A STUDY ON IMPACT OF NON PERFORMING ASSETS ON PROFITABILITY OF SELECTED PUBLIC SECTOR BANKS OF INDIA FROM APRIL 2014 - MARCH 2019

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ABSTACT

The study focuses on the levels of Non Performing Assets of Selected Nationalized Public Sector Banks in India from April 2014 to March 2019. Non Performing Assets are responsible for reduction in the profit margins for the banks as they are the primary components for loss of cash flows in a set duration of time. The Non Performing Assets are quite volatile and they change every quarter affecting the levels of cash inflow of the bank which in turn reduces the liquidity margin and the cash reserve requirement of the bank. In this paperwe have tried to analyze the share of deposits in the Indian Banking Industry which contributethat 83% of the share is held in the hands of either state or nationalized banks. The effect of Non Performing Assets on the bank lays a negative impact on the overall performance of the bank and there have been made continuous efforts for the reduction of the same since very long.The paper evaluates the levels of the Non Performing Assets on the Banks Profitability in the set duration and is measured with the help of application of comparative analysis and some statistical tools. The study also tries to evaluate the interrelation between the variables that are Non Performing assets and Profitability of the bank in gross and net prospects for the stated years and helps to develop an understanding between the effects of the Non Performing assets on the Profitability of the bank. It shows the gradual rise and fall of the measures and their comparison for actual performance evaluation the Banking Industry in India through Nationalized medium.

Key Words: Indian Banking Industry, Non Performing Assets, Profitability, Level of performance

INTRODUCTION:

The economic development of any country is completely dependent on the Banking and financial services. Banks are the drivers determining the growth of the economy with constant exposure to various kinds of risk such as credit, liquidity, interest, market, operational and market risk. Inspite of all the efforts taken by government the banking industry is not able to revive from the growing levels of Non Performing Assets which are a slowdown in the profitability of the banks (Rajput. N, Arora. A, 2012).

Banking industry is the key growth indicator which is exposed to different types of risks mainly credit risk, liquidity risk, interest risk, market risk, operational risk and management risk which affect the profitability of the banks in a negative manner. Other than these all risk one more important factor which bank has to face is the loan recovery of the entire amount which is disbursed as loans to the public (Malayadari. P, Sirisha. S, 2011). The major performance of the bank depends on the efficient financial position of the bank which is concentrated on the loan recovery and Non Performing assets (NPA) which enhances the profitability of the banks.Lower NPA levels usually project information that the credit appraisal policy of the bank is working in an efficient manner whereas higher NPA levels state that the same is not in the corrective measures which in turn lower down the overall performance of the banks.

After the major financial reforms in the financial sector the banking industry has gained focus and the strategies have been building up in such a manner that they are providing foundation for the core development of the financial sector of an economy. The utilization of the resources is done in such a manner that the lower segment of the society gains maximum advantage and better opportunities for the overall development of the economy.The high level of NPAs in banks andfinancial institutions has been a matter of concern to the economic growthof the country and any bottleneck in the smooth flow of credit, one cause forwhich is the mounting NPAs, is bound to create adverse repercussions inthe economy. (Rajput. N, Arora. P, Kaur. B (2012)**.** In 2000 and beyond, the key element is that banks shouldstrive to achieve significant increase in their assets for creating a vibrantand competitive financial system. In the context of global competition, it is aparamount task for the Indian banks to manage and convert their NPAs to performingassets. Therefore, there is a need to examine the strengths and weaknessesof the banking sector and managed NPA levels by the banks. The banks find itchallenging to identify feasibility of recovery of NPA's, which needs a highlevelexpertise in an effective control and reduction of mounting NPA levels. (Gupta, B., 2012).

REVIEW OF LITERATURE:

Mitra R, Ravi S(2008), in their study focused on the performance of the Indian banks evaluating the efficiency of banking sector in India. They aimed to compare the performance of the banking industry and estimate the performance of the same for the purpose of the banking development. The study was based on the hypothesis that the major players in the banking industry are able to compete with the global players and have sufficient intermediation for the same. Finally the paper was able to justify the content and suggested few measures which were competent enough to improve the performance of the Banking Sector Reforms in Indian Scenario.

Debanath. R, Shankar. R (2008) tried to evaluate the performance of the Indian Banking Industry in a systematic manner which was then further analyzed in a working model such as Data Envelopment Analysis. This approach initiated a new reform for measuring the performance of the Indian Public and Private sector banks. The outcome of the study laid an emphasis on the scope for the improvement of the performance in the banks according to the suggestions provided for the same.

Kavitha. N (2012), studied the performance of various banks of State Banks Groups situated all over the country and critically evaluated the same. The study focused on the impact of Non Performing Assets and emphasized on the assessment of nonperforming assets on the bank profitability with its magnitude and impact. Credit in the form of total advances was of doubtful nature and due to this the assets in the past have shown an adverse impact on profitability of all Public Sector Banks which affected at very large extent on the productivity and efficiency of the banking groups. The study observed that there is increase in advances over the period of the tenure which was chosen for the analysis. However, with the decline in ratio of Non-performing Assets it clearly indicates the scope of improvement in the assets quality of SBI groups, Nationalized Banks and Private Sector Banks.

Rajput. N, Arora. P, Kaur. B (2012), in the paper evaluated the performance of the banks in accordance with the essential regulatory framework which was provided by Reserve Bank Of India for the mandatory and statutory maintenance of the banking and legal directives required for the systematic regulation and easy functioning of the Banks. They even stated that the rising levels of NPA are the major cause for the economic degradation of the country's development which is a matter of concern and effective measures should be taken for the same to overcome such situation.

Mohnani. P, Deshmukh. M (2013), studied the recent reforms of the Indian banking industry with reference to the introduction of various new norms and regulations introduced by RBI to calculate the actual financial standing of the sector after the emergence of Private sector banks which laid an impact on the performance and business of the Public sector banks soon after their existence. The study even tells us about the inclusion of new rules and regulations which are to be followed for the better attainment of the objectives and target for achieving a low NPA level.

Joseph. A, Prakash. M (2014), in his article on an evaluation ofthe financial performance of Indian private sector bankswrote Private sector banks play an important role indevelopment of Indian economy. After liberalization thebanking industry underwent major changes. The currentsituations have changed and new generation banks with use of technology and pro-economicreforms totally have changed the banking sector. Reserve bank of India gave permission to new banks to be started in the private sector under recommendation of Narashiman committee. TheIndian banking industry before this was dominated by public sectorbanks. But professional management has gained a reasonable position in the banking industry and are operating at a much faster pace.

Rao. M, Patel. A (2015), In their study tried to analyze the different reasons for the existence of the NPA in the banking sector from 2009-2013 with the help of various test implied on the same data set. The authors tried to come to a conclusion for the same and they found that different ratios in the different banking sectors don't have any significant change even after the end of the tenure.

Sengupta. R, Vardhan. H (2017), In the research paper the authors made a comparative analysis of the two major crises which happened in the year 1997-98 and then in the economic slowdown of 2008-09. They measured the performance of the banks in the stated time periods and gave their reviews about the situations that emerged at both the situations. In their comparison they found that the situations arising due to rising levels of NPA are similar and also suggested some measures to control the same.

Mishra. U. M, Pawaskar. J. R (2017), concluded with the help of various ratios that the profitability of the banks depend upon various factors and not one. They even calculated the various types of risk attached with the growing NPA from a period of 2011-12 to 2015-16 which revealed that the banks have constantly faced the increase in the levels of NPA and need to be proactive and adopt some or the other futuristic analysis approach to overcome the problem.

OBJECTIVES OF THE STUDY:

i. To measure the performance of banking industry.

ii. To study the gross and net levels of Non Performing Assets.

iii. To assess the profitability levels in the Banking industry from April 2014 to March 2019.

iv. To find relationship between Non Performing Assets and Profitability of banks.

HYPOTHESIS:

The paper identifies need for the formation of hypothesis which justifies the scope of inter -relationship between the Profitability and the Non Performing Assets for a span of five years from April 2014 to March 2019 of Selected Public sector Banks in India.

The following hypothesis is identified to justify the study which is as follows:

Null Hypothesis: There is no significant relation between the Profitability and Non Performing Assets of the Public Sector Banks. (Rao. M, Patel. A , 2015)

RESEARCH METHODOLOGY:

The research methodology to be followed in the research paper is based on the identification for establishment of relationship between the profitability and non performing assets of selected Nationalized Indian Public sector banks from tenure of April 2014 to March 2019. The data so collected is from the secondary sources that are Reserve Banks Bulletin, Press releases, and Compiled data published from different sites available online.

The above said data is divided and classified in various groups for accurate calculation of inter relationship between the profitability and non performing assets of the selected banks. This leaves us with different set of variables which are used for calculation. Further the data is evaluated through Correlation Coefficient which gives us an insight on the dependability of the two independent variables selected and gives us the actual inter relationship and dependency between the two from time to time.

DATA ANALYSIS AND INTERPRETATION:

The above study is based on the data collected from the official websites of selected nationalized banks which are **State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda and Union Bank of India.**These are the major nationalized banks which are having maximum percentage participation in the market structure and have proved to be the major banking institutions for the customer's preference as well.

STATE BANK OF INDIA:

State Bank of India is an Indian Multi-National, Public sector bank and financial service body. It ranked 236thposition in Fortune Global 500 list of world's biggest corporation in 2019. It includes total of 23% market share in assets besides a share of ¼ of total loan and deposit market. It is one of the largest employers with approximately more than 200,000 employees as on 31st March 2017. Government of India holds 61.23% equity shares in SBI (State Bank of India) and LIC (Life Insurance Corporation of India) as largest non-promoter shareholder with 8.82 % share holding. It is listed on BSE (Bombay stock exchange), NSE (national stock exchange), and CNX NIFTY etc. Its global depository receipts (GDR) are listed on London Stock Exchange. It has over 24000 branches in India approximately. It has a few non-banking subsidiaries such as SBI Capital Market Ltd., SBI cards and payments services Pvt. Ltd. (SBICPSL), SBI Life Insurance Co. Ltd.

https://en.wikipedia.org/wiki/State_Bank_of_India

Punjab National Bank: It is a banking and financial service bank ownedby Government of India with its head quarters at New Delhi. As of June 2019 the bank has 115 million customers, 7036 branches and 8906 ATM's, following a long series of Mergers with various banks at different times finally on 30th August 2019 Oriental Bank of Commerce and United Bank of India merged with PNB (Punjab National Bank) and became second largest public sector bank (PSB) in country with 17.95 lakh crore assets and 11437 branches. Equity shares are listed on BSE, NSE, CNX NIFTY. It is ranked as best PSB in India by CNBC in 2012. Promoter of the bank is Government of India with 58.87% holding and Foreign Direct Institutional Investment of 17.51%. The various products offered by bank are Credit Cards, Consumer and Corporate Banking, Insurance Services, Investment Banking, Mortgage Loan, wealth Management etc.

https://en.wikipedia.org/wiki/Punjab_National_Bank

Canara Bank: It is one of the largest public sector bank owned by Government of India with share of 70.62% as on date. The bank continues its business with 6310 branches and more than 8851 ATM's. It is proposed that Canara Bank is going to get merged with Syndicate Bank making the bank 4th largest public sector bank. It has spread business with many subsidiary companies such as Canfin Homes Ltd. (CFHL), Canbank Factor LTD., Canbank Venture Capital Fund Ltd., Canbank Computer Service Ltd., Canbank Securities LTd., Canara Bank Financial Service Ltd., Canara Bank HSBC Oriental Life Insurance Co. Ltd. It also sponsors two regional rural banks as Kerela Gramin Bank and Karnataka Gramin Bank. They have variety of products to offer such as investment banking, consumer banking, commercial banking, retail banking, private banking, asset management, mortgage etc. They have a development project for solar power retention in partnership with UNEP.

https://en.wikipedia.org/wiki/Canara_Bank

Union Bank of India: It is one of the major banks in India with 90% government participation also listed on FORBES 2000. It has over 4300 branches with expansion in foreign countries. It also offers varied products ranging from consumer banking, merchant banking, finance and insurance services, mortgage loans, private banking, wealth management etc. A merger of Andhra Bank and Corporation Bank is proposed with Union Bank of India making it stand on 5th rank in the Indian Banking Industry. The number of employees employed in the bank is almost 35514 as on 2016.

https://en.wikipedia.org/wiki/Union_Bank_of_India

Bank of Baroda: Bank of Baroda stands as a multinational bank and financing institute with over more than 9583 branches in India and abroad. The government of India announced amalgamation of three banks Bank of Baroda, Vijaya Bank and Dena Bank which was a three tier amalgamation and first of its kind in the Indian banking history making Bank of Baroda stand as the third largest bank. It is a proud company with various subsidiaries such as BOBCAP (BOB capital markets), The Nainital Bank, BOB Financial Solutions Limited, Baroda Asset Management India Limited, India Infradebt Limited, BOB UK Limited. The major shareholding of the bank is owned by the Government of India likely81%. Till date the bank is performing in various countries with global presence and has various financial instruments of all kinds to offer to its customers. They have even sponsored few sports events such as Women Badminton in Olympics, Paid partnership in FIFA and many others.

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https://en.wikipedia.org/wiki/Bank_of_Baroda

The overall performance of all the banks is measured on the basis of the profit or loss they have earned in the financial year starting from April 2014 to March 2019 and the level of Non-Performing Assets prevailing in that particular year which is even responsible for bringing down the profitability of the banks. This data relating to the profitability percentage and NPA levels is represented in tabular form below which is further represented in charts for clarity and understanding.

Gross Non-Performing assets and Net Non- Performing assets defined :-

As per the Narasimham Committee Report (1991),” A Non-Performing Asset (NPA) is defined as a credit facility which included advances, bills discounted, overdrafts, cash credits etc. in respect of which the interest and/or installment of principal has remained past due or unpaid for a specified period of time particularly 180 days or four quarters”.

However with time to time there have some or the other changes in the same to bring the banking sector to the international standards and give Indian Banking System a global presence maintaining high level transparency the norms were brought down to 90 days in terms of Term Loan with effect from 2004 and so on.

Gross NPA

Gross NPA accounts for the total amount outstanding as NPAs in the Borrower’s account, excluding the interest receivable till date. According to the Reserve Bank Guidelines if any account is identified as NPA then the interest outstanding on it cannot be apportioned as profit and needs to be recorded separately.

Net NPA

According to the Reserve Bank Guidelines the NPA is defined as

Gross NPA – Balance of Interest in suspense account + DICGC/ECGC claims received and held pending adjustments + Part payment received and kept in suspense account + Total provisions held

With the help of this stated guideline the banks are required to furnish their details for the financial year in the projected balance sheet and perform all the calculations based on the same.

GROSS NON-PERFORMING ASSETS

Years	**SBI**	**PNB**	**CANARA**	**UNION**	**BOB**
2014-2015	56725.34	25694.86	13039.96	13030.87	16261.44
2015-2016	98172.80	55818.33	31637.83	24170.89	40521.04
2016-2017	112342.99	55370.45	34202.04	33712.00	42719.00
2017-2018	223427.46	86620.05	47468.47	33712.00	56480.00
2018-2019	172753.60	78472.70	39224.12	48729.00	48232.76

Source:https://www.rbi.org.in/

NET NON-PERFORMING ASSETS

Years	SBI	PNB	CANARA	UNION	BOB
2014-2015	27590.58	15396.50	8740.09	6918.97	8069.49
2015-2016	55807.02	35422.56	20832.91	14025.94	19046.46
2016-2017	58277.38	32702.10	21648.98	18833.00	18080.00
2017-2018	110854.70	48684.29	28542.40	24326.00	23483.00
2018-2019	65894.74	30037.66	22955.11	20332.00	15609.50

Source:https://www.rbi.org.in/

NET PROFIT OR LOSS

Years	SBI	PNB	CANARA	UNION	BOB
2014-2015	13101.57	3061.58	2702.62	1781.64	3398.44
2015-2016	9950.65	-3974.40	-2812.82	1351.60	5395.54
2016-2017	10484.10	1324.80	1121.92	555.21	1383.14
2017-2018	-6547.45	-12282.82	-4222.24	-5247.37	-2431.81
2018-2019	-698.32	-9975.49	347.02	-2947.45	433.52

Source:https://www.rbi.org.in/

Statistical Tool used for Analysis:-

The statistical tool used here for analysis of the data is Correlation Coefficient which is used to determine the relationship between two independent variables and their inter dependability on each other. The independent variables used over here are Net Profit or Loss and their dependency on Net Non Performing Assets and Gross Non Performing assets individually. This tool has given a formula for reference which is applied and then the data is sorted accordingly which in turn gives the values between 0 to 1 ,. The formula for the same is as follows:

Correlation Coefficient Formula

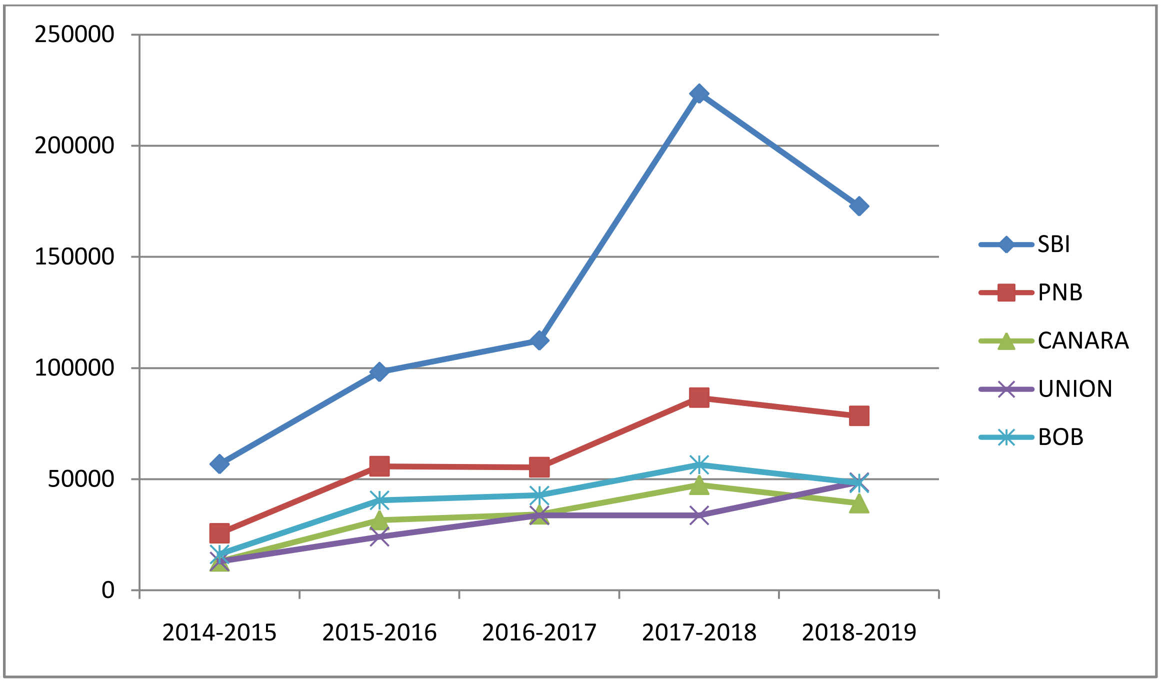
$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

(Gupta ,S. P.,2009)

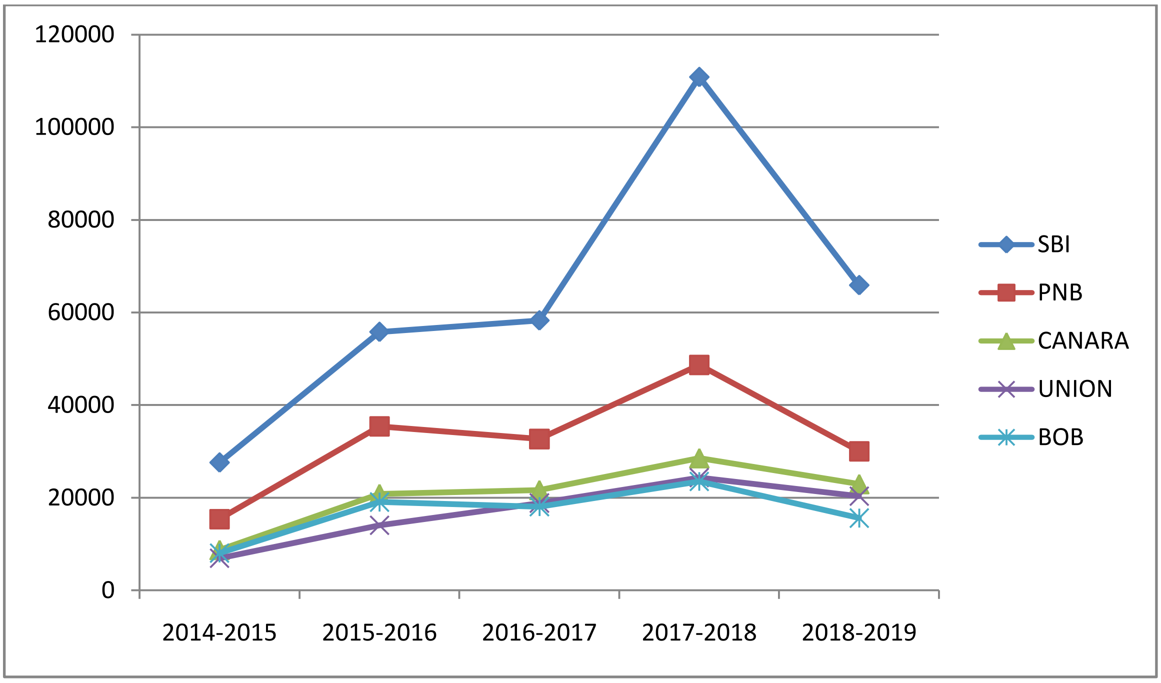
Thus with the help of this formula the data has been analyzed and the interdependency of Net Profit and Loss of all the banks in the respective years has been calculate with the Gross Nonperforming assets and Net Non Performing assets.

For better understanding the data has even being represented in form of charts so that the growth levels and the flow of all the three variables is clear and evident.

GROSS NON-PERFORMING ASSETS from 2014-2019



NET NON-PERFORMING ASSETS from 2014-2019



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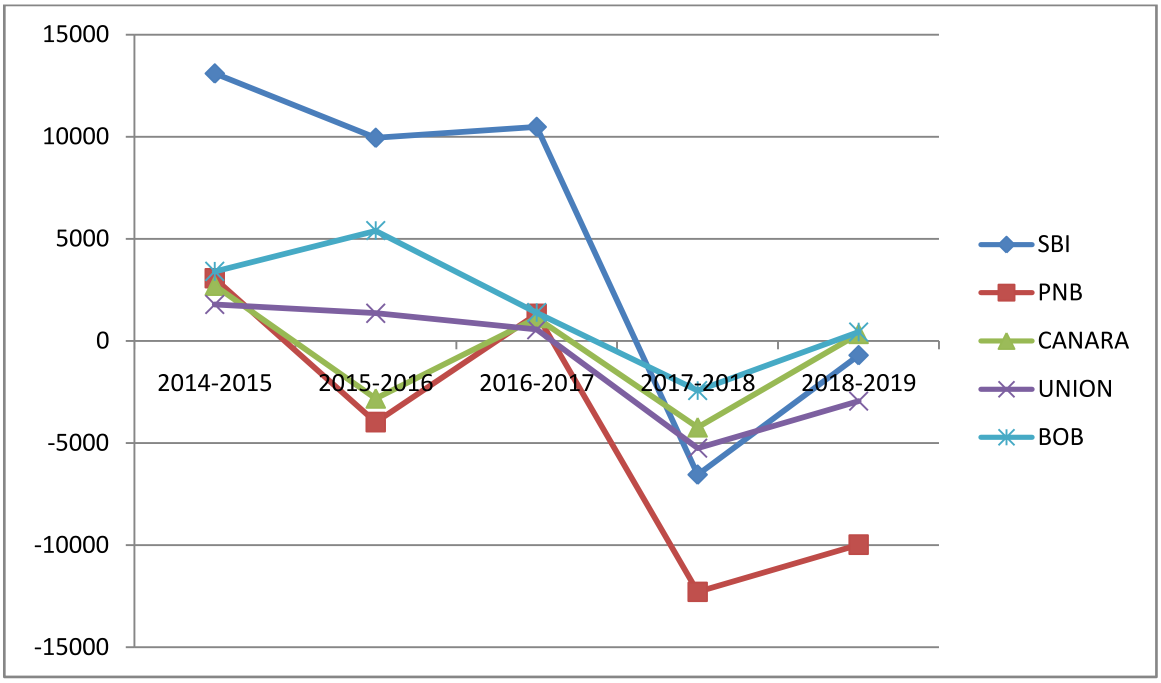
NET PROFIT OR LOSS from 2014-2019



Calculation of Correlation coefficient from the dataset:

Name of Bank	Years	Gross NPA	Net NPA	Net P&L	Correlation b/w GNPA & NP&L	Correlation b/w NNPA & NP&L
State Bank of India	2014-2015	56725.34	27590.58	13101.57	-0.98028436	-0.9025356
	2015-2016	98172.80	55807.02	9950.65		
	2016-2017	112342.99	58277.38	10484.10		
	2017-2018	223427.46	110854.70	-6547.45		
	2018-2019	172753.60	65894.74	-698.32		
Punjab National Bank	2014-2015	25694.86	15396.50	3061.58	-0.93048025	-0.74311817
	2015-2016	55818.33	35422.56	-3974.40		
	2016-2017	55370.45	32702.10	1324.80		
	2017-2018	86620.05	48684.29	-12282.82		
	2018-2019	78472.70	30037.66	-9975.49		
Canara Bank	2014-2015	13039.96	8740.09	2702.62	-0.73567044	-0.77549273
	2015-2016	31637.83	20832.91	-2812.82		
	2016-2017	34202.04	21648.98	1121.92		
	2017-2018	47468.47	28542.40	-4222.24		
	2018-2019	39224.12	22955.11	347.02		
Union Bank	2014-2015	13030.87	6918.97	1781.64	-0.66599895	-0.85257928
Bank of Baroda	2014-2015	16261.44	8069.49	3398.44	-0.656709461	-0.489376471
	2015-2016	40521.04	19046.46	5395.54		
	2016-2017	42719.00	18080.00	1383.14		
	2017-2018	56480.00	23483.00	-2431.81		
	2018-2019	48232.76	15609.50	433.52		

RESULT AND ANALYSIS

The above mentioned data and charts represent the current financial situation of the banks from 2014-2015 to 2018-2019 which clearly infers the burden of Non Performing Assets on the bank's profitability and thus the impact of the same can be accessed on the banks. The participation and interdependence of the bank's performance is completely affected by the changes in the levels of Nonperforming assets. As per the data analysis done with the help of application of the formula of Correlation Coefficient, it is clearly evident that all the values share a negative relation with each other.

Size of Correlation	Interpretation
.90 to 1.00 (−.90 to −1.00)	Very high positive (negative) correlation
.70 to .90 (−.70 to −.90)	High positive (negative) correlation
.50 to .70 (−.50 to −.70)	Moderate positive (negative) correlation
.30 to .50 (−.30 to −.50)	Low positive (negative) correlation
.00 to .30 (.00 to −.30)	negligible correlation

https://www.researchgate.net.Correlation-Coefficient-Interpretation

This means that the values received from the correlation coefficient are not in positive relation but lay a negative impact on each other which inturn rejects our hypothesis so formed which states that there is negative correlation between the two independent variables of the data which are assessed. This rejection of Null hypothesis gives an opportunity for acceptance of either of the two alternate hypothesis which state some or positive relation with each other.

Further the study also reflects that with the increase and decrease in the values of the Net profit or loss there is some significant connection or relation with Gross and Net levels of Nonperforming assets.

Considering the above mentioned data the Banks which have been selected have shown different levels for their performance every year and based on their calculations we can easily find out the relationship between The Non Performing Aseets levels and the Profitability levels of each one of them.

STATE BANK OF INDIA

The correlation coefficient between GNPA and Net P&L is -0.98028436 which is very highly negative in relation with each other. Whereas the correlation coefficient between the NNPA and Net P&L is -0.9025356 which again represents very highly negative correlation.

PUNJAB NATIONAL BANK

The correlation coefficient between GNPA and Net P&L is -0.93048025which is highly negative in relation with each other. Whereas the correlation coefficient between the NNPA and Net P&L is -0.74311817 which represents highly negative correlation.

CANARA BANK

The correlation coefficient between GNPA and Net P&L is -0.73567044which is highly negative in relation with each other. Whereas the correlation coefficient between the NNPA and Net P&L is -0.77549273 which again represents highly negative correlation.

UNION BANK OF INDIA

The correlation coefficient between GNPA and Net P&L is -0.66599895 which is moderately negative in relation with each other. Whereas the correlation coefficient between the NNPA and Net P&L is -0.85257928 which again represents highly negative correlation

BANK OF BARODA

The correlation coefficient between GNPA and Net P&L is -0.656709461 which is moderately negative in relation with each other. Whereas the correlation coefficient between the NNPA and Net P&L is -0.48937647 which again represents highly negative correlation

CONCLUSION

At the end it is to be concluded that the data analysis done in the above research states a significant impact of Nonperforming assets on the profitability of the banks in the various years in a negative manner as they are having either moderately negative correlation or are highly negatively correlated to each other. As and when the time is passing by the levels of Nonperforming assets are constantly increasing with the performance of the banks. Thus to conclude there is some significant relationship between the Non performing Assets and the Profitability of the banks reducing the overall performance of bank by a major difference also the null hypothesis made for the analysis is also rejected which increases the scope of study and gives a chance for further research.

REFERENCES:

- Debnath, R.M. and Shankar, R. (2008) 'Measuring performance of Indian banks: an application Data Envelopment Analysis', Int. J. Business Performance Management, Vol. 10, No. 1, pp.57–85
- Gupta, B. (2012) A Comparative Study of Non-Performing Assets of SBI and Associates and Other Public Sector Banks. SIT Journal of Management, Vol. 2.No. 2. December 2012.
- Gupta, S. P., (2009), 'Statistical Methods', Sultan Chand and Sons 1981, 15th edition, India
- 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 Publication, Volume 4, Issue 7
- Kavitha, N. (2012) Performance analysis of banking groups in relation to scheduled commercial banks in India, Asian Journal of Research in Business Economics and Management, Volume 2, Issue 3, pp.147-166
- Malayadri, P. and Sirisha, S. (2011) A comparitive study of Non performing assets in Indian banking industry, International Journal of economic practices and theories, Volume 1, Issue 2, pp 77-87
- Mishra, U.M., Pawaska, J. R. (2017) A study of Non Performing Assets and its impact on the banking sector, Journal for Research, Volume 3, Issue 1
- Mitra, R. and Ravi, S. (2008) Measuring performance of Indian banks : An application data envelopment analysis, International Journal of Performance Management, Volume 10, Issue 1
- Mohnani. P, Deshmukh. M, (2013) A study of Non performing assets on select Public and Private sector banks, International Journal of Science and Research, Volume 2, Issue 4
- Rajput, N., Arora, A.P., Kaur, B (2012) Management Of Non-Performing Assets A Study Of Indian Public Sector Banks. IJMIE Volume 2, Issue 4, April 2012
- Rajput, N., Arora, A.P., Kaur, B. (2011) Non-performing assets in the Indian public sector banks: an analytical study. Retrieved from Banks and Bank Systems, Volume 6, Issue 4, 2011
- Rao. M, Patel. A (2015) A study of Non Performing Assets management with reference to public sector banks, private sector banks and foreign banks

in India, Journal of Management and Sciences, Volume 5, Issue 1, March 2015

- Sengupta. R, Vardhan. H (2017) Non performing assets in Indian Banks; This time it is different, MPRA (Munich Personal RePEc Archieve), Paper No.81403, September 2017
- Data Source for analysis Last visited on April 2020 :https://www.rbi.org.in/,
- Introduction and latest updates on performance of State Bank ofIndia last visited on 05 May 2020, https://en.wikipedia.org/wiki/State_Bank_of_India
- Introduction and latest updates on performance ofPunjab National Bank , last visited on 14 April 2020, https://en.wikipedia.org/wiki/Punjab_National_Bank
- Introduction and latest updates on performance ofCanara Bank, last visited on 10 June 2020 ,https://en.wikipedia.org/wiki/Canara_Bank
- Introduction and latest updates on performance of Union Bank of India, last visited on 22 May 2020,https://en.wikipedia.org/wiki/Union_Bank_of_India
- Introduction and latest updates on performance of Bank of Baroda, last visited on 25 June 2020, https://en.wikipedia.org/wiki/Bank_of_Baroda
- Interpretation of Correlation coefficient, last visited on 28 May 2020https://www.researchgate.net.Correlation-Coefficient-Interpretation