NPLs explain 96.7% of return on equity of SCBs as shown by the R<sup>2</sup>. The findings show that there is an inverse relationship between NPAs and ROE and the coefficient value is (-) 1.963, which is statistically significant as the p-value is less than the significance level (0.000<0.05) It is concluded that NPA has significant effect on ROE of SCBs and results confirm that there is significant negative impact of NPAs on ROE contrary to hypothesis.

#### 1.4.4 Impact of NPAs on Cost to Income Ratio

H<sub>4</sub>, There is no significant positive impact of NPAs on Cost Income Ratio.

The variation to extent of 79% in Cost to Income Ratio of SCBs was explained by the NPAs as shown by the R<sup>2</sup>. The relationship is positive and statistically significant as the p-value is less than the significance level (0.003<0.05). A unit increase in NPLs would lead to a 0.50 units increase in Cost to Income Ratio of SCBs. This indicates that NPA has significant effect on Cost Income Ratio of SCBs and increase in NPAs lead to cost inefficiency in the SCBs (Table-9).

#### 1.4.5 Impact of NPAs on Provisions

H<sub>5</sub>, There is no significant positive impact of NPAs on Provisions.

The non-performing loans explain 98.6% of provisions of SCBs as shown by the R<sup>2</sup>. It is observed that there is significant positive relationship as the p-value is less than the significance level (0.000<0.05). A unit increase in NPLs would lead to a 0.51 units increase in provisions of SCBs. It reveals that NPA has significant positive effect on provisions of SCBs and rejects the hypothesis (Table-10).

## **VII. Conclusion**

NPAs have become major challenge for the bank industry, particularly since the global financial crisis and have adverse impact on performance. It was observed that the high level of NPAs trembles the confidence of investors, depositors, lenders etc. It causes poor recycling of funds, which in turn will have adverse effect on the deployment of credit. The non-recovery of loans affects not only further availability of credit but also financial soundness of the banks.

The high incidence of NPA has cascading impact on all important financials of the banks viz., Profits, Return on Assets, Return on Equity, Dividend Payout, Provisions, Cost to Income ratio, Net Interest Margin, EVA, MVA etc., which are likely to erode the value for all stakeholders including Shareholders, Depositors, Borrowers, Employees and public at large. The results of statistical analysis indicated that NPAs have insignificant inverse relationship with profits, significant negative impact on ROA, ROE and significant positive impact on Cost to Income ratio and Provision. Thus, the NPAs have deleterious impact on various parameters of bank performance.

## **References**

- [1]. A. Barge, "NPA Management in Banks: An Indian Perspective," *IBMRD's Journal of Management and Research*, vol. 1, p. 1, 2012.
- [2]. D. S. Chhikara, "Causes and Impact of Non Performing Assets in Public Sector Banks: A state level analysis," *Amity Management Analyst*, vol. 1, no. 2, pp. 48-56, 2007.

- [3]. K. A. Chisti, "The Impact of Asset Quality on Profitability of Private Banks in India: A case study Private banks," *Journal of African Macroeconomic Review*, vol. 2, no. 1, pp. 126-146, 2012.
- [4]. N. F. b. A. Aziz, I. b. Ibrahim and M. b. I. @. Kamaruddin, "The Impact of Performing Loans (NPL) towards Profitability Performance (ROA, ROE, & NPM)," Shah Alam, 2009.
- [5]. S. Batra, "Developing the Asian Markets for Non-Performing Assets; Developments in India," in *3rd Forum on Asian Insolvency Reform*, Seoul, Korea, 2003.
- [6]. K. Vora, "Management of NPA and Role of Asset Reconstruction Company, Recent Trends in Banking," 2007.
- [7]. M. Yadav, "Impact of Non-Performing Assets on Profitability and Productivity of Public Sector Banks in India," *AFBE Journal*, vol. 4, no. 1, 2011.

<b>Table 1: Trends in GNPA - Scheduled Commercial banks</b>					
<b>Year (as on 31st March)</b>	<b>Gross Advances</b> ₹ crore	<b>Growth over previous Year (%)</b>	<b>Gross NPA</b> ₹ crore	<b>Growth over previous year (%)</b>	<b>Gross NPA Ratio</b>
2009	3031587	20.88	68328	21.34	2.2
2010	3544965	16.93	84698	23.96	2.4
2011	4358628	22.95	97900	15.59	2.4
2012	5158900	18.36	137096	40.04	2.7
2013	5988279	16.08	193194	40.92	3.2
2014	6875748	14.82	264195	36.75	3.8
2015	7560666	9.96	324300	22.75	4.3
2016	8167345	8.02	611948	88.70	7.5

Source: Trends and Progress of banking, RBI and Own computation

<b>Table 2: Details of Provisions towards NPAs (₹ in Crore)</b>				
<b>Year</b>	<b>During the year</b>			<b>Provisions at the end of year</b>
	<b>Provisions made</b>	<b>Provisions added back</b>	<b>Net Provision made</b>	
2008-09	23129	17048	6081	35388
2009-10	18037	10212	7825	43213
2010-11	38742	27915	10827	54040
2011-12	47200	26540	20660	74700
2012-13	49586	32416	17170	91870
2013-14	66518	41350	25168	117038
2014-15	79784	53481	26303	143341
2015-16	176659	NA	NA	320000

Source: Trends and Progress of banking, RBI

**Table 3 : Details of estimated Interest Loss (₹ in Crore)**

Year	AV. GROSS NPAs	AV Cumulative Provisions at the end of year	Return on Performing Advances	Estimated interest loss		Total Interest Income Estimated Loss
				on GNPA	Provisions	
2008-09	62319	32348	9.80	6110	3171	9281
2009-10	76513	39301	9.51	7279	3739	11019
2010-11	91299	48627	9.40	8582	4571	13153
2011-12	117498	64370	10.69	12558	6880	19438
2012-13	165145	83285	10.65	17590	8871	26460
2013-14	228695	104454	10.36	23682	10817	34499
2014-15	294248	130190	10.21	30028	13286	43314
2015-16	468124	231670	10.00	46813	23167	69980

Source: own computation

**Table 4 : Details of estimated Income Loss (₹ in crore)**

Year	Net Provision made during the year	Write off during the year	Total Estimated Interest Income Loss*	Total Estimated Income Loss	Estimated Net Income Lost after Income Tax**	Declared Net Profit	Estimated Total Net Profit
1	2	3	4	5 (2+3+4)	6	7	8 (6+7)
2008-09	6081	15996	9281	31358	20320	52771	73091
2009-10	5644	25019	11019	41682	27010	57109	84119
2010-11	18101	23896	13153	55150	35737	70331	106068
2011-12	20800	20892	19438	61130	39612	81700	121312
2012-13	17370	32218	26460	76048	49279	91200	140479
2013-14	25168	40359	58724	78933	51148	80904	132052
2014-15	26303	58724	43314	98033	63526	89100	152626
2015-16	176659	72501	69980	319140	207377	34149	241526
Total					494009		

\* column 7 of Table 1 and \*\* Average Corporate tax @ 35.02%

Source: Statistical Trends and Progress of banking, RBI and own computation

**Table 5 : Details of Impact of NPAs on ROA ,ROE and Cost to Income ratio \***

Year	Declared Net Profit	Declared ROA	Declared ROE	Estimated Total Net Profit*	Estimated ROA	Estimated ROE	Cost to Income Ratio
2008-09	52771	1.13	15.44	73091	1.57	21.39	44.68
2009-10	57109	1.05	14.31	84119	1.55	21.08	44.68
2010-11	70331	1.10	14.96	106068	1.66	22.56	45.23
2011-12	81700	1.08	14.60	121312	1.60	21.68	45.23
2012-13	91200	1.03	13.86	140479	1.59	21.35	45.02
2013-14	80904	0.81	10.68	132052	1.32	17.43	46.52
2014-15	89100	0.81	10.42	152626	1.39	17.85	46.62
2015-16	34149	0.40	4.80	241526	2.39	33.96	47.35
Average ROA		0.93	11.84		1.49	22.16	45.65

\*Column 8 of Table 4 Source: Trends and Progress of banking, RBI and own computation



Table. 6 : Statistical results- GNPA and Profit					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.345 <sup>a</sup>	0.119	-0.028	20337.85	
a. Predictors: (Constant), GNPA					
<u>Anova</u>					
Model	Sum Squares	of Df	Mean Square	F	Sig.
Regression	335752943	1	335752943	0.812	.402b
Residual	2481768644	6	413628107		
Total	2817521588	7			
Coefficients					
Model	Unstandardized Coefficients		Stand coefficients	t	Sig
(Constant)	78163.21	11866.78		6.587	0.001
GNPA	-0.038	0.042	-0.345	-0.901	0.402
Dependent Variable : Profit					

Table 7 : Statistical results- GNPA and ROA					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.984 <sup>a</sup>	0.968	0.962	0.04775	
a. Predictors: (Constant), GNPA					
<u>Anova</u>					
Model	Sum Squares	of Df	Mean Square	F	Sig.
Regression	.412	1	.412	180.587	.000 <sup>b</sup>
Residual	.014	6	.002		
Total	.425	7			
Coefficients					
Model	Unstandardized Coefficients		Stand coefficients	t	Sig
(Constant)	1.403	.039		35.715	.000
GNPA	-.134	.010	-.984	-13.438	.000
Dependent Variable : ROA					

**Table.8 : Statistical results- GNPA and ROE**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.983 <sup>a</sup>	.967	.961	.71299

a. Predictors: (Constant), GNPA

Anova

Model	Sum Squares	of	Df	Mean Square	F	Sig.
Regression	88.001		1	88.001	173.110	.000 <sup>b</sup>
Residual	3.050		6	.508		
Total	91.052		7			

Coefficients

Model	Unstandardized Coefficients	Stand coefficients	t	Sig
(Constant)	19.352	.587	32.993	.000
GNPA	-1.963	.149	-13.157	.000

Dependent Variable : ROE

**Table. 9: Statistical results- GNPA and Cost to Income ratio**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.888 <sup>a</sup>	.788	.753	.50459

a. Predictors: (Constant), GNPA

Anova

Model	Sum Squares	of	Df	Mean Square	F	Sig.
Regression	5.690		1	5.690	22.346	.003 <sup>b</sup>
Residual	1.528		6	.255		
Total	7.217		7			

Coefficients

Model	Unstandardized Coefficients	Stand coefficients	t	Sig
(Constant)	43.894	.415	105.742	.000
GNPA	.499	.106	4.727	.003

Dependent Variable : Cost to Income ratio

Table. 10 : Statistical results- GNPA and Provisions					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.993 <sup>a</sup>	.986	.984	11824	
a. Predictors: (Constant), GNPA					
<u>Anova</u>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	59156074029	1	59156074029	423.136	.000 <sup>b</sup>
Residual	838823096	6	139803849		
Total	59994897125	7			
<u>Coefficients</u>					
Model	<u>Unstandardized Coefficients</u>		Stand coefficients	t	Sig
(Constant)	-2946.241	6899.019		-.427	.684
GNPA	.507	.025	.993	20.570	.000
Dependent Variable : Provisions					

IOSR Journal of Business and Management (IOSR-JBM) is UGC approved Journal with SI. No. 4481, Journal no. 46879.

Fareed Ahmed. "Non Performing Assets and Profitability of Scheduled Commercial Banks." IOSR Journal of Business and Management (IOSR-JBM) , vol. 19, no. 9, 2017, pp. 01–11.