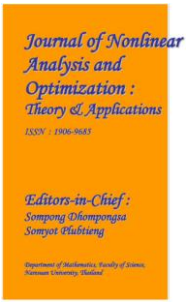
Journal of **N**onlinear **A**nalysis and **O**ptimization
Vol. 15, Issue. 2, No.2 : 2024
ISSN : **1906-9685**



INFLUENCE OF NON- PERFORMING ASSETS ON INDIAN BANKING INDUSTRY

K. Deeppa Faculty Member *IBS, Pune* E-mail: k.deeppa@gmail.com https://orcid.org/0000-0002-8797-0135
Anupama Tadamarla Associate Dean *IBS, Pune* E-mail: anu1078@gmail.com
https://orcid.org/0000-0001-8117-0543
Dr. R. R. Reddy Director IBS Hyderabad E-mail: rrreddy@ibsindia.org

Abstract
This paper examines the analytical relationship among Non Performing Assets (NPAs) and the financial performance that which is through Return on Assets (ROA) of selected public, private and Cooperative banks of India. The data for the study was obtained fromthe official websites of the respective banks, based on the market capitalization of the listed public, private and cooperative banks in India. The data was analysed from the year 2015-2019 where Panel data regression model was usedto observe the influence of NPAs on financial performance of public, private and Cooperative banks of India. The study revealed that there was negative impact of GNPA over financial performance of Indian banking sector. The impact of NNPA on financial performance was negative for public banks in India but was positive for private and cooperative banks in India. In all the study established significant impact of Non Performing Assets on the financial performance of banks in India.

Keywords:
Non Performing Assets, Return on Assets, Financial performance
JEL Classification Codes: F62,G20,G21

INTRODUCTION

For a developing economy like India the strength of its financial system is the most crucial component for its growth. One of the most valuable contributors of this financial system is the Banking sector which performs the major function in a financial system i.e. mobilizing the savings of surplus units (households) for providing the required funds by the productive units (Firms) and thus performing their core functions of acceptance of deposits and lending of loans. By rendering these functions, Banks ensure the circular flow of income in the economy and also controlling the inflation and liquidity rates.

By now it is apparent that lending loans is the major function of any bank, as the interest received against these lending's becomes the biggest source of income to any bank therefore becoming an asset to the bank. Since it is quite explicit that these loans are disbursed to the borrowers with an obligation of repayment, there are high chances that the borrowers do not repay the loan, which later after some said time period becomes a Non performing Asset to a bank.

Banks follow the phenomenon of high risk, high return and hence, lend huge retail and corporate loans to generate profits for their growth. Since banks, unlike any other business cannot survive without profits, their regular lending practices give rise to frequent NPAs, which not only reduces their profits but increases the losses due to multiple outcomes. The banks survival turns to be difficult and asset quality is reduced due to Nonperforming assets as it disturbs the bank's profitability. (Narula and Singhla, 2014). Banks profitability is impacted directly by the NPAs. (Joseph and Prakash, 2014).

What are NPAs as per Indian banking systems?

In a layman language the situation where loans and advances lent by the bank turn into bad debts, these major assets providing interest income become Non - Performing assets for banks which are often abbreviated as NPAs.

In Indian banking system, NPAs hold a special definition and are categorized based on their timelines by the Bankers bank of India, RBI. According to RBI these accumulate a major part of stressed assets for a bank (Stressed assets = NPAs + written off assets + restructured assets). In general an NPA is a state when a loan, whose interest and/or instalment have remained unpaid for more than 3 months. Once the loan instalment is unpaid for 30 days from the date of payment it is to be considered as special mention accounts (SMA). Following is the category of special mention accounts of stressed assets by RBI applicable for all Commercial banks except RRBs (as on June 2019) in Table 1.

Table 1: Basis for classification –Principal or interest payment or any other amount wholly or partly overdue between

SMA Sub – categories	Basis for classification –Principal or interest payment or any other amount wholly or partly overdue between
SMA-0	1-30 days
SMA-1	31-60 days
SMA-2	61-90 days

Here the loan enters in review period if it continues to stay as a default (unpaid) for thirty days i.e., if a loan account should be recognized as a default within 30 days. From then the bank shall start working on preparing a Resolution plan (RP) within this 30 days and implement it within the 180 days from the end of review. Further it is made clear that if the loan instalment remains unpaid for 90 days (SMA-2) then it shall become an NPA for the bank.

In relation to this categorization RBI has further laid fixed additional provisions against NPAs under the resolution plan's mandate for the same (if RP is not implemented). This was to strengthen the banks capacity to overcome huge and unexpected losses against the NPAs. Following table 2 shows it.

Table 2: Timeline to implement additional provisions

Timeline to implement additional provisions	% of additional provisions against total outstanding
180 days from the end of Review period	20%
365 days from the commencement of review period	15% (i.e. total additional provisioning of 35%)

Continuous growth in NPAs every year on year, in every all the three Public, private and cooperative bank types due to multiple reasons is no new thing to Indian banking system by now. In fact due to the PMC bank NPA case made cooperative banks, fully supervised by the national bank, RBI.

LITERATURE REVIEW

Kumar (2013) in his research analysed that Non-performing Assets (NPAs) have turn out to be an annoyance over the past few years to the Indian banking sector. One of the foremost challenge faced in the late 90's by the commercial banks in its performance was that it was adversely affected by the accumulation of huge non-performing assets (NPAs).

Gupta (2012) in concluded in her study that every bank must have an independent credit rating agency for its own ,this agency should gauge the monetary capability of the borrower in advance to the credit facility. It is also important to evaluate the client's financial strength on regular basis to be on a safer side. Balasubramaniam C.S. (2001) emphasized the need to reduce the number of NPA's as many banks were reporting high level of NPAs. A diligent credit appraisal procedure would help achieve this, followed by efficient internal control systems which takes initiative to progress the asset quality in the balance sheets. Haron (2004) established in his research that there was significant relationship between capital and return on asset. He also identified that size of the bank had its impact on Return on Assets.

Kaur (2006) in the study, proposed that urgent need to generate adequate awareness regarding the adverse effect of NPAs on productivity among bank staff, predominantly the field officials to bring about effective control of NPAs. The researcher also proposed that a banker should have regular

communications and meeting with the customers (borrowers) in order to develop healthier relationship and trust.

Using a Meta-Frontier approach, Arora, Arora and Kanwar (2018) have analysed how the performance of commercial banks is getting impacted by NPAs, taking overall technical efficiency as the indicator of performance. The study concluded that bad loans of commercial banks have not reached a panic level where they can negatively affect the technical efficiency of banks. Thus, public sector banks, in specific, can carry on loaning to priority sector, even when this sector shows rise in the NPAs.

Bamoriya (2013) made use of multiple regression method in scheduled commercial banks to observe the influence of certain important financial heads in NPA. There is substantial influence between total assets and deposits on NPAs, but there is no influence between total advance and net interest income on NPAs. Abree and Mendes (2000) analysed a positive resemblance amongst the bank's profitability and loans. Pod Piera and Weill (2008) determined that the impact on the increasing non-performing loans were due to certain selected factors like performance, credit growth, capitalization and cost efficiency.

Research Gap

From the above literature it is clear that there are reasonably a few studies in the field of Non-Performing assets in the banking sector. However, the prime focus of the paper is to analyse the influence of NPAs on the Indian banking sector. The study varies from other studies on the basis of recent data. The study observes how the financial performance is impacted due to the NPA's which is measured by Return on Assets with age as control variable. The research would enhance the knowledge to the literature of banking.

Objective of the study

- To study the relationship between Non-Performing Assets and financial performance (Return On Assets) of Banks in India(i.e. selected public sector banks ,private sector banks and corporation banks)

Hypothesis of the Study

Null Hypotheses: H01: There is no significant relationship between Non-Performing Assets and financial performance (Return on Assets) of Banks in India.

RESEARCH DESIGN

The study is empirical in nature. Data gathered from official websites of relevant banks, annual reports,Journals,magazines, Newspaper etc.

- **Sample**: Private sector banks, Public sector banks and cooperative banks in India and its associates have been considered in this research.The banking sector of India is dominated by three types of bank i.e., Private Banks, Public banks and cooperative banks. They operate the core banking functions like lending and depositing at large in India.Out of these three types, HDFC, ICICI, Yes bank (Private Banks), SBI, BOB, PNB (Public banks) & Cosmos, PMC, Saraswat (cooperative banks) are renowned & major players in the respective type either by market share, market capitalization or by age. Therefore increase or decrease in the NPA trends among these banks may lead to a direct impact on the Banking industry of the economy and it may also cause contagion effect among the other banks. Hence, the research is carried out by knowing the trends of NPAs in the above mentioned banks to meet the research objective
- **Period of study**: The data is based for the period 2015-2019. 2020 and 2021 was not taken as it was a period of uncertainty and a spill over period.
- **Nature of data**: The study is based on the secondary data from the various annual reports of the banks as well as the prudential norms and frameworks said by RBI.
- **Variables used**: Gross NPAs(GNPA's), Net NPAs(NNPA's), Age=Current year –Established year and ROA-Return on Assets=Net Profit/Total assets
- **Methodology**: The statistical tool used in the research is Panel regression model.

The equation for panel regression model is as follows:

$Y=a+b_1X_1$

$Y= a+b_1X_1+\mu$…….. (i)

$Y= a+b_2X_2+\mu$……. (ii)

$Y= a+b_3X_3+\mu$…….. (iii)

Where, Y= ROA (Return on Assets)(dependent variable)

a= constant term;

b_1, b_2& b_3 = Regression coefficients for the respective variables,

X_1 = GNPA's, X_2 = NNPA's, &X_3 = AGE(X_1, X_2& X_3 are independent variables); μ = Error Term.

RESEARCH ANALYSIS

Gross Non Performing Assets: - It indicates the quality of the loan book of the banks, which is the percentage of Total loans and advances that have been declared as Non-performing assets (NPA) by the banks.

Table 3: Gross NPA of Indian Banks

Year	Public banks in India			Private banks in India			Cooperative banks in India		
	SBI	PNB	BOB	HDFC	ICICI	YES Bank	Cosmos	PMC	Saraswat
2015	4.25	6.55	3.75	0.93	4	0.41	9.23	1.07	4.02
2016	7.00	13	10	0.94	6	0.76	9.84	1.39	4.17
2017	7.00	13	10.46	1.05	9	1.28	7.73	1.74	4.63
2018	11.00	18	12.26	1.3	9	1.52	9.45	1.99	3.7
2019	8.00	16	9.61	1.36	7	3.22	8.53	3.76	4.6

Source: - Annual reports of the respective banks for the mentioned years

Table 3 depicts the Gross NPA (GNPA) percentages for the various banks during the years 2015- 2019. Out of the three Public sector banks (PSBs), the GNPA trends in PNB were the highest for all the years (6.55- 16) while SBI GNPA trends are comparatively lower (4.25 – 8) than the other two PSBs. Further, of the three mentioned private sector banks HDFC captured the lowest GNPA percentages (0.93 – 1.36) and ICICI had the highest (4 - 7). Similarly, in the cooperative banks segment, Cosmos bank has the highest (9.23) and PMC bank has the lowest GNPA trends (1.07 – 3.76). Lastly out of all the 9 banks HDFC bank managed to capture the lowest growth in GNPA throughout the years.

Net Non-Performing Assets: - Out of the total gross NPAs for a bank, some of the total GNPA is provisioned i.e., Bank creates provisions for some NPAs. Therefore, Net NPA is difference of Provisions made by the bank and Gross NPAs for a bank. Further NNPA% is the percentage of total loans and advances upon the total amount of net NPAs.

Table 4:Net NPA of Indian Banks

Year	**Public banks in India**			**Private banks in India**			**Cooperative banks in India**		
	SBI	PNB	BOB	HDFC	ICICI	YES Bank	Cosmos	PMC	Saraswat
2015	2	4	2	0.25	2	0.12	6.59	0.45	0.67
2016	4	9	5.06	0.28	2.98	0.29	7.5	0.7	1.83
2017	4	8	4.72	0.3	5.43	0.81	5.96	0.96	1.82
2018	6	11	5.49	0.4	5.43	0.64	7.24	1.05	0.94
2019	3	6.56	3.33	0.39	2.29	1.86	6.3	2.19	1.8

Source: - Annual reports of the respective banks for the mentioned years

The above table 4 shows the Net NPA (NNPA) figures of the mentioned 9 banks from the year 2015-2019. Out of the three mentioned PSBs PNB holds the highest NNPAs (4 – 6.56) whereas SBI has comparatively lower NNPAs (2 - 3) than the other two. Further, of the three private banks HDFC records the lowest (0.25 – 0.39) and ICICI records the highest NNPAs (2 – 2.29). Similarly among the cooperative banks Cosmos bank recorded the highest NNPAs (6.59 – 6.3) and Saraswat Bank recorded slightly lower NNPAs (0.67 – 1.8) during 2019. It can also be interpreted that HDFC bank has lowest growth rate in its NNPAs for all the years and also all the three Private sector Banks managed to have a lower and controlled growth in the NNPAs in all the years when compared to the other banks.

Age of the banks: - It is the number of years for which the bank is operating from the year of establishment. (Kagecha, 2014)The age of a bank states the complete number of operational years of the bank.Research has accomplished the relationship between age and performance of banks. Performance of old institutions were poorer than new entry institution (Beck, Kunt and Maksimovic, 2005).

Table 5: Age of Indian Banks									
Year	**Public banks in India**			**Private banks in India**			**Cooperative banks in India**		
	SBI	PNB	BOB	HDFC	ICICI	YES Bank	Cosmos	PMC	Saraswat
2015	60	121	107	21	21	11	109	31	97
2016	61	122	108	22	22	12	110	32	98
2017	62	123	109	23	23	13	111	33	99
2018	63	124	110	24	24	14	112	34	100
2019	64	125	111	25	25	15	113	35	101

Source: - Calculation by the author from the Annual reports of the banks website

The above table 5 shows the age of the mentioned banks. From the table it can be interpreted that, in a descending order PNB, Cosmos, BOB, Saraswat are in operation from more than a century. While SBI is the youngest Public sector bank, PNB is the oldest one among the three. Among the three cooperative banks PMC is the youngest one while Cosmos Bank is the oldest. Similarly, among the private banks HDFC and ICICI both are of the same age and a decade older than Yes Bank. Further it can also be observed that among the three categories of the banks, the mentioned private banks are the youngest inclusions the Indian banking system.

Return on Assets (ROA): - ROA for bank shows how profitable are the assets to the bank, if the ROA is more than 1 then it indicates that the assets are efficiently utilized, similarly if the ROA is below 1 then the assets are under-utilized and if the ROA is negative then the assets are yielding negative returns to the bank. (Jayakkodiand Rengarajan, 2016) Higher the ratio of ROA, better the performance and leads to higher profit.

Table 6: ROA of Indian Banks									
Year	**Public banks in India**			**Private banks in India**			**Cooperative banks in India**		
	SBI	PNB	BOB	HDFC	ICICI	YES Bank	Cosmos	PMC	Saraswat
2015	0.63	0.5	0.49	1.73	1.72	1.6	0.31	1	0.61
2016	0.48	-0.59	-0.78	1.73	1.34	1.7	0.25	0.95	0.62
2017	0.38	0.18	0.2	1.68	1.26	1.8	0.37	0.98	0.62
2018	-0.18	-1.6	-0.34	1.64	0.77	1.6	0.03	0.89	0.6
2019	0.2	-1.28	0.6	1.69	0.34	0.5	0.39	0.75	0.72

Source: - Annual reports of the respective banks for the mentioned years

The above table depicts the ROA of the mentioned banks for the given years. Among the Public banks PNB has the lowest and negative ROA, whereas SBI shows a recovering yet a low ROA and BOB has comparatively a better ROA. In the above mentioned private banks, all the three show a positive ROA but HDFC has a consistent and higher ROA than the other two mentioned private banks. Among the mentioned cooperative banks Although PMC has higher ROA but at a decreasing rate, whereas Cosmos and Saraswat Bank have a lower ROA.

FINDINGS

Table 7: Descriptive statistics of Bank variables					
Public banks in India	Variable	Minimum	Maximum	Mean	Std. deviation
	ROA	-1.6	0.63	-0.074	0.705
	GNPA	3.75	18	9.992	4.058
	NNPA	2	11	5.211	2.562
	AGE	60	125	98	27.045
Private banks in India	Variable	Minimum	Maximum	Mean	Std. deviation
	ROA	0.34	1.8	1.407	0.48
	GNPA	0.41	9	3.185	3.074
	NNPA	0.12	5.43	1.565	1.804
	AGE	11	25	19.667	5.094
Cooperative banks in India	Variable	Minimum	Maximum	Mean	Std. deviation
	ROA	0.03	1	0.606	0.29
	GNPA	1.07	9.84	5.057	3.098

	NNPA	0.45	7.5	3.067	2.738
	AGE	31	113	81	35.527

Table 7 depicts the descriptive statistics of Public, Private and Cooperative banks of India. The ROA of the public sector bank has a minimum of -1.600 and maximum value of 0.630 .The mean value was recorded to be -0.074 and standard deviation of 0.705.Among the three banks ROA is high only with public sector banks. Public sector banks recorded a minimum value of 3.750 and maximum value of 18 for GNPA. The mean value for GNPA of public sector banks is 9.992 and standard deviation is 4.508. Similarly the NNPA of public sector banks has a minimum value of 2 and maximum value of 11; whereas the mean value is 5.211 and Standard deviation are 2.562. Among the three banks, the standard deviation for the NNPA and GNPA is the highest in public sector banks. Further the in Age of the bank, Public sector banks recorded a minimum value of 60 and a maximum value of 125, whereas the mean value for the same is 98 and standard deviation is 27.045.

The ROA of the private sector bank has a minimum of 0.34 and maximum value of 1.8 .Themean value was recorded to be 1.407 and standard deviation of 0.48. Private sector banksrecorded a minimum value of 0.410 and maximum value of 9 for GNPA. The mean value forGNPA of private sector banks is 3.185 and standard deviation is 1.804. Similarly the NNPA ofprivate sector banks has a minimum value of 0.12 and maximum value of 5.143; whereas themean value is 1.565 and Standard deviation is 1.804. Among the three banks, the standarddeviation for the NNPA and GNPA is the lowest in private sector banks. Further the in Age ofthe bank, Private sector banks recorded a minimum value of 11 and a maximum value of 25,whereas the mean value for the same is 19.667 and standard deviation is 5.094.

The ROA of the cooperative bank has a minimum of 0.03 and maximum value of 1 .The mean value was recorded to be 0.606 and standard deviation of 0.290. Among the three banks ROA is low only with cooperative banks. Cooperative banks recorded a minimum value of 1.07 and maximum value of 9.840 for GNPA. The mean value for GNPA of Cooperative banks is 5.057 and standard deviation is 3.098. Similarly the NNPA of cooperative banks has a minimum value of 0.45 and maximum value of 7.500; whereas the mean value is 3.067 and Standard deviation is 2.738. Further the in Age of the bank; Cooperative banks recorded a minimum value of 31 and a maximum value of 113, whereas the mean value for the same 81 and standard deviation is 35.527.

Table:8 -Model summary and ANOVA

Banks	R^2	Adjusted R^2	F-Value	P-Value	Durbin Watson
Public banks in India	0.731	0.658	9.967	0.002	1.778
Private banks in India	0.603	0.495	5.571	0.014	0.105
Cooperative banks in India	0.933	0.914	50.683	0.0001	0.105

*Predictors: (constant), GNPA, NNPA, AGE. **Dependent variable: ROA

From the table 8, it is seen that the value of adjusted R square for the public banks in India was 0.658, which states that 65.8% variations of the dependent variable (ROA) is because of the independent variables (GNPA, NNPA and AGE). The R- square value, Coefficient of determination is 0.731, which show that independent variables refers to 73.1% differences of ROA. There is a strong influence of independent variable over the dependent variable. In case of private banks in India the adjusted r square was 0.495, stating 49% variation in dependent variable is due to the independent variable. The influence of independent variable over dependent variable is moderate with 60.3% which is the R-square value for the private banks in India. The adjusted R square value and R-square value is high in the event of Cooperative banks in India which is .914 and .933.The dependent variable (ROA) is highly influenced by the independent variables (GNPA, NNPA and AGE)

F value of public banks in India is 9.967, Private banks of India and Cooperative banks in India are 5.571 and 50.683 respectively. The values evidently demonstrates the variation of dependent variable and independent variables. P value of all the banks is less than 0.05 depicts that the relationship of NPAs and profitability is significant at 5 % level of significance. Durbin Watson tests reveal values of 1.747, 1.226 and 2.400 respectively forthe public , private and corporative banks of India and all the values are close to 2.

Table 9:Hausman Test

	Test Summary	statistic.Chisq	parameter.df	Probability

Public banks in India	Cross-section random	29.901	3	1.45E-06
Private banks in India	Cross-section random	16.712	3	0.00081
Cooperative banks in India	Cross-section random	290.429	3	1.17E-62

Table 9 shows that Hausman Test was done to check which effect (fixed/random) would be appropriate for the data. The test showed that public, private and cooperative banks in India had a probability value is (less than 0.05) that showed significant results which described that fixed effect panel would be suitable for the data.

Table 10:Fixed Effect Panel Estimation

	Variable	Estimate	Std. Error	z-value	Probability
Public banks in India	Constant	1.370	0.421	3.251	0.001
	GNPA	-0.137	0.063	-2.174	0.030
	NNPA	-0.023	0.097	-0.233	0.816
	AGE	0.000	0.005	0.096	0.924
Private banks in India	Constant	1.363	0.382	3.569	0.000
	GNPA	-0.361	0.131	-2.757	0.006
	NNPA	0.413	0.212	1.947	0.052
	AGE	0.028	0.022	1.275	0.202
Cooperative banks in India	Constant	1.122	0.057	19.533	<0.0001
	GNPA	-0.112	0.051	-2.191	0.028
	NNPA	0.032	0.044	0.728	0.467
	AGE	-0.001	0.002	-0.370	0.711

ROA:DependentVariable

The Panel regression equation was:

$ROA=1.370-0.137(X_{GNPA})-0.023(X_{NNPA}) +0.000(X_{AGE})$ -------- (i)

$ROA=1.363-0.361(X_{GNPA}) +0.413(X_{NNPA}) +0.028(X_{AGE})$ -------- (ii)

$ROA=1.122-0.112(X_{GNPA}) +0.032(X_{NNPA})-0.001(X_{AGE})$--------(iii)

Equation (i) explains the impact of NPA's on the financial performance of public banks in India measured by Return On Assets (ROA), Equation (ii) explains the impact of NPA's on the financial performance of private banks in India measured by Return On Assets (ROA) and Equation (iii) explains the impact of NPA's on the financial performance of Cooperative banks in India measured by Return On Assets (ROA).

Table 10 where the significant value of public banks in India ,private banks in India and Cooperative banks in India had value less than 0.05 for ROA and GNPA which as a result rejected the null hypothesis.But in contrast the significant value of NNPA and AGE is greater than 0.05, hence the null hypothesis is accepted.

From the model in equation (i) it is seen that GNPA and NNPA is negatively associated and AGE has no effect on the ROA in the public banks in India. Equation (ii) depicts the model for private banks in India stating that GNPA is negatively associated with ROA but NNPA and AGE are positively associated. In the case of Cooperative banks in India GNPA and AGE is negatively associated and NNPA is positively associated with ROA.

CONCLUSION

The researchstudied the impact of NPAs on the financial performance of public, private and cooperative banks in India for a period of 2015 to 2019. The study is about an investigation about the persuasion of hypothesis from literature. The study dealtwith variablesthatchanges the financial performance of public, private and Cooperative banks in India. All the variables available in the research defines and described the issues losses of loan. The model used to understand the issue was the panel regression model. Generally the outcome of the study stated GNPA has no significant impact on the ROA for all public, private and cooperative banks in India. Whereas GNPA and AGE has significant impact on public, private and cooperative banks in India. The study also stated that for public banks in India GNPA and NNPA had negative influence and AGE had no influence on the financial performance. For the private banks in India GNPA was found to be influencing negatively

where as NNPA and AGE were found to be influencing positively. In the case of Cooperative banks in India GNPA and AGE influenced the financial performance negatively and NNPA influenced positively. It was clearly visible that AGE of the bank played an important role for the private sector banks.The study stated that banks in India should have appropriate attention in the direction of thevariables which is profound to private sector.

For further studies the same work can be extended to other banks in India and foreign banks can be well-thought-out for research and the study can be considered with other variables that influence the financial performance.

REFERENCES

Arora, N., Arora, N. G., & Kanwar, K. (2018), Non-performing assets and technical efficiency of Indian banks: a meta-frontier analysis. *Benchmarking: An International Journal*, 25(7), 2105-2125.

Balasubramaniam, C.S.(2001), Non-performing assets and profitability of commercial banks in India: assessment and emerging issues.*Abhinav Journal*, Vol.1(7), ISSN 2277-11662001.

D, Jayakkodi. & P,Rengarajan. (2016). A Study on Non-Performing Assets of Select Public and Private Sector Banks in India, *Intercontinental journal of finance research review*, 4(9), 29-38.

Gupta, B.(2012), A Comparative Study of Non-Performing Assets of SBI & Associates & Other Public Sector Banks.*SIT Journal of Management*, Vol. 2, No. 3, PP. 175-189.

Kaur , K. & Singh, B.(2011), Non-performing assets of public and private sector banks A comparative study.*South Asian Journal of Marketing and Management Research*, Vol. 1, Issue 3, 2011.

Kumar, P.T.(2013), A Comparative study of NPA of Old Private Sector Banks and Foreign Banks.*Research Journal of Management Sciences*, ISSN 2319–1171 Vol. 2(7), 38-40.

Haron, S. (2004), Determinants of Islamic Bank Profitability. (Electronic Version) *Global Journal of Finance and Economics,*Volume 1, No1, March, pp 11-23.

Bamoriya, P. & Jain, R.(2013), NPA and Select Key Financial Heads: an Empirical study of Commercial Banks of India using Multiple Regression Modelling.*The Journal of Accounting and Management*, issue 2, 19-25.

Mendes, V., & Abree, M. (2003), Do Macro-Financial Variables Matter for European Bank Interest Margins and Profitability?, In EcoMod2003- International Conference on Policy Modelling, *Global Economic Modelling*.

Podpiera, Jiri & Weill, Laurent. (2008), Bad luck or bad management? Emerging banking market experience.*Journal of Financial Stability*, vol. 4(2), 135-148

Narula, S., & Singla, M. (2014), Empirical Study on Non Performing Assets of Bank.*International Journal of Advance Research in Computer Science and Management Studies*, 2(1), 194-199.

Joseph, A. & Prakash, M. (2014), A Study on Analyzing the Trend of NPA Level in Private Sector Banks and Public Sector Banks.*International Journal of Scientific and Research Publications*, 4 (7), 1-9.

Kagecha, K. P. (2014), Bank Performance: Does Bank Size Matter? *Research paper submitted to the School of Economics,* University of Nairobi.

Beck, T., DemirgüçKunt, A., &Maksimovic, V. (2005), Financial and legal constraints to growth: does firm size matter? *The Journal of Finance*, 60 (1),137-177.