



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(8): 16-20
www.allresearchjournal.com
Received: 05-06-2017
Accepted: 06-07-2017

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Empirical study of impact of NPA over the profitability of leading private sector banks

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Abstract

In today's era banking sector has gaining the value in the economy day by day. Generally banks are one of the pillars of any of the economy of countries. In normal terms banks are providing the funds to their customers in form of loans and advances. If anyone wants to check how efficiently banks are running their business then he should check it out the amount of Non Performing Assets (NPA) in that bank. Higher the NPA lower the efficiency, Lower the NPA high level of progress and potentiality. Though every banks are engaging in launching the schemes for recovering the loan in time, in last two years overall NPA has been seen near about Rs. 6,14,872 crore which is 135 percent more as compare to previous years according to Financial Express. This paper having the centre idea about the connectivity of profitability and NPA. With the help of descriptive research tool I tried to find out whether there is a significant relationship between NPA and profitability or not. For the study purpose five private sector banks has been taken over here and the data of NPA and Profitability for the year 2013-2017 has been analysed by applying t test.

Keywords: Financial express, private sector banks, non performing assets, profitability, t test

1. Introduction

In India banks are having very long history. Around in year 1770 the concept of the banks had evolved. Slowly and gradually banks had expand their areas. Generally banks are performing two types of key roles i.e. providing loans to the customers and getting deposits from them. For the expansion purpose banks have to provide more and more funds to the customers. So many entrepreneurs are there in India who takes the help of loans to build up their business. So this is the origin of NPA. Every customer many not provide the money to bank in time. So if banks want to perform well in the market, then they have to choose their customer wisely. Proper precautions should be taken with the intention to decrease the NPA.

2. Meaning of NPA

The concept of NPA is revolved around the loans and the advances. Generally loans are the performing assets of the banking sector. So when the customer is not repaying loans in the stipulated time period it can be known as the NPA.

So in a nutshell, "NPA means loans which are undue or defaulted for the specified period of time generally for 90 days."

3. Classification of NPA

Generally banks classify the NPA in the three categories. i.e.

1. Substandard assets: These are the loans which are nor recovered for more than 90 days but less than 12 months
2. Doubtful assets: Assets which are overdue for the period of more than 12 months.
3. Loss assets: Assets which are non recoverable and now not to possible of the recovery of such type of loans.

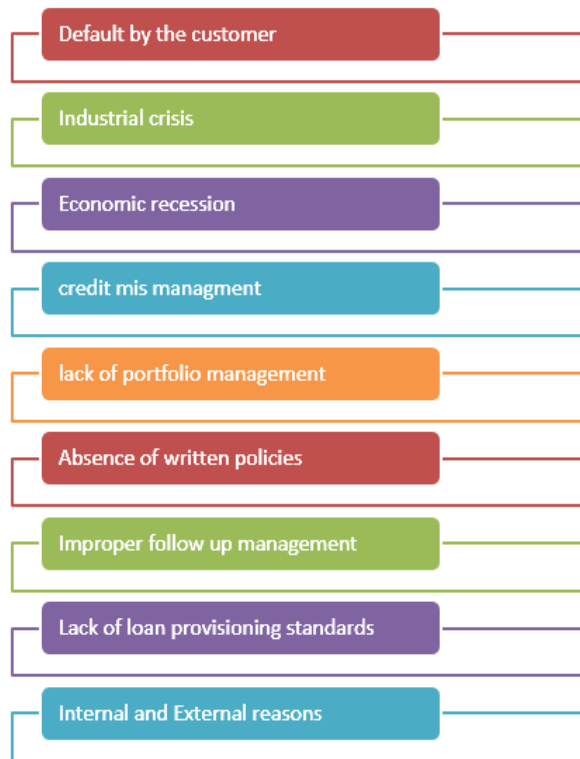
4. Impact of NPA over the banking profitability

- For most and noteworthy impact of NPA is reduction in the profitability of banking sector, which they could generate in form if interest
- NPA also create negative impact over the liquidity of banks.
- Moreover NPA inversely affects the balance sheet of banks.
- It also adversely affect the image of the banks.

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5. Key reasons of huge ratio of NPA

The following are the key reasons of the NPA



6. Literature review

Dr Biswanath Sukul (January 2017) ^[1]: In his research paper named, "Non Performing Assets (NPA)-A comparative study of selected private sector banks." Done the study on comparison of NPA of private sector banks. In initial part he explained about the concept of NPA, classified the loans in four different parts i.e. standard assets, sub standard assets, doubtful assets and loss assets. The key aim of the paper is to compare the gross NPA and Net NPA of HDFC bank, ICICI bank and Axis bank. The study covers the five years 2011 to 2016 data. Data collection method is secondary source of data. At the time of concluding the project his opinion about the performance of the banks is HDFC and Axis both bank's situation is praiseworthy but ICICI is not doing well.

Ayub Ahamed KS and Vishwanath Panwar (November, December 2016) ^[2], had undertake the comparative study of NPA in public and private sector banks. For that they used descriptive research method to describe factors affecting NPA for comparison of performance of both types of the banks. They had taken the three public sector banks named IDBI, Canara bank and Central bank. Three private banks i.e. Axis banks, ICICI and Kotak Mahindra bank. Data gathering mode was secondary source of data for the five years from 2012 to 2016. With the help of charts and graphs they explained the scenario of NPA for five years in both types of banks. In the study they added % of Gross Non Performing Asset and Net Non Performing Assets. They gave the charts named as figures. So in Figure 1 GNPA of public sector bank analysed. In that conclusion was as compare to all four years in 2016 GNPA was almost doubled in all banks. Figure 2 showed GNPA of private sector bank. Which conclude that as compare to other banks

only ICICI had Doubled NPA in year 2016. Figure 3 compares the public and private sector banks. This gave the idea of higher NPA in public sector banks as compare to private sector bank in all five years. Finally in Figure 4 Net Non Performing Assets of both public and private sector banks were compared. That also shows the incremental view of NPA in both. The limitation of the study is only three banks were added in study moreover only five years data were compared. Finally they suggested that to reduce the NPA rate banks should take it as serious and take some strict steps.

Vaibhavi Shah and Sunil Sharma (February 2016) ^[3], had done the comparative study of NPA specifically for the ICICI and HDFC banks. Descriptive research study method used in the paper. Secondary sources like RBI report, websites of selected banks, research papers etc has been used in the paper. Percentage of Gross NPA as well as Net NPA of both the banks for the year 2010 to 2015 has been taken for the study. The method to compare the both the bank's NPA is Correlation-coefficient. R of ICICI for gross NPA is 0.01 and net NPA is negative 0.11. As a conclusion they are saying that performance of HDFC is better than the ICICI bank. Further in the report as a limitation they are giving the first point that as it only covers the selected private banks. Moreover they are saying that NPA is vast topic to cover it fully may be very difficult. At last their opinion about elimination of NPA is that, it is not possible to eliminate total NPA in banking business, but it can be minimized. Proper policy, follow up of advances etc are helpful tips for avoidance of NPA. If banks take proper precautions then it is possible to reduce NPA.

Dr Sonia Narula and Monika Singla (January 2014) ^[4], had done the empirical study on Non Performing assets of Punjab National bank for the period of six years i.e. 2006-2007 to 2011-2012. Comparison of total advances, net profit, gross NPA and net NPA had been done in the paper. With the help of annual report of PNB one interpretation is that loans and advances as well as profit of PNB increasing continuously since 2006 which shows good working of banks. But on the other hand gross NPA and net NPA is also increasing, which shows poor management of the bank. By applying the correlation method r is 0.31, which shows the positive correlation between net profit and net NPA. This means as profit increasing NPA is also increasing, the reason is mismanagement on the side of bank. They suggest that bank should be more cautious at the time of choosing the customer. In addition good management needed on the side of banks to decrease the NPA.

7. Objective of the study

The objectives of my study is as under,

- To create the idea about the impact of NPA over the profitability
- To know more about Non Performing Assets
- And finally the core reason of this study is to analyse the selected bank's performance i.e. Kotak Mahindra bank, ICICI bank, Axis bank, Dena bank and Yes bank from 2013 to 2017.

8. Research Methodology

The present research paper is studying the impact of NPA over the profitability. For that secondary sources of data have been used. At last by applying T test I tried to conclude the paper.

9. Data analysis and interpretation

Profitability ratios of all five private sector banks

Kotak Mahindra bank

Profitability Ratios	Mar '17	Mar '16	Mar '15	Mar '14	Mar '13
Interest Spread	7.64	7.86	8.38	9.52	9.82
Adjusted Cash Margin(%)	62.68	62.43	17.52	16.4	16.22
Net Profit Margin	19.27	12.75	19.19	17.13	16.91
Return on Long Term Fund(%)	87.96	92.2	58.89	59.62	72.07
Return on Net Worth(%)	12.35	8.72	13.19	12.24	14.4
Adjusted Return on Net Worth(%)	47.01	48.3	13.19	12.24	14.4
Return on Assets Excluding Revaluations	150.01	130.61	183.09	159.35	126.53
Return on Assets Including Revaluations	150.01	130.61	183.09	159.35	126.53

ICICI Bank

Profitability Ratios	Mar '17	Mar '16	Mar '15	Mar '14	Mar '13
Interest Spread	6.58	6.83	7.04	7.35	7.82
Adjusted Cash Margin(%)	58.34	61.62	68.36	19.02	18.20
Net Profit Margin	18.09	18.44	22.76	22.20	20.77
Return on Long Term Fund(%)	79.99	86.55	94.40	56.92	56.37
Return on Net Worth(%)	10.11	11.19	13.89	13.40	12.48
Adjusted Return on Net Worth(%)	43.56	47.45	51.26	13.40	12.48
Return on Assets Excluding Revaluations	166.37	149.47	138.72	634.60	578.65
Return on Assets Including Revaluations	171.59	154.31	138.72	634.60	578.65

Axis bank

Profitability Ratios	Mar '17	Mar '16	Mar '15	Mar '14	Mar '13
Interest Spread	6.84	6.81	7.34	7.67	7.9
Adjusted Cash Margin(%)	54.48	65.17	17.7	17.29	16.39
Net Profit Margin	8.26	20.06	20.73	20.29	19.05
Return on Long Term Fund(%)	104.66	114.18	72.32	73.36	75.72
Return on Net Worth(%)	6.59	15.46	16.46	16.26	15.64
Adjusted Return on Net Worth(%)	54.02	60.9	16.46	16.26	15.64
Return on Assets Excluding Revaluations	232.83	223.12	188.47	813.47	707.5
Return on Assets Including Revaluations	232.83	223.12	188.47	813.47	707.5

Dena bank

Profitability Ratios	Mar '17	Mar '16	Mar '15	Mar '14	Mar '13
Interest Spread	7.49	6.33	6.67	6.38	7.36
Adjusted Cash Margin(%)	60.46	-7.48	2.87	5.56	8.91
Net Profit Margin	-8.48	-8.78	2.46	5.52	9.1
Return on Long Term Fund(%)	207.04	92.67	112.67	108.24	130.96
Return on Net Worth(%)	-12.52	-13.09	3.56	7.72	14.05
Adjusted Return on Net Worth(%)	100.24	-13.09	3.56	7.72	14.05
Return on Assets Excluding Revaluations	87.57	107.08	132.59	132.81	164.66
Return on Assets Including Revaluations	87.57	107.08	132.59	132.81	164.66

Yes bank

Profitability Ratios	Mar '17	Mar '16	Mar '15	Mar '14	Mar '13
Interest Spread	6.56	7.53	8.43	10.34	10.73
Adjusted Cash Margin(%)	68.64	16.31	15.34	14.36	14.15
Net Profit Margin	20.27	18.76	17.32	16.2	15.68
Return on Long Term Fund(%)	119.24	92.35	94.12	134.67	137.76
Return on Net Worth(%)	15.09	18.41	17.16	22.71	22.39
Adjusted Return on Net Worth(%)	63.28	18.41	17.16	22.71	22.39
Return on Assets Excluding Revaluations	483.13	327.84	279.6	197.48	161.94
Return on Assets Including Revaluations	483.13	327.84	279.6	197.48	161.94

10. Percentage of gross NPA and net NPA of all five banks

Kotak Mahindra bank

Year	Profitability	Gross NPA (%)	Net NPA (%)
2017	19.27	2.59	1.26
2016	12.75	2.36	1.06
2015	19.19	1.85	0.92
2014	17.13	1.98	1.08
2013	16.91	1.55	1.04

ICICI bank

Year	Profitability	Gross NPA (%)	Net NPA (%)
2017	18.09	7.89	4.89
2016	18.44	5.21	2.67
2015	22.76	3.78	1.61
2014	22.20	3.03	0.97
2013	20.77	3.22	0.77

Dena bank

Year	Profitability	Gross NPA (%)	Net NPA (%)
2017	-8.48	16.27	10.66
2016	-8.78	9.98	6.35
2015	2.46	5.45	3.82
2014	5.52	3.33	2.35
2013	9.1	2.19	1.39

Axis bank

Year	Profitability	Gross NPA (%)	Net NPA (%)
2017	8.26	5.04	2.11
2016	20.06	1.67	0.70
2015	20.73	1.34	0.44
2014	20.29	1.22	0.40
2013	19.05	1.06	0.32

Yes bank

Year	Profitability	Gross NPA (%)	Net NPA (%)
2017	20.27	1.52	0.81
2016	18.76	0.76	0.29
2015	17.32	0.41	0.12
2014	16.2	0.31	0.05
2013	15.68	0.20	0.01

Calculation of NPA

Bank name	2017	2016	2015	2014	2013	Average npa	(x- x̄)^2
Kotak mahindra bank	1.26	1.06	0.92	1.08	1.04	1.072	0.595367
Icici bank	4.89	2.67	1.61	0.97	0.77	2.182	0.114515
Axis bank	2.11	0.70	0.44	0.40	0.32	0.794	1.10166
Dena bank	10.66	6.35	3.82	2.35	1.39	4.914	9.427356
Yes bank	0.81	0.29	0.12	0.05	0.01	0.256	2.520474
						Total:	13.75937

Average NPA IS 1.8436

Sample Variance

Sample Standard Deviation

$$s^2 = \frac{\sum(x - \bar{x})^2}{n - 1}$$

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

$$= \frac{13.75937}{5-1} = \sqrt{\frac{13.75937}{5-1}}$$

$$= 3.439842 = 1.854681$$

Calculation of profitability

Bank name	2017	2016	2015	2014	2013	Average profit	(X- X̄)^2
Kotak mahindra bank	19.27	12.75	19.19	17.13	16.91	17.05	6.210064
Icici bank	18.09	18.44	22.76	22.20	20.77	20.452	34.73924
Axis bank	8.26	20.06	20.73	20.29	19.05	17.678	9.7344
Dena bank	-8.48	-8.78	2.46	5.52	9.1	-0.036	212.9848
Yes bank	20.27	18.76	17.32	16.2	15.68	17.646	9.535744
						Total:	273.2043

Average profitability is 14.558

Sample Variance

Sample Standard Deviation

$$s^2 = \frac{\sum(x - \bar{x})^2}{n - 1}$$

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

$$= \frac{273.2043}{5-1} = \sqrt{\frac{273.2043}{5-1}}$$

$$= 68.301075 = 8.264446$$

T – Test for analysing relationship between NPA and profitability

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$$= \frac{1.8436 - 14.558}{\sqrt{\frac{3.439842}{5} + \frac{68.301075}{5}}}$$

$$= \frac{-12.7144}{0.6879684 + 13.660215}$$

$$= -3.3565$$

(D.F. = $n_1 + n_2 - 2 = 5 + 5 - 2 = 8$), α is 0.05

Table value at this stage is 2.776

The absolute value of the calculated t exceeds the critical value ($3.3566 > 2.776$), so the means are significantly different.

11. Limitation of the study

Though enough amount of care has been taken while doing the research, this research paper is having some of the limitation. That are as follows.

- This study is limited to the period of five year only, which may not give the accurate results.
- Further only five private sector banks has been compared over here which is also a reason of inaccuracy of results.
- May be some subjective bias are there in the paper.
- In the study secondary data has been used which itself a limitation.

12. Conclusion

At last by analysing the test results, one can say that there is always a huge impact of NPA over the profitability of the banking sector. NPA shows the overall performance of banking sector. It is one of the serious problem of the banks now a days. It is always impossible to make the NPA ration to the zero, but it is defiantly possible to reduce the NPA ratio. It only requires proper management, enough pre cautions and timely follow up of loan repayment from customers.

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