NPA ANALYSIS OF MAJOR PUBLIC SECTOR BANKS AND PRIVATE SECTOR BANKS PRE COVID TIMES.

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Abstract

The banking sector is amongst the fastest expanding sectors in the world so does in the Indian economy. A good, well-managed and strong banking system has always been the base of a well-performing economy. After years of being under total government regulation, the banking sector changed in a revolutionary manner after the economic liberalization and privatisation in 1991. The changes were also reflected in the lending process of banks and the focus on the non-priority sectors, so as to give boost to the industry and service sector. But the then rosy picture has now turned into a crucial problem for the whole banking sector; the problem of mounting NPAs. This research-based project aims to give some attention to this NPA issue, by doing a comparative study of various public and private sector banks in India.

From the available secondary database, a comparison has been in the factors which affect the profitability of banks. The most important indicators like the return on assets, return on equity, net interest margin, credit to deposit ratio, to name a few; are compared to take a look at the status of banks over the period of five years. Coming to the important part, an analysis for the gross and net NPAs of banks, their relation with the net profits and the trend in the above has been observed and checked by performing statistical test of correlation.

The results obtained in the process unanimously point that the public sector banks bear the most burden of non-performing assets, the reason possibly being the size of these banks. A strong negative correlation observed in the gross NPA to net profit comparison, suggests that higher the NPA, lower the profits and vice-versa. Thus, banks initially need to focus more on recovering the NPAs through the various available recovery channels, but the major attention should be given to reduce the size of NPAs. Considering the current COVID-19 situation, the moratorium granted by RBI, and the possible consequences and impact of the pandemic as well as the moratorium, banks must ensure recovery from their stressed assets; particularly from the non-priority sector as this sector is a higher contributor to NPAs. Indian banks are in an urgent need to consistently work on improving their asset quality by whichever means possible, be it implementation of good corporate governance, better credit appraisal process, etc.

Key words - *Non-Performing Assets, Standard assets, Sub-standard assets, Doubtful assets, Loss assets, Gross NPA, Net NPA, profitability,*

Introduction:

The 1991 economic liberalization policy in India has brought a critical change in the Indian banking sector. It marked the entry of private players in this area and thus has also given a new dimension to this industry; viz. the credit risk and asset quality management. Till then the government-run banks had not paid much attention in this area, but were largely focused on priority sector lending, generating employment, expansion of business, etc. Although, the prime business of banks is lending money, now-a-days all banks are being much cautious while doing so. The reason being piling up of the 'Non-Performing Assets (NPA)'. The NPA is such an account which ceases to give returns to the banks in the form of interest. The rising NPAs are proving a major area of concern for the banks in all sector. Though, a limited amount of NPA may prove healthy for a bank's growth and profitability; it only ends up being a menace for the banks; thus, reducing its credibility and also ultimately having a major impact on the profitability. Realizing this, banks now tend to pay more importance to credit analysis and asset quality management and strive hard to keep the NPAs in the tolerance level. The problem of NPAs has grown to a large extent in the past decade, especially the last five to six years. This project thus, aims to study, understand and compare the NPAs and other factors affecting the profitability of banks in the public and private sector in India.

Objectives:

- To study Non-Performing Assets (NPA) in public and private sector banks of India.
- To understand various factors impacting profitability of banks.
- To compare and analyze the trend in gross and net NPAs of selected banks.

Research methodology:

The research method followed for the project is descriptive research. All data obtained and analyzed is secondary in nature and is gathered by referring to various research papers, official websites of banks and their annual reports and RBI database. A sample size of eight banks- 4 from public sector and 4 from private sector are considered for the study. The selected banks come under India's largest banks in their respective sector as well as stand in the top positions if taken under common roof. The selected banks have largest market capitalization share. The correlation analysis is used to determine the relation between the Gross NPAs and profits of banks.

Limitations of the study:

These cannot be the absolute results for the banks since the sample size considered for the study is small for ease of study.

The study period considered can be extended to a greater number of years taken into account. But for feasibility of calculations, it had to be limited to 5 years.
The results obtained may or may not be generalized as a larger sample size may present different results.

Non-Performing Assets (NPA)-

A non-performing asset (here further referred as NPA) is an account as loan or advance given in the books of banks; which ceases to give return to the bank in form of interest.

According to the definition given by the Reserve Bank of India, "NPA is a loan or an advance where…
Interest and/ or instalment of principal remain overdue for a period of more than **90 day**s in respect of a term loan. The account remains '**out of order**' in respect of an Overdraft/Cash Credit (OD/CC). The bill remains overdue for a period of more than **90 days** in the case of bills purchased and discounted. The instalment of principal or interest thereon remains overdue for **two crop seasons for short duration crops.** The instalment of principal or interest thereon remains overdue for **one crop season for long duration crops**. The amount of liquidity facility remains outstanding for more than **90 days**, in respect of a securitisation transaction undertaken in terms of guidelines on securitisation dated February 1, 2006.

For the correct and easy classification and determining the stress assets, RBI has given the classification of assets into four classes that are defined as under based on the duration for which the account has remained as stressed accounts:

Standard assets	Standard assets are the normal loan accounts of banks which don't show any problems, a bank gets consistent returns from these accounts and they possess normal risk. These assets should never be classified as NPAs.
Sub-standard assets	Sub-standard assets are those accounts which have remained as NPAs but for not more than 12 months, i.e. less than or equal to 12 months. In such cases, the current net worth of the borrower/ guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the banks in full.
Doubtful assets	"An asset would be classified as doubtful if it has remained in the substandard category for a period of 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as substandard, with the added characteristic that the weaknesses make collection or liquidation in full, – on the basis of currently known facts, conditions and values – highly questionable and improbable. (https://www.rbi.org.in/, n.d.)"
Loss assets	Those asset accounts where the loss has been identified by the bank auditors or during RBI inspection, but are still not written off, are categorized as loss assets. Such assets are considered as uncollectible meaning no recovery can be expected from these assets.

Table 1: Asset categories according to RBI

RBI keeps on revising these provisions and guidelines for defining NPAs and the provision coverages as and when needed according to the conditions prevailing in the market.

A recent iteration was done by RBI by taking into account the Covid-19 crisis, the disrupted market operations, and thus increased possibility of the advances provided to turn bad. The Reserve Bank of India had thus announced a moratorium on accounts which were supposed to start repayment from March 1, 2020. Initially the moratorium was for a period of 3 months starting from 1st March, 2020 to 31st May, 2020. But after reviewing the situation and appeals made, the period of moratorium was extended up to September 30.

Till the moratorium period exists, the RBI has revised its norms for determining whether an account should be classified as an NPA. The 90-day norm; where, if the loan repayments are left as uncleared for more than 90 days the account is treated and reported as bad. But for the moratorium period, this norm will not be taken into consideration meaning the 90-day norm will exclude the moratorium period and this norm will be applicable again after the moratorium ends.

Recovery channels for NPAs:

As seen in the above categories, all NPA accounts are not classified under loss assets, but have other different categories. So, there is some scope for these accounts that at least a part of the total outstanding amount can be recovered from them. For this purpose, various recovery channels have been set-up and laws are formulated. These institutions are established for the speedy recovery of the NPAs and also resolve issues arisen within the process. Among them are:

The Debt Recovery Tribunal (DRT)
The SARFAESI Act, 2002
The Insolvency and Bankruptcy Code (IBC), 2016

Industry Analysis

The banking industry is the backbone for any economy. If the financial backbone is strong and in good shape, a country can ace in the economic activities. No doubt, the external factors like the GDP rate and growth, national income, balance of payments, inflation rate, etc. all have undeniable influence on an industry. Indian banking sector has also stood strong in all these domestic as well as global repercussions. The banking sector in India witnessed a huge change after the 1991 new economic policy of the Indian government. This decade is marked as the decade of banking sector reforms including the privatisation of the banking sector in India, the introduction of Income Recognition and Asset Classification norms for the scheduled commercial banks, Foreign Direct Investment policy, etc. Till then all the market was captured by the government run public sector banks, which operated with the 4:6 ratio, i.e. borrow at 4%, lend at 6%. The phased banking sector reforms has changed the canvas of Indian banking. A large portion of market is still under the influence of Public sector banks. The State bank of India being the largest PSB, occupies the largest share in the market. The mergers have made the bank still more powerful than it was before. While HDFC tops the list of private sector banks. According to 2019 reports, SBI had the largest market share of 22.5%, followed by the Punjab National Bank at 7.7% and HDFC at third position with 7.6%. The merger of two PSBs, viz. the Oriental Bank of Commerce and United Bank of India helped PNB to lead upwards.

While this was the position according to total business size, the public sector banks

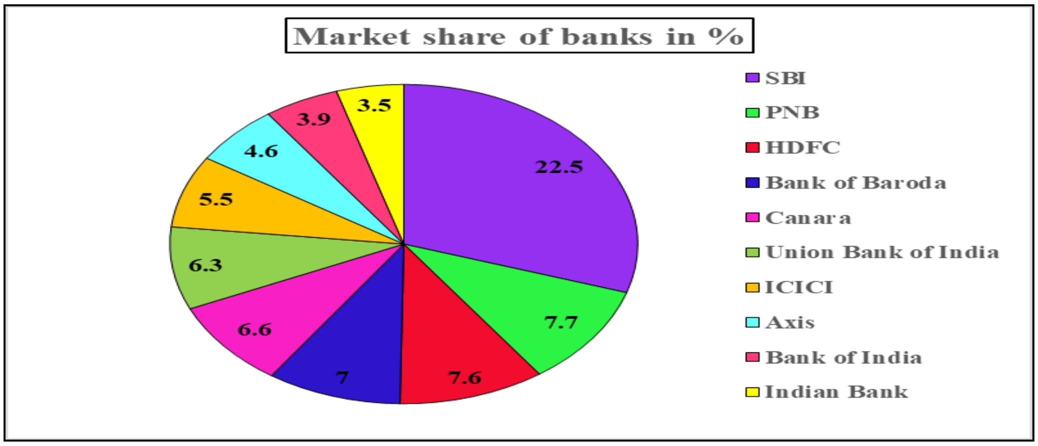

Figure 1: Percentage market share of Leading Indian banks

are losing their market share in terms of largest deposit holdings. Private sector banks are regaining trust of people for safety of deposits, while they have also overtaken the PSBs in the race of granting credit.

In the year 2018-19 private banks have raised deposits worth ₹ 7.1 trillion versus public banks who could raise deposits amounting to ₹ 2.7 trillion only. Only 9 years ago this scenario was exactly opposite, with PSBs having more share of deposits raised in the market. Same is the case with loans granted. PVBs have given out loans of ₹ 7.3 trillion, while PSBs with a credit offering of ₹ 2.3 trillion. This was not the case only in 2018-19 but the previous FY2017-18 also showed a same trend. It is evident that the PVBs are slowly and steadily taking over the markets with increased credibility. (https://www.livemint.com/industry/banking, n.d.)

Review of literature:

Dr. A. Bala Murugan, S. Balammal, M. Kantha Priya, R. Kamatchi (2018) in the paper entitled "A Comparative Study of NPAs in Public & Private Sector Banks in India" say that external factors such as inefficient recovery system, change in govt. policies related to NPA, wilful defaulters, Provisioning and moratoriums in the wake of natural calamities, priority sector lending and its inefficiency to pay back are some major reasons for rising NPAs. Along with these, internal issues in the bank management, faulty credit lending and poor appraisals, inappropriate and obsolete technology also contribute to the risen NPAs. The profitability of banks is directly impacted due to NPAs. Bankers try to make more investments which are risk free but they are not conducive to the growth of economy and hamper the progress and profit-making capacity of banks as well. The NPAs may also increase the cost of capital for banks, and thus impact the EVA, Capital adequacy ratio of banks. While comparing public and private sector of banking, the authors have used the method of correlation analysis. The paper states that there is a positive correlation between NNPA of public and private sector banks, and the NPA of public banks being more then the private sector continuously in past few years. This calls for an alarming situation as the recovery is very low compared to mounting NPA numbers. Strict actions and implementation are the need. (Dr. A. Bala Murugan, April 2018) Dr. Ritu Wadhwa and Mr. Kartik Ramaswamy (2020) in their research on "Impact of NPA on Profitability of Banks" analyse the impact of NPAs on bank profitability and its financial heads of a few selected public and private sector banks in India. The research discusses some important factors which face the impact of NPA while suggesting measures to be taken to minimize future bad loans. The study suggests that excepting a few banks, there can be seen a negative correlation between NPA and its impact over profitability of banks. Also, the financial heads, when taken together have a significant impact on NPAs than taken individually. (Dr. Ritu Wadhwa, Issue:3, Volume No.4, May-2020) B.P. Maya Babu (2019) highlighted in his paper "The great merger of state bank of India (SBI): an analytical comparison of non-performing assets during pre & post-merger", the effect of the mega-merger of SBI and its associates on the NPA figures of the bank. The study conducted by him shows the rise in the NPA figures just after the merger took place as compared to its pre-merger period, the reason possibly being the pile-up of all the stressed assets. But the recent post-merger period suggests that, compared to its immediate post-merger period; the trend in mounting NPAs can be seen declining. Thus, it can be said that M&A activities affect the NPAs significantly. (Babu, Vol.3 Special Issue 1 August 2019 E-ISSN: 2456-5571). N.A. Kavitha, M. Muthumeenakshi in their paper 'A Comparative Study of Non- Performing Assets of Public and Private Sector Banks (2016)' conclude from their overall analysis that the NPAs in public sector banks are to a great level higher than NPAs in the private sector banks; and that there can be seen an increasing trend in the NPAs of the public sector banks. They suggest that, steps should be taken by the government in more strict way, to reduce the problem of NPAs and for the speedy recovery from stressed accounts. They also suggest that the mandatory lending to priority sector should be reduced, as it is also creating a major NPA issue.

(N.A. Kavitha, Volume: 2 | Issue: 03 | March 2016 | ISSN: 2455-3778). ‘A Study on Analysis of Non -Performing Assets and its Impact on Profitability’ (2019) a paper by B. Senthil Arasu, P. Sridevi, P. Nageswari and R. Ramya tries to establish the relation between gross NPA, Net NPA, the ownership and the ROA of public and private banks. Their study shows that there is a significant positive correlation between the gross and net NPAs and the ROA of public sector banks; whereas a negative correlation is derived for these variables for the private banks. The study also states that the trend of NPAs increasing gradually can be seen in both public as well as private banks, NPA of public sector banks being greater. The research also tried to establish the relationship between the ownership of bank and its effect on ROA and gross and net NPA. Finally, the study suggests that necessary steps should be taken to reduce the current level of NPAs and also to speed up the recovery process. (B. Senthil Arasu, Volume-5, Issue-6, pp.01-10, June 2019). The paper titled ‘Trends and Differences in NPAs across Bank Groups in India’ by Vrinda Batra, Dr. Neetika Batra compares the NPA trends of the three sectors viz. public, private and foreign banks over a period spanning to nearly 13 years from 2005-2018. The paper from its findings, concludes that the non-performing assets of banks in all sectors are in general show an upward trend for the given study period. The initially declining trend, has been consistently on rise since 2011 for public sector, while for private sector the NPAs started increasing a little later. Also, a significant difference is found in the NPAs of public sector and private sector banks from the result of ANOVA test. It is also revealed from the study that the private banks are performing better in relation to NPAs as against the public sector; possibly due to their business model, ownership structure, credit analysis systems, etc. Hence, the authors state the need of revamping the structures of public banks to resolve the issue. (Vrinda Batra, ISSN 0975-6477 Volume 12, Number 1 2020,). ‘A Comparative Study of Non-Performing Assets in Public and Private Sector Banks in India’ a paper by Dr. Kapil K. Dave and Inamdar Meghnad Pushkarkumar gives an overview of gross and net NPAs for a sample public and private sector banks. Over the study period, a trend of rising gross and net NPAs can be seen for public sector banks, while the NPAs of private sector banks show a relatively stable trend and not a consistent increase. (Dr. KAPIL K. DAVE, • ISSN No 2277 - 8179 Volume : 5 | Issue : 8 | August 2016). In the paper by Prof. Jeevitha R, Dr. Binoy Mathew, and Naga Suma, titled “Will Asset Quality Issues Continue to affect Indian Public Sector Banks”, the authors have tried to explain, by using multiple regression analysis, the effect of inflation, Net interest income, repo rate on the NPAs and also that of net NPAs on the net profit of selected PSBs for a period of 10 years. From the study, they have concluded that the Net NPAs do have a huge impact on the Net profits of bank but they definitely impact the returns to some extent, and the economic variables like GDP, inflation also do not affect much the NPAs of PSBs. (Prof. Jeevitha R, ISSN: 2394-3114 Vol-40-Issue-74-March -2020).“Impact of bank’s NPA on economic health of India” a paper by Dr. Sangeet Kumar tries to gauge the impact of NPAs on Indian banking sector, and their performance in the light of NPAs. The author concludes that the NPAs are greater for public sector banks, and are rising continuously. He also suggests banks must try for speedy recovery process to overcome the existing problem before it goes out of control. Banks may opt for restructuring and following strict and stringent credit appraisal process. (Kumar, ISSN: 0971-2143 Vol-31-Issue-08-April-2020). “Is the efficiency of banks degenerating due to the mounting of non-performing assets? An empirical investigation using DEA” is a paper by Sudarshan Maity and Tarak Nath Sahu tries to explain the effect of NPAs on the overall technical efficiency of banks. The authors have used statistical and econometric test like DEA to reach to the conclusion that NPAs do have a significant impact on a bank’s efficiency. For the overall study period, the technical efficiency has downgraded, out of which the major downgrade is due to soaring NPAs. (Maity, 2019). The Paper titled “Impact of mergers on solvency analysis of Indian public sector banks” written by Dr. M. Jegadeeshwaran and M. Basuvaraj studies 6 PSBs and their performance with reference to the solvency before and after the mergers. By using statistical tools like mean, standard deviation, CAGR, paired t-test, the authors have reached to the findings that there is an upward trend in the solvency position of all these banks post their mergers. The authors also suggest the PSBs to reduce their total expenditure since there is not much difference between the expenditures of pre and post-merger period. Along with this the study also identified two other areas of improvements viz. the Net interest income and total income. (BASUVARAJ, June 2018). Payel Roy and Dr. Pradip Kumar Samanta, in their paper “Analysis of Non -Performing assets in public sector banks of India”, over the study period from 2011-12 to 2015-16, analyse the impact of NPAs on bank profitability using correlation analysis, regression analysis, ANOVA and t-test. The study reveals that over the years the asset quality has downgraded to a great extent. The NPA are continuously on rise while continuously deteriorating the bank position. There is a negative correlation found between these NPA and profits due to which the greater the NPAs the less the profits. The author suggests that even though provisioning acts as a cushion, banks should not rely just on them but cautiously choose their borrowers to mitigate future losses. (Payel Roy, January – February 2017). “Impact of bank merger on retail customer, shareholders and employees: A study of merger of Dena bank and Vijaya Bank with Bank of Baroda from a futuristic perspective”, paper by Nikhil Shirsat, reveals the impact of mergers on the various stakeholders of bank, with special mention of NPAs. The study reveals that the NPAs will not decline but will rise post-merger, while the ROA will also have a negative impact. The study thus highlights that merger of a string and a weak bank does not reduce the NPA but puts more burden on the holding bank. (Shirsat, 2019). “Non-Performing Assets (NPAs): A Comparative Analysis of Selected Private Sector Banks” paper by Dr. Biswanath Sukul intends to study NPAs of three leading private sector banks and suggests measures to mitigate the losses and reduce NPAs. Using correlation analysis, the study shows that two banks show a positive NPA-profit correlation, whilst one bank shows negative correlation. Positive correlation though can be considered good t the part that there is rise in profit, but the other side is NPAs too increase. Be it anyway, banks must try to bring down their NPA levels by implementing strict checks on loan appraisal process and should try for speedy recovery of the existing bad loans. (Sukul, January. 2017). The paper titled “Effectiveness of NPA Control Measures in Managing Loan Assets in Banks” by authors Dr. R.V. Naveenan, Prof. Sriyank Levi & Prof. Sarah Merlyn, tries to understand the effectiveness of existing measures in handling existing NPAs and the effectiveness of measures in controlling the incidence of new NPAs. The authors have used Friedman's test for this purpose. By allotting ranks on the basis of mean the test concludes that there is significant difference between mean ranks of measures for minimizing the incidence of new NPAs and also of strategies for minimizing accumulated old NPAs. Lastly the authors suggest that bank management should take proper steps to minimize NPAs and reduce the incidence of new NPAs as NPAs stand as a crucial factor for measuring a bank's credibility. (Dr. R.V. Naveenan, 2019). "A Comparative Analysis of Non- Performing Assets (NPAs) of Selected Commercial Banks in India" a study by Samir and Deepa Kamra measures the position of NPAs across three banks and highlights policies adopted by bank to reduce the NPAs. The paper compares various factors in relation to the NPAs to conclude that despite the surge in NPAs, the recovery process for these loans is proving effective. There can be seen a rise in the recovery cases through the channels like DRT and SARFAESI act, which definitely is a good sign. Along with this the paper also suggests a measure which can be undertaken by the bank to reduce the risk of mounting NPAs. (Samir, June 2013)

Data Analysis:

For the purpose of this project, following banks from public and private sector have been selected to work upon-

PUBLIC SECTOR	PRIVATE SECTOR
SBI	ICICI
Bank of India	HDFC
Indian overseas bank	Axis
Punjab National Bank	Kotak Mahindra bank

Table 2: Banks selected for data analysis

Factors impacting profitability of banks:

Apart from NPA, there are also other factors and ratios which have an impact on the balance sheet and Profit and loss statement of a bank. Following is the list of ratios considered for comparison:

Credit Ratings: A credit rating is an indicator to decide the creditworthiness of a borrower. It can be assigned to any individual, organization, financial institution, state or country/sovereign body. Moody's, Standard and Poor, Fitch, ICRA, CRISIL, CARE, etc. are some of the well-known credit rating agencies. Credit rating used as one of the measures to judge whether the borrower will be or is in a position to pay back its loan to the creditors. It assesses the credit risk attached towards investing.

Return on Assets- Return on Assets is that measure which assesses how well a company is utilizing its assets, how much profit company is generating in comparison to its total assets. Higher ROA means more efficiency.

Net income/ Average Total assets

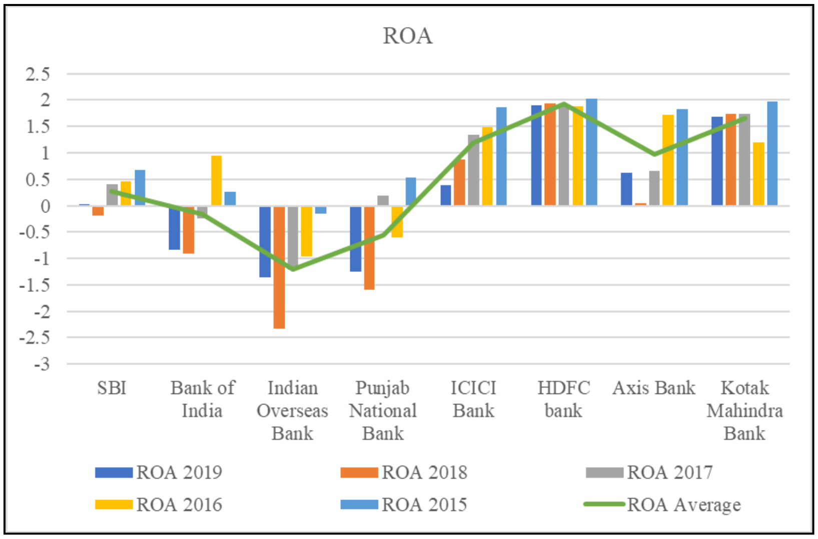

Figure 2: ROA comparison chart

Interpretation

From the above chart it can be seen that, the ROA of the Indian Overseas bank is the lowest amongst all other banks. This means that there is a consistent trend of negative ROA for this bank. The ROA for Bank of India is also on a negative side which implies for the given period, a good number of ROAs have remained on the negative side. The Punjab National Bank too displays its return on a negative side at about -0.5%. The negative ROAs of these banks implies that the banks might have incurred losses for most of the years taken into account. Amongst the ROAs on the positive side, the HDFC banks has the highest mean ROA at 1.92, followed by the Kotak Mahindra bank. Although the mean ROA of SBI is positive, but it is just 0.2%, from which we may infer that SBI too has incurred losses for some period, but managed to cover it to give a positive return. Taken an overview, it can be noticed that the ROA for the private sector banks is better as compared to the public sector banks.

Return on Equity- Return on Equity is the measure of profitability with relation to the equity i.e. shareholder's fund of a company. It measures how much rupees of profit are generated for each rupee of shareholder's equity.

Net income (after preference dividend)/ Total shareholder's equity (excl. preference

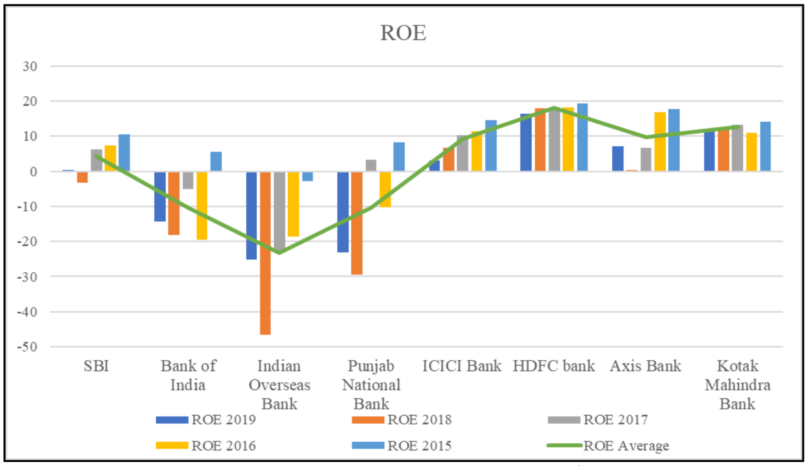

Figure 3: ROE comparison chart

Interpretation

When it comes to the ROE the same trend as the ROA can be seen for the respective banks. The mean ROE for the Indian Overseas bank is the lowest in all the banks. The Indian overseas bank shows an individual lowest ROE of -46.63 in the year 2018, which has impacted its mean ROE. But taking a look at the figure for other years; it is still on the lower side which drives us to the fact that Indian Overseas bank is continuously suffering losses, which has thus an impact on its returns. The other two banks which display negative ROE are the Bank of India and the Punjab National Bank, at nearly at same level of -10%. The highest mean ROE is provided by the HDFC bank which is a private sector bank. ROE of this bank stands at 17.99% which can be considered good as compared to its peers. Kotak Mahindra bank follows the leader HDFC in providing good returns at around 12% to its equity-holders. The ICICI and the Axis bank have similar mean ROE nearing 9%. Amongst the PSBs, only SBI has ROE on positive side.

Current and Savings Account (CASA) ratio- It is the ratio of current account and savings account to the total deposits a bank has.

Current and Savings account deposits/ Total deposits

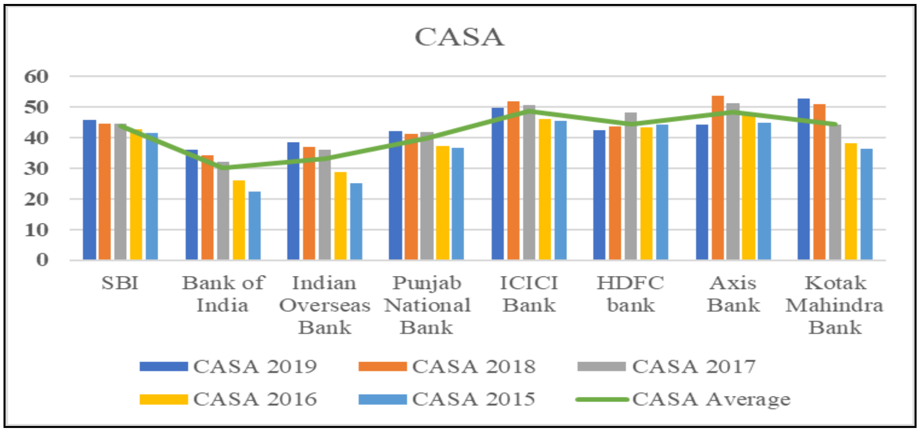

Figure 4: ROE comparison chart

Interpretation:

The CASA is other important measure to look at as it reflects the ratio of current accounts and saving accounts to total deposits. A low CASA ratio means bank relies more on wholesale funding costlier in nature. Lower CASA ratios also disturb the margins of bank since they have to pay more in the form of interest on borrowed funds. CASA goes hand-in-hand with the NIM, as it can be taken as higher the CASA higher is the NIM as funds can be borrowed at a lower cost. From the above chart we can conclude that the mean CASA for maximum banks lie in range of 40-50%, with an exception of the Bank of India and the Indian Overseas bank with a CASA ratio of 30% and 32% respectively. As said, if compared with the NIM, both these banks also show a low NIM.

NPAs and its impact on profitability:

Comparison of the Gross NPAs of public and private sector banks: (amount in crores ₹)

	Banks	2019	2018	2017	2016	2015	Average
Public Sector banks	SBI	172753.60	223427.46	112342.99	98172.80	56725.34	132684.44
	BOI	60661.12	62328.46	52044.52	49879.13	22193.34	49421.31
	Indian overseas bank	33398.12	38180.15	35098.26	30048.62	14922.45	30329.52
	PNB	78472.70	86620.05	55370.45	55818.33	25694.86	60395.28
Private sector banks	ICICI	45676.04	53240.18	42159.39	26221.25	15094.69	36478.31
	HDFC	11224.16	8606.97	5885.66	4392.83	3438.38	6709.60
	Axis	29789.00	34248.64	21280.48	6087.51	4110.19	19103.16
	Kotak Mahindra bank	4467.94	3825.38	3578.61	2838.11	1237.23	3189.45

Table 3: Gross NPAs of public and private sector banks

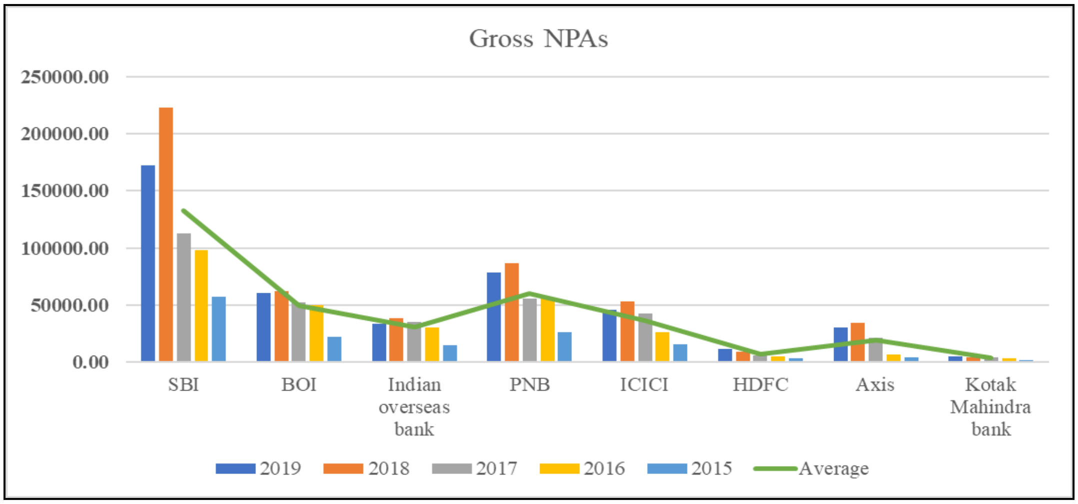

Figure 5: Gross NPAs of public and private sector banks

Interpretation:

A GNPA is the total NPA which a bank shows and the losses of which has been covered under the provisioning made. As seen in the above pictorial interpretation of the table, the trend of GNPA growing year on year is visible for all banks up to year 2018. Year 2019 shows a negative trend in the growth of GNPAs. The highest decline is shown by the SBI of 22%, while NPA of the Indian Overseas, ICICI and Axis bank have declined at 13% on an average. HDFC bank recorded highest NPA increase of 30% and the Kotak Mahindra bank showed around 17% rise in its GNPA in the year 2019. The GNPA of The year 2018 can be said as the year of highest GNPAs as all the banks in both sectors have the highest NPA in this year. The public sector banks show more GNPA than that of the private sector banks. A very high GNPA ratio indicates poor asset quality for the bank.

Comparison of Net NPAs of public and private sector banks: (amount in crores ₹)

		2019	2018	2017	2016	2015	Average
Public Sector banks	SBI	65894.74	110854.70	58277.38	55807.02	27590.58	63684.88
	BOI	19118.96	28207.27	25305.03	27996.40	13517.57	22829.05
	Indian overseas bank	14368.30	20399.66	19749.32	19212.58	9813.33	16708.64
	PNB	30037.66	48684.29	32702.10	35422.56	15396.50	32448.62
Private sector banks	ICICI	3214.52	27823.56	25216.81	12963.08	6255.53	15094.70
	HDFC	3214.52	2601.02	1843.99	1320.37	896.28	1975.24
	Axis	11275.60	16591.71	8626.55	2522.14	1316.71	8066.54
	Kotak Mahindra bank	1544.37	1665.05	1718.07	1261.96	609.08	1359.71

Table 4: Net NPAs of public and private sector banks

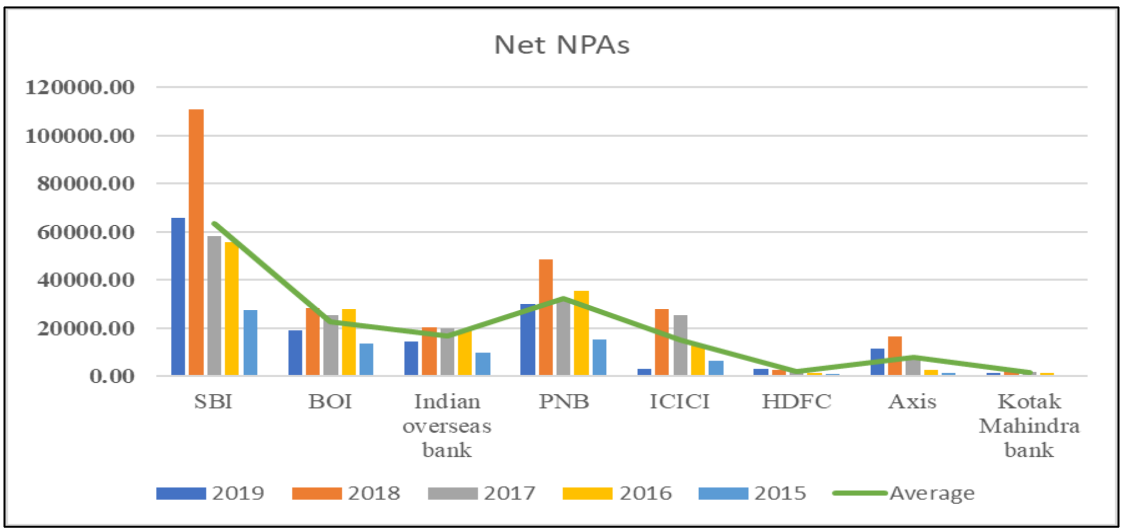

Figure 61: Net NPA comparison chart

Interpretation:

The NNPA are gross NPAs less the balance of provisions. Very often when we compare NPAs the NNPAs are taken into account as these figures show the actual burden of NPAs which lie on a bank. The NNPAs are those part of NPAs which have no provision made to cover the losses. The above table and following chart show the NNPAs of banks. Highest NNPA was recorded in the year 2018 for banks in all sectors. Taken individually, the State Bank of India shows records highest NNPA for all years. A rising trend can be seen for SBI except for the year 2019. There was an increase of whopping 102% in the

NNPA of SBI in the year 2016. But in the following year a rise of just 4% is seen. Again, in the year 2017-18, 90% increase was seen in the NNPA of the bank. This year also marked the largest merger in the Indian banking history of 5 public sector banks with the SBI. This is also a possible reason for the rise in the NPAs in this year. The previous FY 2017-18 has gone against the trend where the NNPAs have declined for majority of banks. On an average all the banks show a decline of 30-40% except that for the Kotak Mahindra bank, which has seen a decrease of just 7%. HDFC bank is the only one which has seen a rise 23% than it was in the previous year. Over the whole period, Kotak Mahindra bank has the lowest NNPA followed by the HDFC bank. Both these banks stand at a good position amongst all when it comes to their ratios impacting the profitability of banks.

Net NPAs as a percentage of Net advances of Banks:

	2019	2018	2017	2016	2015
SBI	3.01	5.73	3.71	3.81	2.12
BOI	5.61	8.28	6.9	7.79	3.36
Indian overseas bank	10.81	15.33	13.99	11.89	5.68
PNB	6.56	11.24	7.81	8.61	4.06
ICICI	2.29	5.43	5.43	2.98	1.61
HDFC	0.39	0.4	0.33	0.28	0.25
Axis	2.2	3.64	2.27	0.74	0.46
Kotak Mahindra bank	0.75	0.98	1.26	1.06	0.92

Table 5: NET NPA as a percentage of net advances by banks

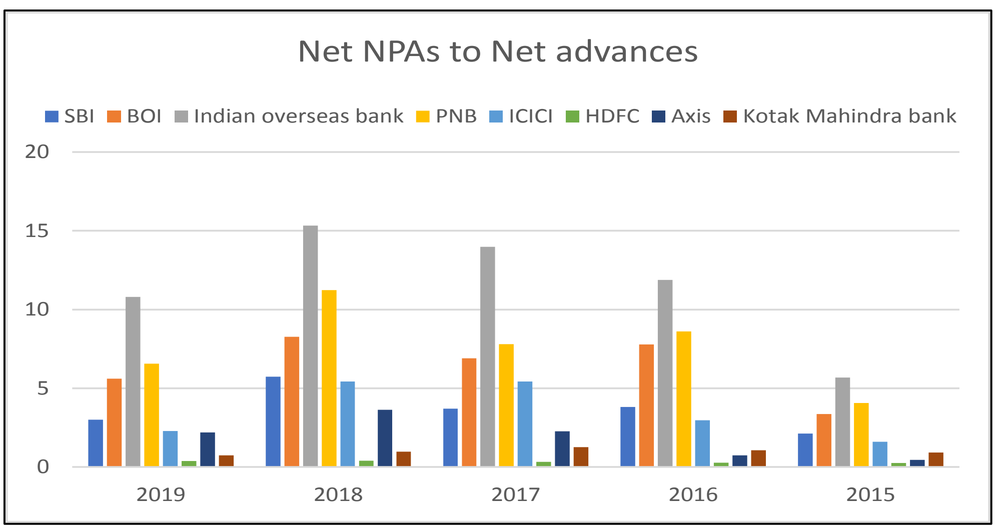

Figure 2: Net NPA to net advances comparison chart

Interpretation:

The NNPA as a percent of net advances shows that how much of the net advance given by the bank are turned into NPAs. It is evident from the above table and chart that public sector banks have the maximum percent of NPAs as percent of net advances, compared to the private sector banks. Amongst the public sector banks, the Indian Overseas bank has highest NNPA to net advance ratio with its peak in the year 2018, with an average at around 12%. The lowest ratio is shown by the HDFC bank, i.e. the private sector. For past 3 years the percent of HDFCs asset turning bad remains quite constant. On an average, it has 0.33% of its net advances turned as NNPAs. Kotak Mahindra bank stands at 2nd position in the list of lowest NNPA percent, followed by the Axis bank; average NNPA at 2% and then the ICICI bank; at 4% average NNPA. Amongst the PSBs, the SBI has the least NNPA% on an average at 4%. This analysis shows that the PVBs generate less NPAs than that of PSBs. This can be due to more organized and strict credit appraisal process and credit risk management by the private sector.

Analysis of correlation between the GNPA and net profit: (amount in crores ₹)

		2019	2018	2017	2016	2015
SBI	GNPA	172753.6	223427.46	112342.99	98172.8	56725.34
	Net profit	862.23	-6547.45	10484.1	9950.65	13101.57
BOI	GNPA	60661.12	62328.46	52044.52	49879.13	22193.34
	Net profit	-5546.9	-6043.71	-1558.31	-6089.21	1708.92
Indian overseas bank	GNPA	33398.12	38180.15	35098.26	30048.62	14922.45
	Net profit	-3737.88	-6299.5	-3416.74	-2897.33	-454.33
PNB	GNPA	78472.7	86620.05	55370.45	55818.33	25694.86
	Net profit	-9975.49	-12282.82	1324.8	-3974.4	3061.58
ICICI	GNPA	45676.04	53240.18	42159.39	26221.25	15094.69
	Net profit	3363.3	6777.42	9801.09	9726.29	11175.35
HDFC	GNPA	11224.16	8606.97	5885.66	4392.83	3438.38
	Net profit	21078.17	17486.73	14549.64	12296.21	10215.92
Axis	GNPA	29789	34248.64	21280.48	6087.51	4110.19
	Net profit	4676.61	275.68	3679.28	8223.66	7357.82
Kotak Mahindra	GNPA	4467.94	3825.38	3578.61	2838.11	1237.23
	Net profit	4865.33	4084.3	3411.5	2089.78	1865.98

Table 6: GNPA and net profits of selected banks

Source: https://www.rbi.org.in and https://www.moneycontrol.com

The above table shows the figures for GNPA and net profits of the public and private banks for the study period. By observing the table, we get a general idea of the trend and relation between the GNPA and the profits of these banks. As the GNPA goes on increasing, majority of banks show a decline in the yearly profits, or increase in their losses. This holds true for PSBs as well as the PVBs, except that for two banks, viz. HDFC and Kotak Mahindra bank. In case of both these banks, as the GNPAs increase, the profits of these banks are also seen rising year by year. To check whether this is true, and if yes what is the degree of association between the two variables; a correlation test is performed for these banks.

The following table shows the results of this correlation test.

Banks	Coeff. Of Correlation
SBI	-0.98
Bank of India	-0.86
Indian Overseas Bank	-0.91
Punjab National Bank	-0.93
ICICI Bank	-0.71
HDFC bank	1.00
Axis Bank	-0.90
Kotak Mahindra Bank	0.91

Table 7: Correlation analysis - Coefficient of correlation between GNPA and Net profit of banks

Almost all banks, but two, show a high negative correlation between the GNPA and the net profits. The highest negative coefficient of correlation is for the SBI, which is -0.98, meaning the GNPA has very high degree of association with the profit. As inference we can say that increasing GNPA has a critical impact on the profits of his bank. The magnitude of impact is much larger. With lowest negative coefficient of correlation, ICICI bank is last in this list. The ‘r value’ of ICICI is -0.71 which is very near to the lower range of 0.70. Here, the GNPA has a substantial impact on the profit but not to the extreme level. Highest positive correlation can be seen for the HDFC bank with the ‘r value’ at 0.99, which means as the GNPA will increase, so will the net profit for this bank. After HDFC, only Kotak Mahindra bank shows the positive correlation. Both the banks have a very high degree of correlation between the GNPA and profits.

Specifically said, in the case of NPAs, negative correlation can be good. Since there is an inverse relation, lower the NPAs higher the profits. But as we can see, there is also high positive correlation two of the banks between their NPAs and profits, we can infer that it might be possible that these banks have higher 'other income' sources because of which they are able to cover their losses on NPAs and have generated the profits over the whole period of study.

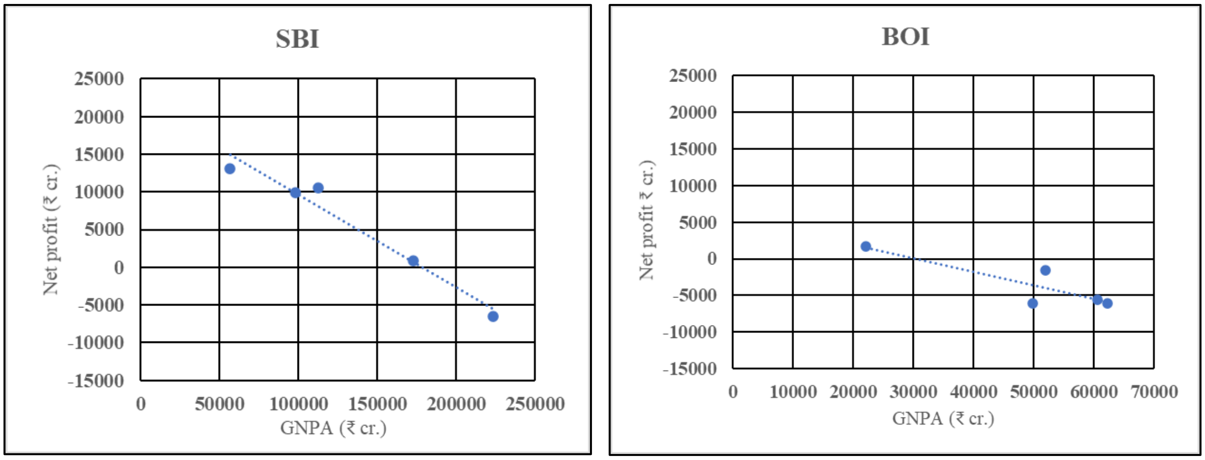

Figure 8: Scatter chart showing correlation analysis between GNPA and net profit of public sector banks, years read as 2015-2019 from left to right

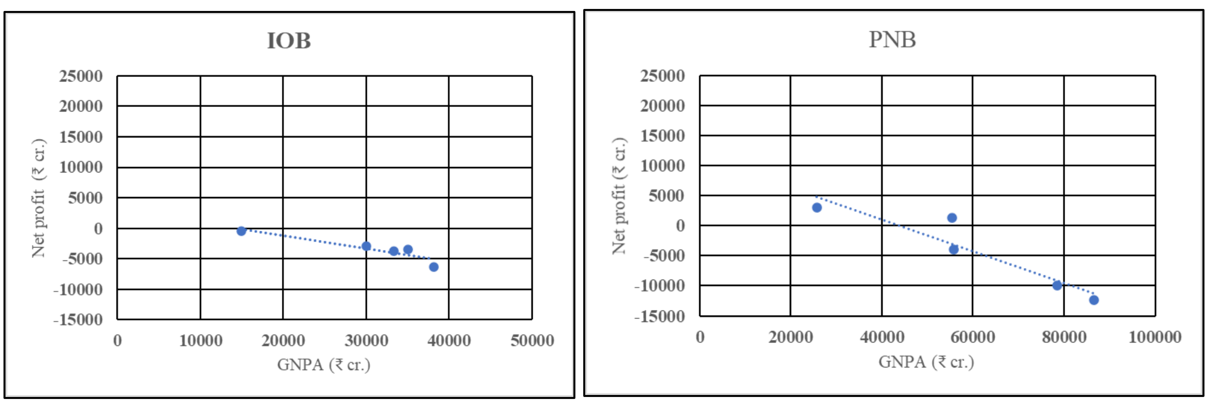

Figure 9: Scatter chart showing correlation analysis between GNPA and net profit of public sector banks, years read as 2015-2019 from left to right

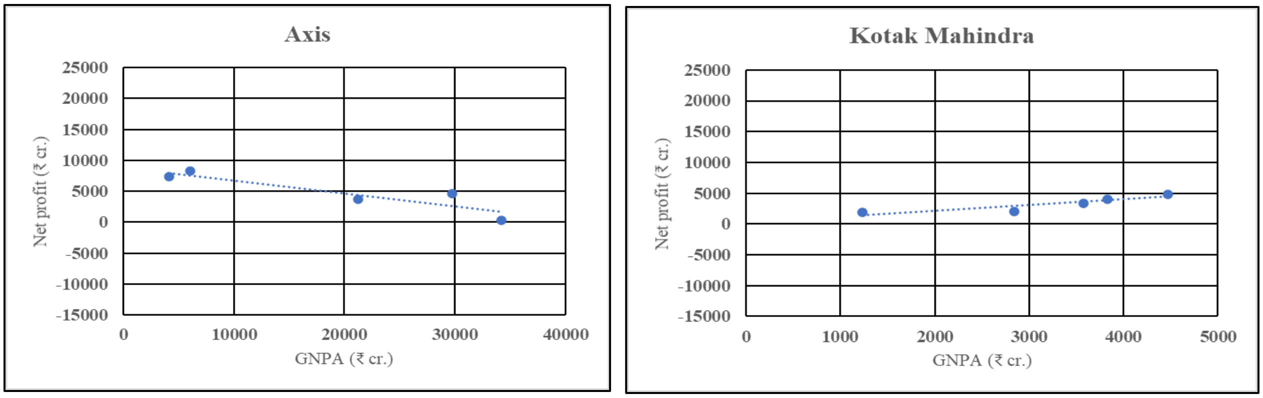

Figure 10: Scatter chart showing correlation analysis between GNPA and net profit of private sector banks, years read as 2015-2019 from left to right

Trends in the Net profit of banks:

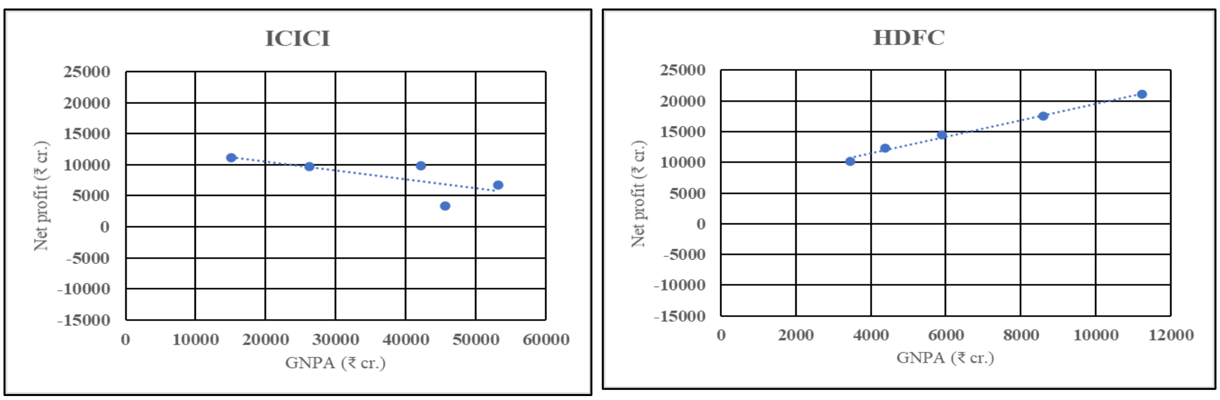

Figure 11: Scatter chart showing correlation analysis between GNPA and net profit of private sector banks, years read as 2015-2019 from left to right

The line graph and table given below show the net profits for the sample set of banks for the five-year period. HDFC, out of all the banks, is the only one which displays a continuous increasing trend in the profits for all the years on a very high side, followed by the Kotak Mahindra bank. Both these banks show a steady growth over the period. The slope is flatter for Kotak Mahindra bank, but still, it does not grow on the negative side. The Punjab national bank has the most unstable trend, with a lot of ups and downs in its profit position, with highest loss in the year 2018. The Indian Overseas bank, after a continuous downside trend, has risen a bit in 2019. Although IOB shows a constant loss, the loss incurred in the year 2019 is nearly 50% less than in 2018. It is evident that, the profit position of PVBs is quite better than of the PSBs. The PSBs have shown good amount of losses for the period, and are largely affected by the growing burden of the NPAs.

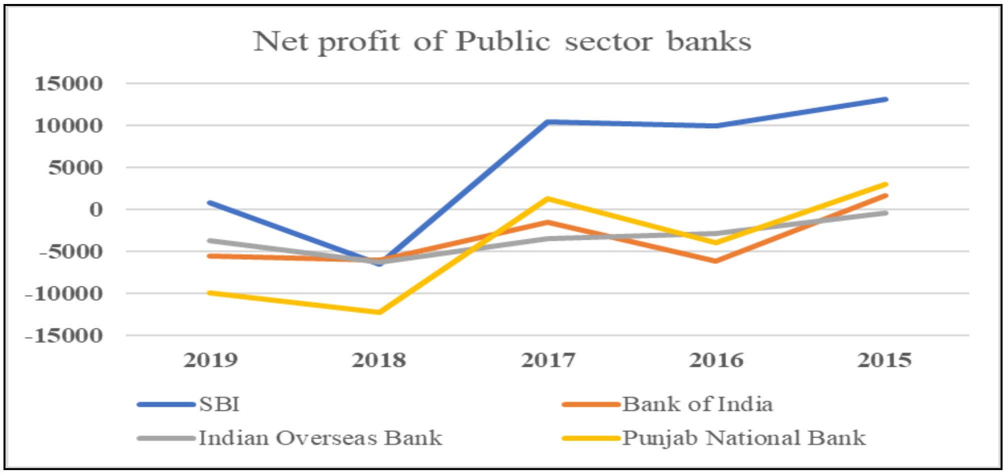

Figure 12: Comparative trend chart for net profit of public sector banks

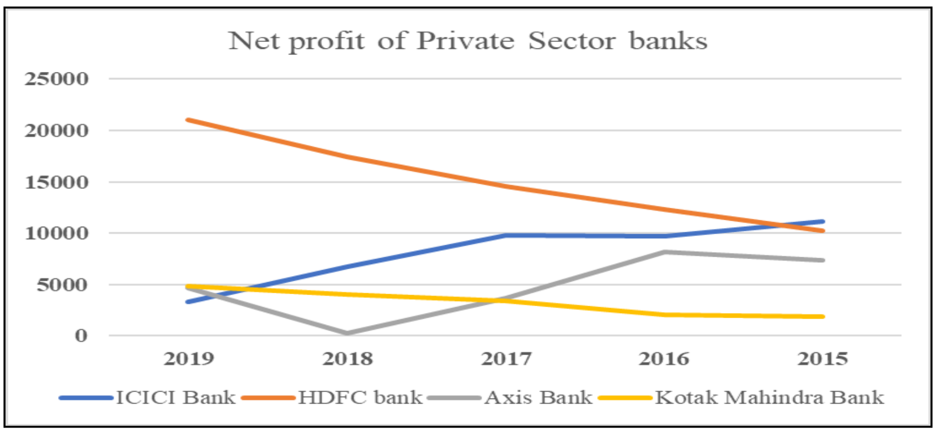

Figure 13: Comparative trend chart for net profit of public sector banks

Loan size of banks and NPAs:

Priority sector lending by bank (data in %)				
Segment	**Target**	**Public Sector**	**Private**	**Foreign**
Agriculture	**18.0**	**18.0**	**16.2**	**16.7**
Micro Enterprises	**7.5**	**6.4**	**7.9**	**4.2**
Weaker Sections	**10.0**	**11.5**	**9.5**	**7.1**
Total	**40**	**39.9**	**40.8**	**38.3**

Table 8: Priority sector lending percentage by various bank sectors (2019)

When taken a look at the balance sheets and reports of the banks, it can be easily observed that, even though it assumed that most of the NPA comes from the priority sector, it is not the case in reality. The maximum NPAs of banks comprise of the industrial and corporate sector which fall into the category of non-priority sector. The non-performing loans of the service sector are on a rise from and onwards the 2008 global recession.
The credit lending to priority sector is made compulsory by the government. But

Net profit (in ₹ cr.)						
		2019	2018	2017	2016	2015
Public Sector banks	SBI	862.23	-6547.45	10484.1	9950.65	13101.57
	Bank of India	-5546.9	-6043.71	-1558.31	-6089.21	1708.92
	Indian Overseas Bank	-3737.88	-6299.5	-3416.74	-2897.33	-454.33
	Punjab National Bank	-9975.49	-12282.8	1324.8	-3974.4	3061.58
Private Sector banks	ICICI Bank	3363.3	6777.42	9801.09	9726.29	11175.35
	HDFC bank	21078.17	17486.73	14549.64	12296.21	10215.92
	Axis Bank	4676.61	275.68	3679.28	8223.66	7357.82
	Kotak Mahindra Bank	4865.33	4084.3	3411.5	2089.78	1865.98

Figure 14: Net profit

over the years the growth in this lending seems to be slowed down, only fulfilling near to the minimum instead preference is being given to non-priority and industrial sector lending.
The database up to 2017, (available on RBI website) gives the classification for the NPAs of public and private sector banks with respect to the advances given and the relative NPAs. For the public sector banks; it is observed that for the years from 2013 to 2017, the NPAs from priority sector have ranged between 25-40% on an average, while that for non-priority sector stood up to average 50-60%.
Private sector banks too have more contribution of NPAs in non-priority sector. In their case, nearly 80% of NPAs on an average are from non-priority sector.
Very recent examples of the Kingfisher airlines, and the Punjab National bank's Nirav Modi NPA scam serve as a best case to prove that the contribution to worsening NPA situation is more from non-priority sectors.

Conclusion

The average Return on Assets of Public sector banks has remained low as compared to that of Private sector banks for. While it is positive for private banks, it is not only low, but is negative for public banks which are not a good sign. The average Return on Equity, although has a decreasing trend, remained low to negative for public sector banks but on a positive side for the private sector banks. The Net Interest Margin is more or less same for most of the banks in both the sectors, with not much difference except the two banks, which are HDFC and Kotak Mahindra bank. The average interest spread shows no much difference and is around at 6.5% for all banks in general. The average of CASA ratio is quite similar within the range of 45% for the private sector banks, while only SBI has the ratio above 40% and other are below 40% in public sector. The capital adequacy ratio is above 15% for all Private banks, while very near to the benchmark rate of 9% for the PSBs. The Credit-Deposit ratio for most banks is satisfactory which shows that they might be using their funds in an organized manner. The PCR for all banks is satisfactory at current level but there is scope for improvement, as if PCR goes higher the asset quality will be taken care of to a much large extent. In case of Gross and Net NPAs, it is observed that the public sector banks have a greater number of NPAs as compared to the private sector banks for the study period. The Net NPA to Net advance ratio too states the same thing. The correlation analysis performed shows that except two private sector banks, all other banks have a negative correlation between gross NPAs and the net profits. The net profits for public sector banks have shown a decreasing trend, while of Private banks is on increasing trendline, a few exceptions.

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