A Comparative Statistical Approach towards NPA of PSU and Private Sector Banks in India

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Abstract: The present paper is to analyze the comparative study of the NPA factor and returns on assets of the PSU banks and private sector for the period of five years i.e., from 2011-12 to 2015-16. The study has considered various parameters for measuring the performance like as Gross NPA %, Net NPA %, return % on assets, growth % of Net NPA and growth % of return on assets. The data of State Bank of India; Punjab National Bank are using for PSU banks and HDFC Bank; ICICI Bank are using for private banks. It is to conclude that the results and trends show that NPAs are having a downward trend over the study period, but Non Performing Assets of public sector banks are still higher than private sector banks. The returns on the assets have also the downward trends but this is much lower in PSU banks as compared to private banks. Hence, the performances of PSU banks are not suitable as compared to private sector banks. The t-tests show that the results are not statistically significant at $p < 0.05$.

Keywords: HDFC Bank, ICICI Bank, NPA, PSU Banks, PNB, Private Banks, SBI

I. INTRODUCTION

Before starting the nationalisation of Indian banks, State Bank of India (SBI) was only nationalised bank. It took place in the month of July 1955 under the SBI Act -1955. The nationalisation of seven State Banks of India took place on 19th July, 1960. The State Bank of India is the largest commercial bank and is ranked one of the top five worldwide banks. The next phase of the nationalisation of Indian banks took place in 1980. The seven more banks were nationalised with deposits over 200 crores. Till this time, around 80% of the banking parts of India were under GOI ownership. After the process of nationalisation of banks, the branches of PSU banks rose to approximately 800% in deposits and advances took a huge jump by 11,000%.

The private sector banks in India represent part of the Indian banking system that is made up of both public and private sector banks. The private sector banks are the banks in which the greater parts of state or equity are held by private shareholders and not by the government. The banking in India has been dominated by the public sector banks since the 1969 when all big banks were nationalized by the government. However, since liberalization in the government banking policy in 1990s, new and old private sector banks have re-emerged. They have grown bigger and faster over the two decades since liberalization using the technology, providing monetary tools and techniques and contemporary innovations.

The private sector banks can be divided into two groups by the financial regulators in India, i.e., old and new. The old private sector banks existed before the nationalization in 1969 and kept their independence as they were either much small or specialist to be included in the nationalization. The new private sector banks are those that have increased their banking license since the liberalization in the 1990s.

II. NPA OF BANKS

A Non-performing asset (NPA) is said as the credit facility with respect of which the interest and installment of Bond finance principal has remained 'past due' for the specified period of time. The NPA is used by financial institutions that refer to the loans that are in jeopardy of default. When the borrower has failed to make interest or principle payments for 90 days then the loan is said to be a non-performing asset. The non-performing assets are much problem full for the financial institutions since they depend on the interest payments for the income. The troublesome pressure from economy can lead to sharp increase in the non-performing loans and often results in massive write-downs.

A. RBI Latest Report

The Gross bad loans at the commercial banks could increase to 8.5% of total advances by March 2017, from 7.6% in March 2016, according to a baseline scenario projection by the Reserve Bank of India (RBI) in its Financial Stability Report. The RBI noted in the report: "If the macro situation deteriorates in the future, the gross NPA ratio may increase further to 9.3 per cent by March 2017."

The central bank has been pushing lenders to review the classification of loans given by them as part of an Asset Quality Review (AQR). The resultant sharp surge in the provisions for the bad debts has eroded profitability, especially at the state owned banks, in the recent quarters. The gross bad loans of the public sector banks increased to 9.6% as of March 2016, from about 6% a year earlier, RBI data showed.

There was an almost 80% jump in the gross bad loans in 2015-16, according to the report. Gross bad loans of the Indian banks widened to 7.6% from 5.1% in Sep. and from 4.6% in Mar. 2015. In 2004, the gross bad loans in the

Indian banking system touched around 7.8%, while the ratio was 11.1% in the year 2002. The rise in gross NPA is mainly due to the AQR, RBI said in the report. The AQR conducted by banking regulator found the several restructured advances those were standard in the banks' books that needed to be reclassified as non-performing.

But due to a large proportion of some restructured advances slipped into the NPA category, the overall stressed assets ratio increased to 11.5% from 11.3% in Sep. RBI said subsequent to the AQR, gross NPAs rose by 79.7% year to year in Mar. 2016.

The net NPA of the banks also increased to 4.6% per cent in Mar. 2016 from 2.8% in Sep. 2015. The public sector banks' net NPA was around 6.1%, while the ratio for the private sector banks was around 4.6%.

From the business view point, the report noted that the credit and deposit growth remained in the single digits for previous financial year. While credit growth was around 8.8%, the deposit growth was 8.1%.

There was a vast difference in the credit and deposit growth of the PSU banks as compared to their private sector counterparts. According to the RBI data, for public sector banks, the loans grew at 4% while it was 24.6% for the private banks. The deposits of PSU banks grew by 5.2%, while for private banks it was around 17.3%.

The total Gross Non Performing Assets (GNPAs) of banks stood at Rs 5, 94,929 crores as at end Mar. 2016, marking a huge jump of about Rs 200,000 crore in just one quarter. In that more than 90% of this is on the books of PSU banks.

The RBI withdrew regulatory forbearance on the restructured loans, making it mandatory for the banks to make provisions on the restructured loans at par with bad loans and forcing them to set aside 15% of the loan amount as provisions if they chose to go for the fresh restructuring. Earlier, banks used to conveniently push many stressed loans, especially in infrastructure sector to the restructured loan category to prevent them from slipping into NPA category.

III. LITERATURE REVIEW

A number of researches have been done and gone through and this part of the paper is to present a review of all those are available in the same area of non-performing assets of the public sector banks and private sector banks. Some of the analysis is as follows.

Rajaraman, I. et al., (2001) investigates the variations within a class that is homogenous on the ownership dimension and operational efficiency.

Reddy, P. K., (2002) deals with the experiences of other Asian countries in handling of NPAs, and suggests mechanisms to handle the problem by drawing on experiences from other countries.

Das, S., (2010) has tried to analyse the parameters that are actually the reasons of NPAs and those are, wilful defaults, market failure, poor follow-up and supervision, poor Legal framework, non-cooperation from banks, lack of entrepreneurial skills and diversion of funds. Rajeev, M. et al., (2010) examines the Indian trends of NPA's from various dimensions and explains how the recognition of problem continuous observing can reduce it to the greater extent. They also discuss the functions of the joint liability groups or self help groups in enhancing the loan recovery rate. Satpathy, I. et al., (2010) have attempted to examine

the causes of NPA's in home loans of commercial banks. For this borrowers of the loans were surveyed via questionnaires and final suggestions given to overcome the issue.

In 2011, Satpathy, I. et al., have tried to analyze the quantitative trend and pattern in growth of NPA with reference to the various education loan schemes, in Odisha. An effort was made to find out the cause, by a questionnaire survey of the different types of defaulters, those are students of different colleges, and suggestions to overcome the problem were also given by the author. Kaur, H. et al., (2011) attempt was made in the paper to know about NPA, the magnitude and reasons for high NPA's, the factors responsible for the contribution towards NPA's and their impact on the banking systems. Rajput, N. et al., (2011) tried to trace movement of the NPAs presence in the public sector banks of India, by analyzing the financial performance in managing NPA. Chaudhary, K. et al., (2011) have made an attempt to analyze how efficiently Public and Private sector banks have been managing NPA. A statistical tool for projection of trend was used for analysis.

Patidar, S. et al., (2012) analyzed the percentage share of NPA as components of priority sector lending, the comparative study was conducted between SBI and Associates, New Private Banks, Old Private Banks and Nationalized Banks of the benchmark category, to find out significant difference of NPA and also find out the significant impact of Priority Sector Lending on total NPA of Banks using the statistical tools. Rajput, N. et al., (2012) provide an empirical approach to the analysis of profitability indicators on NPA, it also discusses the factors that contribute towards NPA, and also analyses the solution for the same. Rai, K. (2012) made an effort to evaluate the NPA of the selected banks and their trends and issues, also the measures taken for managing the NPA's like reformulation of banks' credit appraisal techniques, establishment of monitoring cell, etc. Rakshit, D. and Chakrabarti, S., (2012) deal with understanding the extent of NPA's in cooperative bank and the major causes behind an account becoming non-performing in cooperative banks. Kumar, M. and Singh, G., (2012) focus on the most significant factors that contribute for the non-performing assets problem from the top bankers of PSU banks and some others banks in India and the measures required to manage the NPA's. Gupta, J. et al., (2012) deal with the performance and lending practices of few successful coop. banks of Delhi city, whose customers have taken different type of loans from the bank. Pradhan, T. K.'s study (2012) is on Odisha and depends on the miss-management or diversion of fund, which are one of the main causes of NPA. The study is based on primary data that has been analyzed by % method. The data was taken from fifty bank officials through a questionnaire. Rajput, N., Arora, A. P. and Kaur, B. (2012) focus on management of non-performing assets of the public sector banks under asset classification norms. The study also tried to trace the issue of non-performing assets present in the public sector banks and also analysed their performance in managing the NPA. Gupta, B.'s study (2012) has been made on SBI and Associates and public sector banks, an effort has been made to analyze the concept of NPAs, its magnitude and main causes for increasing the NPA and also evaluate the operational performance in managing NPA. Patnaik, B. C. M., Satpathy, I. (2012) analyse the causes of NPAs in

working capital loans of Urban Co-operative banks. Pradhan, T. K. (2012) analyse how the reform measures helped in lowering the NPA in public sector banks, the data has been observed by percentage method.

Selvarajana, B. and Vadivalagan, G. (2013) analyzed the necessity and the nature of non-performing assets in the Indian Bank, Tamil Nadu. The study was done on the priority sector loan. Ahmad, Z. et al., (2013) have written on the NPA and causes for NPA. Secondary data was collected for a period of five years and analysed by CAGR, average, ANOVA and ranking banks. The banks were ranked according to their performance to manage the NPA's. The efficiency in managing the NPA by the nationalised banks was tested. Ranjan, R. and Dhal, S. C., (2013) explore an empirical approach to the analysis of Indian commercial banks' non-performing loans by regression analysis. The empirical analysis evaluates as to how the NPA's are influenced by some economic and financial factors, i.e., terms of credit, macroeconomic shocks and bank size induced risk preferences. Srinivas, K. T., (2013) undertake to study the reasons for loans and advances becoming NPA in the banking Sector and give some suitable solution to overcome the said problem. Ganesan, D. and Santhanakrishnan, R., (2013) have been made to evaluate the non-performance assets of the SBI since 2002. Bansal, S. et al., (2013) has been made to evaluate the operational performance of Public Sector Banks and Private sector bank in India with the help of data between 2003-09, on NPAs trends and issues and analyzes how the efficiently of Public and Private sector banks have been managing NPA. Kamra, S. D., (2013) analyses the position of NPAs in some nationalised banks i.e., Punjab National Bank (PNB), State Bank of India (SBI), and Central Bank of India (CBI). It also focuses on the various policies pursued by banks to manage the NPAs and suggests a strategy for the speedy recovery of NPAs. Bhatia, B. S. et al., (2013) have analyzed on District Central Cooperative Bank of Punjab, the study also asses to analyse the impact of some new product lines on non performing advances in cooperative banks and trends in NPA against loan schemes.

Joseph, A. L., (2014) deals with trends of NPA in the banking industry, internal, external and some other factors that mainly responsible for NPA rising in banking industry and also provides some suggestions for overcoming the burden of NPA. Arora, N. and Ostwal, N., (2014) analyse the comparison and classification of loan assets of private and public sector banks. The study concluded that the NPA's are a big issue for the banks. According to them, the financial companies and public sector banks have higher NPA's as compare to Private sector banks. Dutta A., (2014) observed the growth of NPA in public and private sector banks in India and analysed sector wise non-performing assets of the banks. For the purpose of the analysis data has been taken from some secondary sources like as report on trend and progress of banking in India, Report on Currency and Finance, RBI, RBI Economic Surveys of India. Ibrahim, M. S. et al., (2014) have analyzed the concept of NPAs, components of loan assets in private sector, public sector and other banks through a diagnostic approach by using the secondary data. Satpal (2014) has been made the proper definition of NPA and the factors responsible to NPAs, reasons for high values of NPA's and their impact on various banking systems. Yadav, S. (2014) has tried to show

the recent trends and its preventive measures to control NPAs in Indian banking industry. Tripathi, L. K. et al., (2014) analyzed the impact of priority sector advances, unsecured advances and advances made to some sectors by banks like SBI group and other banks on Gross NPAs of banks. The study by Sulagna Das et al., in 2014 was done on the State Bank of India and its associates. In 2014, Satpal analyzes the NPAs level of banks and said that it is still high as compared to the foreign banks. Mahajan, P. (2014) said that NPAs of public sector banks have sharp declining trend, still it is higher than private and foreign sector banks.

Kavitha, N. A. et al., (2016) said that the extent of NPA is comparatively very high in public sector banks as compared to private banks. Singh, V. R., (2016) said that Non-Performing Assets have always created a big problem for the banks in India and the NPAs level of our banks is still high as compared to the foreign banks.

IV. STATEMENT OF THE PROBLEM

The efficiency and performance of the banks are the key sources of the efficiency and efficacy of countries' financial system. The biggest objective of the banking system reforms in India has been to increase the profitability and efficiency of the banks. The present analysis tries to discuss the reasons of the NPA in PSU and private sector banks and also analyses the problems, with the suitable solution. The main subject matter of this paper is to understand the significant difference of the NPA occurrence and management of NPA in PSU and private sector banks in India regarding priority and non-priority sector lending.

V. SCOPE OF THE STUDY

- ➢ The present study will pave the way to the academic as well as general public about the overall efficiency at which the PSU and private banks are serving.
- ➢ This analysis will also help to understand the financial performance through NPA of both PSU and private sector Banks.
- ➢ This study will throw light on the different aspects where the State Bank of India, Punjab National Bank and HDFC, ICICI Bank excel and how the banks will provide an opportunity in balancing its NPA to achieve the best performance.

VI. RESEARCH METHODOLOGY

A. Research Design

The descriptive research design is used for the analysis and it is essentially a fact finding approach. It aims to explain the behavior and characteristics of an individual or group characteristics and to determine the frequency with the same things occurs.

B. Sample Design

The deliberate sampling technique is used for the present analysis. This sampling method involves the purposive or deliberate selection of particular units of world for constituting a sample that represents the population.

C. Selection of the Sample Units

The banking sector in India is considered as the one of the fastest growing financial institutions in the world. By using the purposive sample, State Bank of India (SBI), Punjab National Bank (PNB) and HDFC Bank, ICICI Bank were selected for the PSU banks and Private Banks respectively as the sample units for the study. The sample units selected were considered as one of the successful units in the banking sector.

D. Data Collection

The data were collected through annual report from sources that are secondary in nature such as internet, magazines, websites, books and journals.

E. Period of Study

This study covers a period of last five years, i.e., from 2011-12 to 2015-16.

F. Tools Applied

The present analysis is based on the secondary data collected from the annual reports of State Bank of India, Punjab National Bank, HDFC Bank and ICICI Bank. The analysis NPA's of the banks is being carried out from 2011-12 to 2015-16. In order to analyze the NPA factor and NPA based performance of the banks by taking Gross NPA% (GNPA), Net NPA% (NNPA), %Growth of NNPA, Returns on Assets % and %Growth of Assets %. These ratio components of the bank have been analyzed through mean, coefficient of variation, coefficient of correlation, CAGR and t-test of significance.

VII. OBJECTIVES OF THE STUDY

➢ To analyze the trend of NPA of PSU Bank and Private Banks with the sample of various ratios of SBI, PNB; HDFC, ICICI banks.
➢ To assess the comparative study of NPA of PSU Banks and Private Banks.
➢ To evaluate the performance of PSU and private banks via NPA analysis.

VIII. HYPOTHESIS OF THE STUDY

✓ H_{01}: There are no significant differences across the different components of the NPA.
✓ H_{02}: The performance of the banks based on NPA is not significant during the study period.

X. Tables and Graphs

Table I (Various ratios of the PSU banks for FY-2011-12 to FY-2015-16)

NPA Ratios	FY-2011-2012	FY-2012-2013	FY-2013-2014	FY-2014-2015	FY-2015-2016
Gross NPA (SBI)	39,676.46	51,189.39	61,605.35	56,725.34	98,172.80
Net NPA (SBI)	15,818.85	21,956.48	31,096.07	27,590.58	55,807.02
% of Net NPA (SBI)	1.82	2.10	2.57	2.12	3.81
% Growth of Net NPA (SBI)	0.00%	+15.38%	+22.38%	-17.5%	+79.71%
Return on Assets % (SBI)	0.88	0.91	0.65	0.76	0.46
% Growth on Assets (SBI)	0.00%	+3.4%	-28.57%	+16.92%	-39.47%
Gross NPA (PNB)	8,719.62	13,465.79	18,880.06	25,694.86	55,818.33
Net NPA (PNB)	4,454.23	7,236.50	9,916.99	15,396.50	35,422.57
% of Net NPA (PNB)	1.52	2.35	2.85	4.06	8.61
% Growth of Net NPA (PNB)	0.00%	+54.6%	+21.27%	+42.45%	+112.06%
Return on Assets % (PNB)	1.19	1.00	0.64	0.53	-0.61
% Growth on Assets (PNB)	0.00%	-15.96%	-36%	-17.18%	-215.09%
Average % of NNPA of PSU Banks	1.67	2.225	2.71	3.09	6.21
Average % of NNPA Growth of PSU Banks	0.00%	+33.23%	+21.79%	+14.02%	+100.97%
Return on Assets % of PSU Banks	1.035	0.955	0.645	0.645	-0.075
% Growth on Assets of PSU Banks	0.00%	-7.72%	-32.46%	0.00%	-111.62%

Table II (Various ratios of the Private Banks for FY-2011-12 to FY-2015-16)

| NPA Ratios	FY-2011-2012	FY-2012-2013	FY-2013-2014	FY-2014-2015	FY-2015-2016
Gross NPA (HDFC)	1,999.39	2,334.64	2,989.28	3,438.38	4,392.83
Net NPA (HDFC)	352.33	468.95	820.03	896.28	1,320.37
% of Net NPA (HDFC)	0.20	0.20	0.30	0.20	0.28
% Growth of Net NPA (HDFC)	0.00%	0.00%	+50%	-33.34%	+40%
Return on Assets % (HDFC)	1.80	1.90	2.00	2.00	1.90
% Growth on Assets (HDFC)	0.00%	+5.55%	+5.26%	0.00%	-5%
Gross NPA (ICICI)	9,475.33	9,607.75	10,505.84	15,094.69	26,221.25
Net NPA (ICICI)	1,860.84	2,230.56	3,297.96	6,255.53	12,963.08
% of Net NPA (ICICI)	0.73	0.77	0.97	1.61	2.98
% Growth of Net NPA (ICICI)	0.00%	+5.47%	+25.97%	+65.97%	+85.09%
Return on Assets %(ICICI)	1.50	1.70	1.78	1.86	1.49
% Growth on Assets (ICICI)	0.00%	+13.33%	+4.7%	+4.49%	-19.89%
Average % of Net NPA of Private Banks	0.465	0.485	0.635	0.905	1.59
Average % Growth of NNPA of Private Banks	0.00%	+4.3%	+30.92%	+42.51%	+75.69%
Average Return on Assets % of Private Banks	1.65	1.8	1.89	1.93	1.695
Average % Growth on Assets of Private Banks	0.00%	+9.09%	+5%	+2.1%	-12.17%
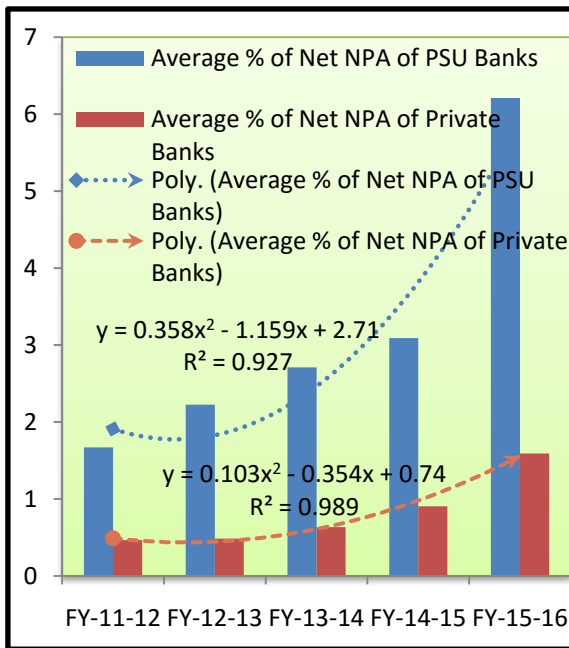
Figure 1 (Financial years Average NNPA percent of PSU and Private Banks from 2011-12 to 2015-16 with polynomial trend lines)
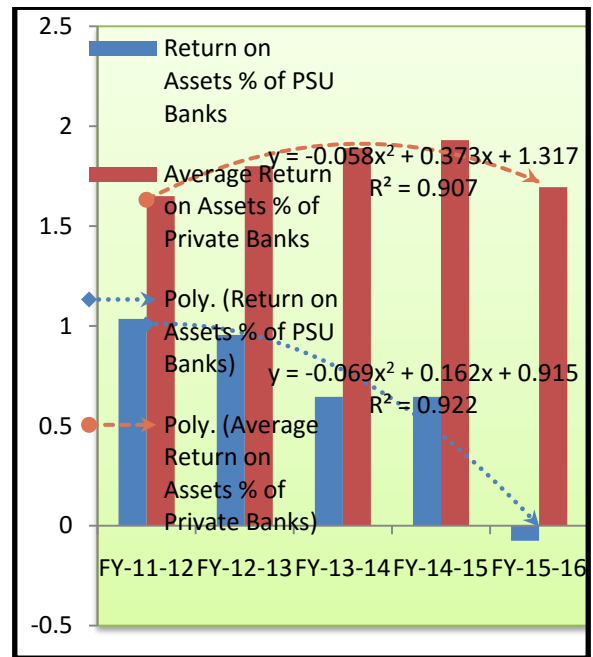

Figure 3 (Financial years Average Returns on Assets percent of PSU and Private Banks from 2011-12 to 2015-16 with polynomial trend lines)
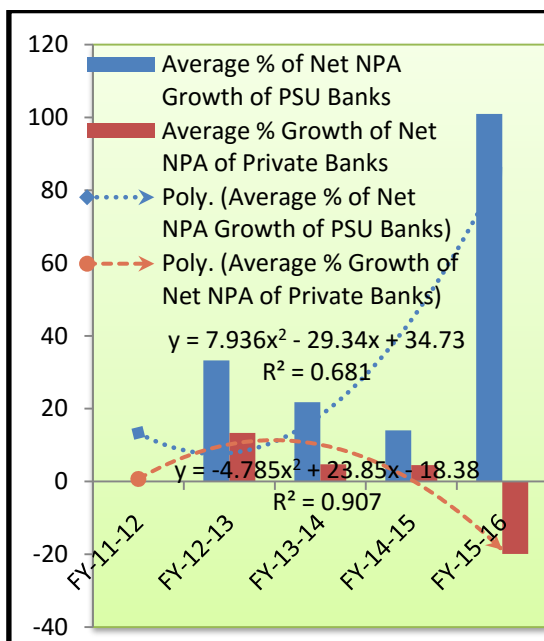

Figure 2 (Financial years Average NNPA Growth percent of PSU and Private Banks from 2011-12 to 2015-16 with polynomial trend lines)
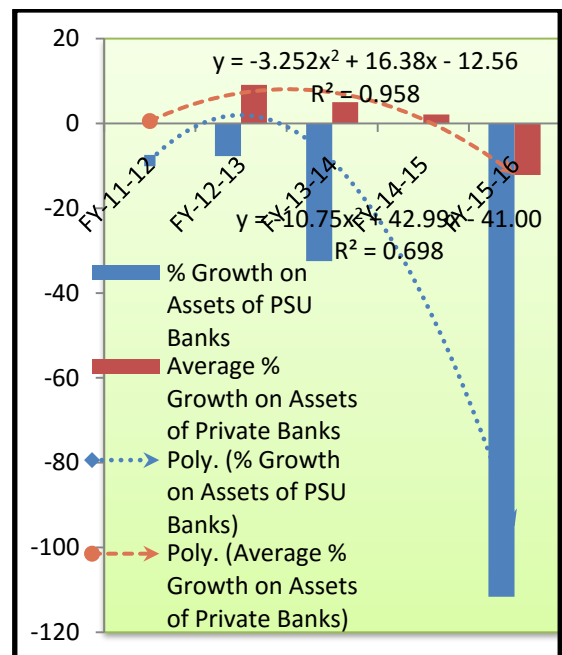

Figure 4 (Financial years Average Growth of Returns on Assets of PSU and Private Banks from 2011-12 to 2015-16 with polynomial trend lines)

IX. RESULT AND DISCUSSION

✓ SBI Net NPA CAGR=39.8%, Correlation coefficient (r): 0.802, CV=0.283, 2.1. The T-value is -0.243903. The P-Value is 0.819305. The result is not significant at $p < 0.05$. Return on Assets% with Correlation coefficient (r): -0.851, CV=0.224, The T-value is 0.997. The P-Value is 0.374857. The result is *not* significant at $p < 0.05$.

✓ PNB Net NPA CAGR=141.8%, Correlation Coefficient=0.897, CV=0.645. The T-value is 0.820738. The P-Value is 0.457891. The result is not significant at $p < 0.05$. Return on Assets% with

Correlation coefficient (r): -0.917, CV=1.14. The T-value is -0.287041. The P-Value is 0.788337. The result is *not* significant at $p < 0.05$.

✓ Mean Net NPA CAGR for PSU Banks=90.8%, CV=0.499. Return on Assets% with Correlation coefficient (r): -0.913, CV=0.61. The T-value is -0.020432. The P-Value is 0.984677. The result is *not* significant at $p < 0.05$.

✓ HDFC Net NPA CAGR=8%, Correlation Coefficient=0.508, CV=0188.The T-value is 0.774826. The P-Value is 0.481696. The result is not significant at $p < 0.05$. Return on Assets %with Correlation coefficient (r): 0.566, CV=0.038, The

T-value is -2.13809. The P-Value is 0.099301. The result is *not* significant at p < 0.05.

✓ ICICI Net NPA CAGR=45%, Correlation Coefficient=0.893, CV=0.598. The T-value is 1.046102. The P-Value is 0.354562. The result is not significant at p < 0.05. Return on Assets % with Correlation coefficient (r): 0.133, CV=0.089, The T-value is -1.534945. The P-Value is 0.19959. The result is *not* significant at p < 0.05.

✓ Mean Net NPA CAGR for Private Banks=26.5%, CV=0.511. Return on Assets % with Correlation coefficient (r):0.288, CV=0.06. The T-value is -1.796913. The P-Value is 0.146765. The result is *not* significant at p < 0.05.

X. CONCLUSION

The results and trends show that NPAs are having a downward trend over the study period, but Non Performing Assets of public sector banks are still higher than private sector banks. The returns on the assets have also the downward trends but this is much lower in PSU banks as compared to private banks. The core management of private sector banks is more professional, much competent and expertise than the PSU banks. So, they are more competent in making plans to recover funds from borrowers including both institutional and individuals. The public sector banks are required to lend money to the poorer sections of the society also, where the recovery chances is very low. That is why, the NPAs of public sector banks have sharp declining trend, and still it is much higher than private sector banks. Now the various steps have been taken by the government for recovery and reducing the NPAs of PSU banks. The one time settlement scheme i.e., compromise scheme, Debt Recovery Tribunals, Lok Adalats, Securitization and reconstruction of financial assets and enforcement of Security Interest Act 2002, Corporate Reconstruction Companies, Credit information on the defaulters and role of credit information bureaus are the steps taken by the government. The ruling of Honorable Supreme Court i.e., upholding the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002, is also a big step for banks to recover the loan and lowering the NPA's. So, conclusively it can be said that this is the suitable time for government to rethinks its privatization strategy about the PSU banks and let them freely compete in the market.

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