

**STUDY ON FINANCIAL PERFORMANCE,
NON-PERFORMING ASSETS AND
RESTRUCTURING OF PUBLIC SECTOR BANKS**

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In

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By

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DECLARATION

I Parmod Kumar Sharma hereby declare that the presented work in the thesis **entitled “Study on Financial Performance, Non-Performing Assets and Restructuring of Public Sector Banks” submitted to the Lovely Professional University** in fulfillment of the degree of **Doctor of Philosophy (Ph. D.)** is the outcome of research work carried out by me at Mittal School of Business, Lovely Professional University during 2019-2023 under the supervision of Dr.Babli Dhiman , working as Professor , Mittal School of Business, Lovely Professional University, Punjab, India. In keeping with the general practice of reporting scientific observations, due acknowledgements have been made whenever the work described here has been based on the findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

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CERTIFICATE
TO WHOM IT MAY CONCERN

This is to certify that the work reported in the Ph.D thesis entitled "Study on Financial Performance, Non-Performing Assets and Restructuring of Public Sector Banks" submitted in fulfilment of the requirement for the award of degree of Philosophy (Ph.D) in Management at Mittal School of Business is a research work carried out by Parmod Kumar Sharma Registration No.11919686 is bonafide record of his original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

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(Parmod Kumar Sharma)

Study on Financial Performance, Non-Performing Assets and Restructuring of Public Sector Banks

ABSTRACT

There has been amalgamation of 10 public sector banks in 2020 into four large banks. The consolidation of these banks was preceded by the merger of associate banks of State Bank and Bhartiya Mahila Bank (BMB) with State Bank of India in April 2017 and that of Dena Bank and Vijaya Bank with Bank of Baroda in 2019. Recent merger is going to impact about three and a half lakh employees of these banks for their working conditions and about 400 million customers for enhanced customer service expectations. The mergers are in line with Narasimham Committee recommendations to have in our country 4-5 big banks of international reckoning. The recommendations have been acted upon quite late. The reason could be to make banking accessible to all sections of the society in every nook and corner of the country through a vast network of different banks' branches. Having achieved the objective to connect the rural poor and neglected sectors of society through a bank account to enable them to access benefits of Direct Benefit Transfers of social schemes, the Government took a bold step to merge financially weak public sector banks to make them bigger and thus strengthen them.

The restructuring of PSBs is preceded by growing incidence of non-performing assets in all the Scheduled Commercial Banks. The NPAs grew consistently higher between 2013-2020 backed by spurt in advances. The bulk of restructured portfolio of banks also had to be classified as NPA due to Asset Quality Review (AQR) by the regulator. AQR forced the Scheduled Commercial Banks to declare the true classification of their advances. Consequently the NPAs of banks peaked to a staggering figure of Rs.10.40 lakh crore in March 2018 which forms 11.2 percent of gross advances. The position of PSBs was even worse witnessing 14.6 percent of their Gross Advances as NPAs. The capital of these banks was eroded significantly due to loan loss provisions and write offs and this necessitated a huge recapitalization of public sector banks by the majority owner Government of India. Public Sector Banks were unable to meet even Capital Adequacy requirements as per Basle Norms. The weakness of the financials of these banks is generally attributed to their rising NPAs.

RESEARCH GAP

There have been many studies made on mergers in India as well as in other countries to analyze the impact of such a move on the financials of merged entities. The issue of possible effects of merger announcements on the firm's financials and consequent share value appears in many papers. Some researchers find mergers to be favorable whereas others find it futile based on erosion of "shareholders" wealth and non-achievement of stated objectives for merger. Many studies have confined themselves to the secondary data to see the change in financials by CAMELS rating. Some studies have analyzed data only upto 2015-16 to see impact of NPAs on a single financial ratio of commercial banks. Many researchers have tried to find the reasons for growing incidence of non-performing assets leading to weakening of financial performance of Public Sector Banks but in depth analysis is missing.

This study attempted a Content Analysis of the research done as to the causes of Non-Performing Assets which brings to the fore real reasons relating to External Environment, Bank-Specific Internal reasons and Borrower specific reasons for slippage of borrowal accounts to NPA category. Besides finding reasons for growing incidence of NPAs, this study attempts to evaluate the role of NPAs in deterioration of key financial ratios of Public Sector Banks only due to their homogeneous nature and same ownership. The study period has been taken as 2011-22. The time horizon in between has witnessed huge slippages in asset quality. Restructuring of some PSBs had to be undertaken to make them bigger and stronger entities. The basis for grouping of different banks for merger is not in public domain other than that they may be on same technology platform. The financial strength after restructuring is supposed to enable them to raise capital resources from market which will obviate the need for their repeated capitalization at the expense of taxpayer.

This study attempts to find the impact of NPAs on the Financial Performance of different groups of merged entities and the possible financial reasons for mergers of PSBs in recent past.

Research Objectives

1. To identify the reasons and trends of non-performing assets in Public Sector Banks.
2. To study the financial performance of Public Sector Banks.

3. To study the relationship between Non-Performing Assets and financial performance of Public Sector Banks.
4. To explore and compare the effect of financial performance on restructuring of Public Sector Banks.
5. To analyse the past restructuring of Public Sector Banks from various perspectives and study the possibility of further restructuring.

Research Methodology

Sample Size and Period of Study

All public sector banks form part of study other than State Bank of India.

The period of study is from FY 2010-11 to 2021-22 which has witnessed phenomenal growth of loan assets of banks and the quick slippages of such assets to Non-Performing category. The Restructuring of different PSBs also occurred during this period.

Data Collection

The research has been carried out by using secondary data from Reserve Bank of India, Economic Media, Investor Presentations of PSBs, IMF e-library and Ministry of Finance.

Data Analysis

Statistical tools like Ratio Analysis, Ranking Methods, Correlation and Regression have been used to analyse the financial performance of banks. SPSS software has been used for data analysis by finding Correlation and Linear Regression and Descriptive Stats. ATLAS ti software has been used to analyse the vast literature to crystallize the reasons for origin of non-performing assets.

Findings

-The findings establish that there is significant negative correlation between GNPA and financial indicators of the public sector banks.

-It is also established that weaker banks identified on the basis of their financial performance have been amalgamated with the stronger public Sector banks.

Conclusion and Suggestions

Government of India announced its plans to privatize some of the public sector banks as per budget speech of the finance minister on Feb1, 2021 but as the names of such banks have not been disclosed upto now it is presumed the plan has been deferred for the time being. Governments are considered to take bold decisions for bank restructuring after general elections. There is a strong possibility of further bank restructuring in 2024 and accordingly **this study identifies the possibility of such restructuring of the unmerged entities, by way of mergers or privatization.**

All stakeholders will watch with anxiety whether the objectives set by the Government of India to make PSBs stronger by their Restructuring through amalgamation are achieved in the short/ medium term. Though some improvement is noted in financial performance of merged entities yet it will be too premature to pass a verdict in the short term. The ill effects of inflation and depreciation of the Indian rupee are looming large on the bank borrowers. The impact of inflation has already been observed in insolvency of many small banks in U.S.A. The Government of India and the Reserve Bank of India need to take proactive steps to ensure that banks do not undertake risky banking for expansion of top-line and undertake regular forensic audits to avoid diversion of funds by borrowers in changing macro-economic situation. Any rise in Gross NPAs of banks in current scenario will torpedo the objective of Government to make India a \$5 trillion economy in the short term by FY 2025-26.

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List of Abbreviation

AB	Allahabad Bank
ARC	Asset Reconstruction Company
ATM	Automated Teller Machine
AQR	Asset Quality Review
BOI	Bank of India
BOB	Bank of Baroda
BOM	Bank of Maharashtra
CAG	Comptroller & Auditor General of India
CAR	Capital Adequacy Ratio
CASA	Current and Savings Account
CD	Credit Deposit
CDR	Corporate Debt Restructuring
COF	Cost of Funds
CORP	Corporation Bank
CTI RATIO	Cost to Income Ratio
DICGC	Deposit Insurance & Credit Guarantee Corporation
D&B	Dun & Bradstreet
DFS	Department of Financial Services
DRT	Debt Recovery Tribunal
FDI	Foreign Direct Investment
FII	Foreign Institutional Investors
FINTECH	Financial Technology
GDP	Gross Domestic Product
GOI	Government of India
GNPA	Gross Non-Performing Assets
IMF	International Monetary Fund
IOB	Indian Overseas Bank
MOF	Ministry of Finance
NARCL	National Asset Reconstruction Company Limited
NCLT	National Company Law Tribunal
NII	Non-Interest Income

NIM	Net Interest Margin
NPA	Non-Performing Asset
NPL	Non-Performing Loan
OBC	Oriental Bank of Commerce
PCR	Prompt Corrective Action
PNB	Punjab National Bank
PSB	Public Sector Bank
PB&SB	Punjab & Sind Bank
RBI	Reserve Bank of India
ROA	Return on Assets
ROE	Return on Equity
SARFAESI	Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest Act, 2002
SBI	State Bank of India
SYNDIC	Syndicate Bank
UBI	Union Bank of India
UCO	United Commercial Bank
UNBI	United Bank of India

LIST OF ANNEXURES

Annexure-1 Reasons of Non-performing Assets (Codes for Content Analysis)

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CHAPTER-1

INTRODUCTION

1.1 BANKING SECTOR IN INDIA

The great Chinese philosopher Confucius pronounced that faith of the people in their ruler is the most important in any society. The faith is founded on the premise that the state is there to support any crisis in their lives and it gives them the confidence to survive.

Banking, a business of mutual trust between depositors, borrowers and the banking institutions world over, is based on the principle of intermediation. The hard earned money which is saved in bits by the members of society is handed over to an intermediary in a fiduciary arrangement for taking the same back at a point of need. The intermediary uses, the money so received, gainfully by lending to those in need at a cost higher than what is agreed to be paid to the depositor. The intermediation function commonly known as 'Banking' can therefore be defined as a commercial activity of acceptance of amounts surplus with individual depositors or businesses (Creditors) and keeping the same at the disposal of those in need (Debtors). The underlying condition is money so received from those who deposit it has to be kept safe. The money received by a banking institution is lent to its customers who need it for a specified period of time for pursuing any gainful venture and have to pay interest for the period of loan. The difference amount between what is paid to creditors and earned from debtors is the income for the bank for its day to day operational expenditure, capital accretion to expand business and distribution of dividend to equity shareholders.

As times have passed there is diversification of banking activities and various other services have been innovated to be offered by banks. The present day banking includes services like issuance of card products (Credit and Debit), Automated Teller Machines (ATMs), providing lockers and safe custody of personal valuables, Selling of Gold and Mutual Fund Products, online transfer of funds across the country / world through the medium of NEFT, RTGS and SWIFT. But the basic function of a bank still remains as intermediation.

The banking business is based on the presumption that money lent by a bank will be returned by those who borrow it on the date when it is due to complete the intermediation cycle. In earlier times non-payment on due dates by borrowers were rare. Adverse publicity about reputation of a person because of return of cheques for payment to banks and other businesses due to paucity of funds in one's account used to travel in peer groups / community very fast, thus spoiling the personal image of the issuer in the eyes of society. However it is worth mentioning that during these times the banking services were not easily accessible to the vast majority of the society. As banks were privately owned and belonged to big business houses only an elite section of society could avail services for the deposit and credit requirements. Due to lower concentration of banking , economic development of the nation was slow and the low GDP growth rate of India was mockingly termed as 'Hindu Rate of Growth'.

To bring banking to the masses, major private sector banks numbering 20 were nationalised in the year 1969 and 1980 by an ordinance and subsequently through an act of parliament. Many new generation private sector scheduled banks also came into existence after the reforms of 1992. The banking sector in India now comprises of Scheduled Commercial Banks, Cooperative Banks and Local Area Banks.

Second schedule of the RBI Act 1934 gives the list of Scheduled Commercial Banks (SCBs). A private or a foreign bank if listed in this schedule is also called a Scheduled Commercial Bank. Only those banks are included in this schedule which satisfy the criteria laid down vide section 42(6) of the said act. To be considered a scheduled bank, a bank must demonstrate to the central bank that its operations do not jeopardize depositors' interests and that it will follow rules and conditions imposed by it.

The different banking groups in India are thus as under:

- 1 State Bank of India (the subsidiaries of SBI have since been merged with SBI)
- 2 Nationalized Banks -Private Banks taken under Government control in 1969 and 1980.
(Now reduced to 11 from original number of 20).
3. Banks incorporated outside India (Foreign Banks)

4. Regional Rural Banks

5 Other Scheduled Commercial Banks *

*These include all private banks, small finance banks and payment banks.

The first two categories 1) State Bank of India and 2) Nationalized Banks are also known as Public Sector Banks (PSBs). There are two types of private sector banks, the old private sector banks like Federal Bank, Karnataka Bank, South Indian Bank, Jammu and Kashmir Bank and the banks incorporated in India after the 'liberalization' of 1992 (New Generation Private Banks). Besides there are State Cooperative, District Central Co-operative, Urban Co-operative Banks and Primary Agricultural Credit Societies (PACS).

1.2 IMPACT OF BANK NATIONALIZATION, LIBERALISATION AND THE REFORM PERIOD

Government having full control over the managements of 'Nationalised Banks' after 1980 directed these banks to open branches in unbanked areas to widen their reach for credit delivery and make them accessible to the common man. Such nationalised banks were directed to adhere to 'Priority Sector' targets for agriculture, small scale industry and small businesses for boosting economic activity. Accordingly these banks served the important social purpose of upliftment of rural poor and giving a fillip to the small businesses, agriculture, small and medium industry.

Banking sector continued to have many problems of high cost, lower returns on fund deployment and lower productivity of manpower. The bank managements did not have autonomy to open branches or lend to different remunerative sectors of economy. Reserve bank of India had to be approached for getting bank licences to open branches. Besides directed lending there were selective credit controls to lend to different sectors of economy.

In due course of time and logical wisdom of the Government in power, wide sweeping reforms were initiated in Banking and Insurance sector in nineties. The reforms as suggested by Sh. Narasimham (NC-I Committee) are popularly known as 'Liberalization' or structural adjustments. Some of the major recommendations are as under:

- (a) Phasing out of directed lending including priority sector lending.
- (b) Deregulation of interest rates.
- (c) Capital restructuring by raising equity capital from the market including individuals, mutual funds and institutions.
- (d) Provisioning norms for unpaid debts and norms for Income Recognition.
- (e) A phased disclosure to make the balance sheet of banks absolutely transparent.
- (f) Constitution of Debt Recovery tribunals so as to provide institutional legal support for recovery of NPAs.
- (g) Constitution of Asset reconstruction fund to enable banks to sell off in part or full, NPAs to the ARC and recover the outstanding funds.
- (h) Formation of three to four big banks with International Character by restructuring and smaller national banks numbering eight to ten.
- (i) Complete deregulation of branch licensing except for rural areas.
- (j) To allow opening of foreign bank branch/ subsidiaries, encouraging inflow of foreign capital.

It can be observed that NC-I had recommended amalgamation of smaller banks in three to four big banks with international character. It has taken a long time for Government of India to implement this recommendation of the committee for amalgamation of the public sector banks. These recommendations were quite significant and the destiny of banking sector in India was set to get a robust transformation. Many of Narasimham Committee (popularly called NC-I) recommendations were gradually implemented. The financial sector was further deregulated to a great extent by the new economic policy of 1991. Reforms of far reaching consequences were announced in banking, insurance and capital markets. This included issuance of fresh licenses for new banks in private sector to increase competition. The role of such banks in the economy was enhanced through liberalization of rules for FDI (Foreign Direct Investment). In line with international practices and as per the recommendations of second Narasimham Committee (NC-2), RBI introduced first set of comprehensive instructions for banks not to book income

on accrual basis but on receipt and also provide for bad loans in their books. This was in spirit of the 'Basel Accord' and a step towards improving the health of banks in India and to make them exhibit greater transparency and consistency in their published financial statements. The provisioning norms were prescribed for various categories of loans. The objective of these norms was to keep banks adequately capitalized to mitigate the bad impact of non-performing assets.

1.3 CONCEPT OF ASSET CLASSIFICATION

As per RBI policy guidelines, when an asset, including a leased asset, ceases to generate income for the bank it is called a non-performing asset. Accordingly a non-performing asset is defined as a credit facility in respect of which the interest and/or instalment of principal has remained 'past due' for a period of more than 90 days. The guidelines relating to classification of various credit facilities as non-performing are issued by Reserve Bank of India through Master Circulars to banks.

1.3.1 Classification of NPAs

NPAs are generally classified into two categories:

- Gross NPA
- Net NPA

Gross NPA is the total of all sums due by a borrower to the bank on date when the account is termed as non-performing which may include the principal and interest or both.

Gross NPA minus the provisions held in the accounts are termed as Net NPA in terms of regulation.

1.3.2 Classification of Assets

As per guidelines of the regulator banks classify their advances /assets in the following categories:

Standard Assets-(Performing Assets)

There is no problem with standard assets as the interest and principal are served timely.

Sub-Standard Assets- An account is classified as Sub-standard if it remains past due for a period of 90 days or more but less than or equal to twelve months. Such assets have well defined credit weaknesses which make liquidation of debt difficult and indicate some loss to the bank.

Doubtful Assets- If an account has remained in Sub-Standard category for more than 12 months it is categorized as a Doubtful Asset.

Loss Assets

An asset which is considered unrecoverable and is having negligible salvage value it is considered as a Loss Asset. The continuance of such assets in bank balance sheet is not warranted.

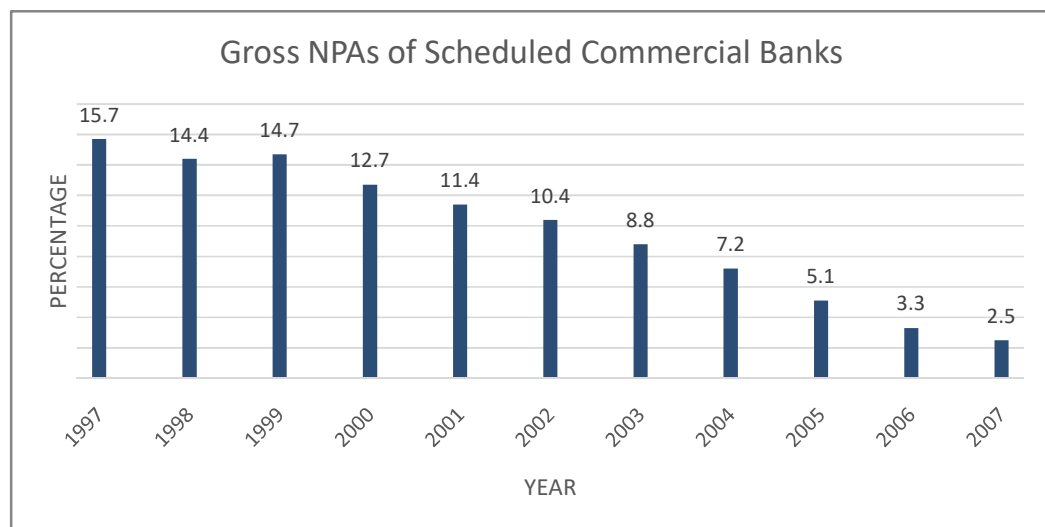
1.4 GROWTH OF NON-PERFORMING ASSETS

The expansion of needs of society to grow economically made its dependence heavy on banks. Banks too grew in size with passage of time by opening more and more branches to expand business for earning higher incomes. With growing economic development and credit needs of the society banks too focused on higher credit deployment rather than keeping surplus money in low yielding government securities. The bad loans or non-performing assets also started growing due to default by traders and industry. Diversion of bank funds for unproductive uses and personal needs of borrowers is considered as a significant reason for accounts turning non-performing. Due to debt-waiver schemes announced by the government the farmers who were regular in repayments to banks also started making defaults on their agricultural loans. Banks world over grapple with Non-performing Loans (NPLs) as bad loans are known internationally. There cannot be a situation that a bank has zero non-performing assets. The quantum of such undesirable assets may vary from bank to bank. Any rise in such bad assets is a concern for the bank managements and their regulators.

It is very interesting to note that Scheduled Commercial Banks in India were also having a high incidence of NPAs in the nineties when economic reforms were being enunciated in the country. The non-performing assets touched a high of 15.7 percent in 1997. A committee constituted by the Government in the same year to examine

the possibility of Capital Account Convertibility recommended to bring down this level but due to moral hazards, the bad loans were not allowed to be hived off and sold to Asset Reconstruction Companies by banks as suggested by NC-I. Accordingly banks were made responsible for reduction of Non-performing assets through recovery by regular follow-up. As government holding was brought down through Initial Public Offers and listing of shares in different nationalised banks, these were subjected to same disclosure requirements as other listed companies. Accordingly there was an urgent need to curb the menace of non-performing assets in banks to present an investor friendly scenario.

With enforcement of regulation Non-Performing Assets of SCBs were brought down to 11.4 in 2001 and to 2.5% in 2007 (Figure 1.4.1):



(Data Source: RBI)

Figure 1.4.1: Gross NPAs of Scheduled Commercial Banks

After Liberalization of the economy many new banking entities came into being like Times bank, Centurion Bank, Bank of Punjab Ltd and many others. These attracted customers of Public Sector Banks with spacious and air conditioned premises, ATMs and debit cards. Soon these new generation banks captured a substantial chunk of banking business and then they also moved to Tier II and Tier III cities by targeting high net worth individuals (HNIs), Trading and NRI businesses. Many of these banks though technologically better, lacked hardcore professionalism of PSBs and the

bigger private sector banks. Consequently they faced challenges to survive and therefore decided to exit timely by selling their newly acquired banking business. The next few years (2000-2015) saw many post-liberalisation mergers of many old and new generation smaller private sector banks which had governance issues, had accumulated high non-performing assets and were unable to withstand competition from large new generation banks. Some of such mergers are as under:

1. Times Bank merged with ICICI Bank-2000
2. Bank of Madura with ICICI bank- 2001
3. Nedungadi Bank Ltd with Punjab National Bank-2003
4. Global Trust Bank with Oriental Bank Of commerce-2004
5. Bank of Punjab with Centurion Bank of Punjab – 2005
6. Lord Krishna Bank with Centurion bank of Punjab-2006
7. Centurion Bank of Punjab with HDFC bank-2008
8. Bank of Rajasthan with ICICI Bank -2010
9. ING Vyasa Bank with Kotak Mahindra Bank -2015

Mergers as above happened based on ‘Survival of the fittest’ principle. Many smaller banks out of above faced challenges of bad loans, capital inadequacies and high operating expenses as these had to operate on a level playing field with the same consumer class. As such these banks also faced default on loans, required capital for branch expansions to meet competition from public sector banks and thus incur heavy expenditure on leasing of premises and salaries but earning the same interest and lower service charges to remain in the market.

The inorganic growth of branch network, its rationalisation and expertise of trained and specialist manpower was the key benefit to acquiring banks. The bigger size of amalgamated banks also enabled them to lend to top companies in different sectors in bigger volumes at competitive interest rates and also garnering their non- fund based business and thus supplementing their non-interest income.

Banking business though looking very attractive and profitable has its own challenges. The foremost being to keep the deposits mobilised from public safe and returning it to them timely on demand with the contracted rate of return. Profits have to be generated by judicious deployment of capital and the deposits (liabilities) in avenues which give higher return than to be paid to depositors. Shareholders have also to be given a reasonable return on their equity which is expected to be more than the bank deposit rates. Public sector banks have the added responsibility to do social lending, the objective for which these were nationalised. Directed lending by the government and the regulator did not leave these banks much space for profitable lending. Rather they survived on interest subsidies by government for lending 40 percent to the poor and neglected sections of society under Priority Sector. Advances were made to the poorest under DRI which was as low as four percent. Similarly interest subvention schemes were launched for farmers and exporters where the subsidy amount was to be received by banks with prolonged delays after lodging claims. Private and foreign banks too had such social targets but they either purchased portfolios from public sector banks or preferred to pay penalties. Many researchers have pointed to the fact that priority sector lending generated huge NPAs for the banks. However others have observed that this may not be an accurate finding (Swamy2013).

There was economic turmoil in the aftermath of bankruptcy of 'Lehman Brothers' in September 2008 resulting in a global crisis. Government of India in order to boost the economy initiated large scale government sponsored investment in industries like iron ore and coal mining, power generation, roads and ports (air and sea) development, airlines, steel production, telecom and other infrastructure. This brought prospects of growth to the Indian economy. It was mostly the Public Sector Banks which made a beeline in the loan syndication meetings to garner share of advances in large green field projects as above with huge capital investment outlays. Private sector banks who were convenors of meetings for syndication of loans shyed away from making big commitments due to their risk perception and aversion. These private banks however pocketed substantial non-fund business from such new entrepreneurs besides hefty fees as arrangers and syndicators.

SBI Capital Markets a subsidiary of SBI and many private banks being Lead Managers did the loan appraisals as Public Sector Banks did not have own staff as industry experts/ specialists like Textile Engineers, Metallurgy/ Mining Engineers , Sugar Technologists, Civil Engineers and others to undertake technical and financial viability of the various projects. All the banks depended heavily on the appraisals of syndicators and were primarily focused on their top line growth blissfully ignorant of the successful completion of projects financed and their realistic capacity to commensurate generation of cash flows. Banks financed B and C rated (Poor Quality) projects as it was lucrative to fund these due to applicability of higher rate of interest on these loans (Bishnoi and Devi (2017)). There was thus a worrisome three times increase in Public Sector Banks' advances after 2008 as a result of indiscriminate funding of projects one after another which touched 52 lakh crore in 2014.

Majority of the projects which were conceived in haste unmindful of change of government policies, availability of land and labor, delays in implementation and lack of commitment on the part of promoters ultimately took its toll on the banking sector which witnessed huge rise in Non-Performing Loans. The reason is that many of the big ticket advances were to promoters who had little experience in the areas of investment. Many projects were taken in hand by the same promoters simultaneously and banks too committed faux pas by not ensuring that initial projects funded by them had gone on steam and started generating cash. When the need arose for inducting fresh funds to sustain the projects due to cost and time overruns such promoters washed off their hands. As stated earlier, in India due to severe competition amongst public sector banks reckless financing was undertaken to show better financial results. No effort was made to tackle the serious situation developing out of stressed assets which were regularly restructured / rescheduled as these failed to pay instalments of principal or the interest on the agreed dates in terms of sanction. Ultimately these loans had to be classified as NPAs. The major sectors which contributed to stressed assets are as under:

Table1.4.1: Major Contributors to Stressed Assets of SCBs (%)

Sector	Share In	2009	2010	2011	2012	2013	Sept-13
Infrastructure	Total Advances	9.5	11.8	13.5	13.2	14.5	14.7
	Total Stressed advances	8.3	8.8	8.4	21.2	27.6	30.3
Iron & Steel	Total Advances	3.9	4.1	4.4	4.6	4.9	4.7
	Total Stressed advances	5.1	7.8	7.7	6.7	8.1	9.2
Aviation	Total Advances	0.9	1.0	0.9	0.7	0.5	0.5
	Total Stressed advances	0.1	1.1	1.8	6.3	3.5	3.5
Mining	Total Advances	0.5	0.6	0.7	0.7	0.7	0.6
	Total Stressed advances	0.3	0.2	0.4	0.4	0.5	0.8
Total of these sectors	Total Advances	14.8	17.5	19.5	19.2	20.6	20.5
	Total Stressed advances	13.8	17.9	18.3	34.6	39.7	43.8

(Data Source: RBI)

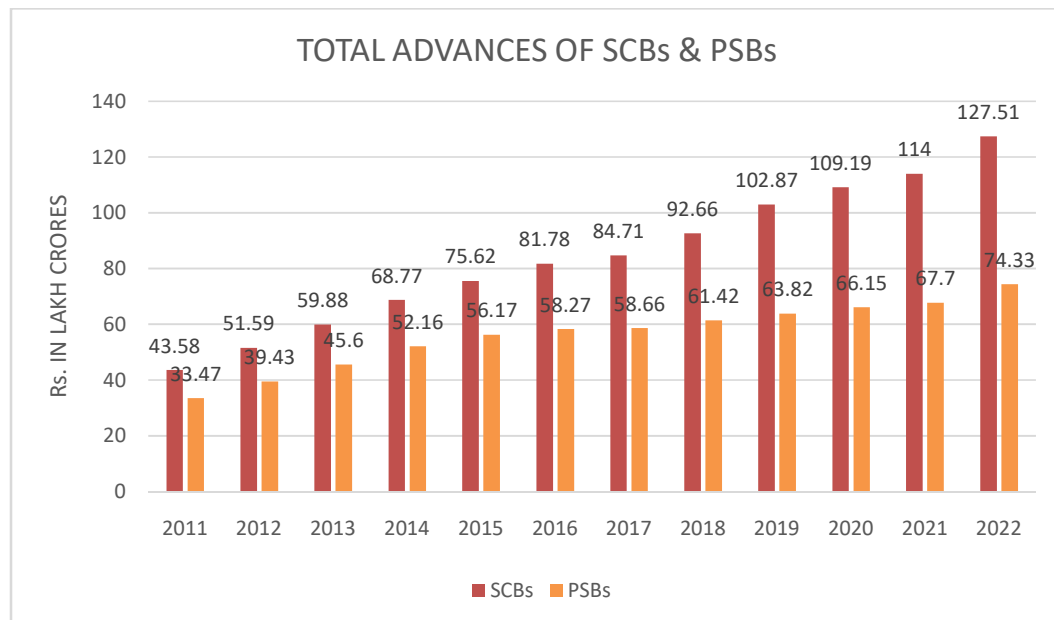
As evidenced by Table 1.4.1 the share of only four sectors in advances increased from 14.8% in 2009 to 20.5% in Sept. 2013 (increase of 5.7 %) while their share in total stressed advances increased from 13.8 % to 43.8 % (increase of 30 %).

These stressed assets transformed to NPAs over time and it was no surprise that banks were burdened with a undesired baggage of Rs 10.40 lakh crore of bad Assets by March 2018 which is 11.2 percent of Gross Advances of Scheduled Commercial Banks (Table1.4.2) :

Table 1.4.2: Gross Advances and GNPA's of Banks

Year	Gross Advances (Rs.in Crore)		Gross NPAs (Rs. in Crore)		GNPA as Percentage of Gross Advances	
	SCBs	PSBs	SCBs	PSBs	SCBs	PSBs
2011	4357500	3346500	97900	74700	2.3	2.2
2012	5158900	3942800	142000	117300	2.8	3.0
2013	5988300	4560100	193200	164500	3.2	3.6
2014	6876818	5215919	263021	227263	3.8	4.4
2015	7561984	5616717	322925	278468	4.3	5.0
2016	8178429	5827499	611609	539956	7.5	9.3
2017	8470662	5866374	790268	684732	9.3	11.7
2018	9266209	6141698	1036187	895601	11.2	14.6
2019	10287085	6382460	933608	739541	9.1	11.6
2020	10918918	6615111	896082	678317	8.2	10.3
2021	11399608	6770362	835051	616616	7.3	9.1
2022	12750005	7433006	742397	540958	5.8	7.3

(Data Source: RBI)



(Data Source: RBI)

Figure 1.4.2 Total advances of SCBs and PSBs

Table 1.4.2 and Figure 1.4.2 depict the share of PSBs in credit allocation in the economy. Having Rs 52.16 lakh crore credit business (76 percent) in 2014 which can be termed as large it is but logical that PSBs too had a higher share in non-performing assets. Since most of the lending to core industrial sector and infrastructure projects was at the behest of government after the great depression of 2008, it is therefore important that their health and stability be ensured by it being majority shareholder. The governments in other countries also resort to bailing out the distressed banks. Accordingly the government had to undertake the requisite steps over the years to keep them healthy.

The Global Financial Stability Report on Bank Regulatory Capital to Risk-Weighted Assets from IMF indicates our country had the lowest CRAR ratios between 2010 to 2017 (Table 1.4.3) in comparison to other Developed and Developing economies. This might have been due to high provisioning and the resulting erosion of capital for rising NPAs of public sector banks.

Table 1.4.3: Banks Regulatory Capital to Risk-Weighted Assets (Percentage)

Country	2010	2011	2012	2013	2014	2015	2016	2017
France	12.67	12.32	14.50	15.38	16.35	17.09	18.32	18.91
Germany	16.05	16.40	17.94	19.16	17.96	18.26	18.79	19.38
Japan	13.89	14.24	14.25	15.91	15.27	15.94	16.20	16.66
Singapore	18.58	16.05	18.06	16.39	15.92	15.86	16.47	17.08
Switzerland	17.06	16.59	16.87	18.66	16.61	17.02	16.08	18.57
UK	15.89	15.73	17.07	19.61	17.31	19.62	20.80	20.50
USA	14.79	14.69	14.51	14.41	14.39	14.14	14.19	14.53
India	15.19	13.05	13.13	12.32	12.48	12.68	12.97	12.82
China	14.40	14.08	14.59	14.80	14.24	15.11	16.10	15.74
Malaysia	17.45	15.46	15.54	14.91	15.89	16.71	17.02	17.80
Philippines	16.69	17.12	17.82	17.02	16.08	15.28	14.46	14.42
Thailand	16.08	14.82	16.17	15.46	16.52	17.11	17.76	17.95

(Source: e-Library-IMF)

One thing which is noticeable from above is that CRAR in India is on downslide between 2010-2017 whereas countries other than Philippines show stable or upward trend. This continuous slide in CRAR of Banks from 2010-2017 coincides with rise in NPAs during this period. Other developing countries and developed nations have exhibited upward trend in maintenance of Capital adequacy of their banking system.

During the last decade the country has witnessed a downtrend in performance of all scheduled commercial banks due to a steep rise in their bad loans. The public sector banks have been saddled with alarmingly high pile of bad loans. Besides loss of interest income on such non-performing class of assets, the banks have to provide capital against likely losses from such loans. The capital of all banks was eroded as a consequence of NPAs and government had to induct capital in them from time to time to keep them going to avoid a systemic risk. But for the recapitalization by Government of India these banks would have faced default on Basel norms. Also closure of these banks due to losses would have wiped off the hard earned monies of the citizens due to a miniscule deposit insurance cover.

Various reasons are attributed to the steep rise of NPAs by the regulator, Government, banks and the academicians. Nonetheless Government of India had to take a serious note of the prevailing position of NPAs to retrieve banks out of the mess. As NPAs had taken an alarming proportion from 2015-16 onwards and reached a high of 11.7 percent by 2017, a recapitalisation relief of Rs 2.11 lakh crore for PSBs had to be provided in Oct 2017 by way of direct infusion as well as market borrowing. This was done to improve Capital Adequacy Ratios of different banks. It also helped to enhance Banks' capacity to further lend to avoid any economic activity stagnation.

For all Scheduled Commercial banks NPA ratio touched a high of 11.20 percent of Gross Advances as on March 2018. In some of weak banks the ratio was above 24 percent creating a scary situation for the regulator and the Ministry of Finance (MOF). The scale of the malaise was worrisome. "Only 12 big borrowal accounts had outstanding of over 1.72 lakh crore. In reality these were all NPA and were responsible for inflated balance sheets of banks and the concerned companies without any genuine income being generated" (Rajiv Kumar 2020). It was termed as a deep crisis which could not be comprehended by general masses.

In view of the grave banking situation of the country and the negative effect it could have on the national economy, a significant step had to be taken by the regulator. Many of the banks had to be put under 'Prompt Corrective Action' as speed breakers in lending, branch expansion and declaration of dividends and for conservation of capital by banks which did not meet the stipulated financial indicators.

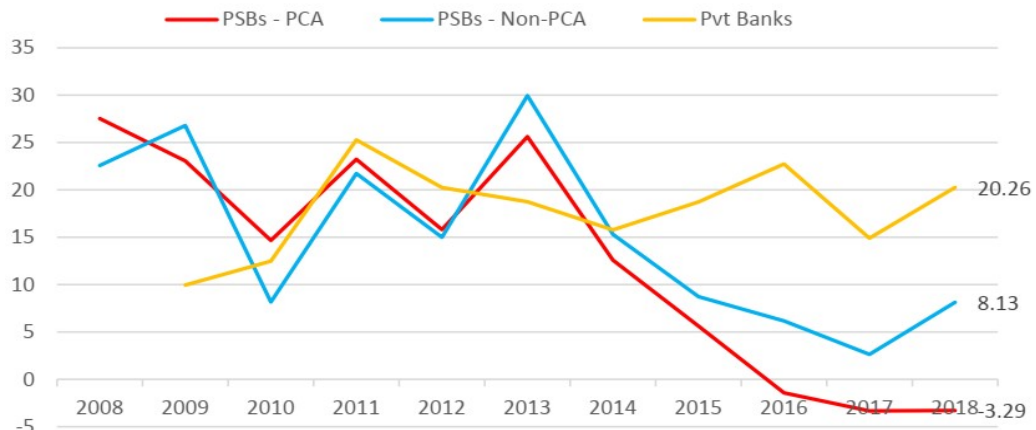
1.5 REGULATOR'S INTERVENTION TO STEM DETERIORATING FINANCIAL POSITION OF BANKS (PROMPT CORRECTIVE ACTION)

Reserve Bank of India formulated many schemes and mechanisms to help the promoters and banks which were having problems of long gestation and therefore unable to pay the term loan instalments on the due dates either because their units had not commenced production or the cash generation was not enough to meet the dues owed by them to lenders. Most of the big industrial and infrastructure projects were referred to the Corporate Debt Restructuring Cell established under a scheme evolved by RBI in 2001. The scheme was widely used by industrialists for seeking concessions in rate of interest and elongation of repayment period for their borrowing.

Most of such projects got approval for restructuring of the loan amounts and also derived lot many concessions from banks. The restructuring of such projects helped the banks not to show these accounts as non-performing and thus evergreen their books. Also the bad situation of banks did not come to public domain and attract the scrutiny of investigating agencies.

The regulator had to put an end to forbearance (postponement of debt) by 2015 when it was scheduled to end as banks continued to report high incidence of NPA figures despite many schemes to restructure loans like CDR-2005 and 5:25 Rule -2014. These schemes had been put in force to help new units achieve commencement after the long gestation and start generating cash flows for repayment to banks. In fact it became widely known that such schemes were a conduit to hide bad loans of banks and the unscrupulous promoters took advantage of the same by mopping up big concessions in terms of elongated repayment periods and lower interest rates and in some cases additional funding. “Banks were simply not recognizing bad loans. They were not following uniform procedures- an account that was non-performing in one bank was shown as performing in others. They were not making adequate provisions for loans that had stayed NPA for a long time. Equally problematic, they were doing little to put projects back on track. They had also slowed credit growth” (Rajan 2018).

To put a stop to banks which were still lending despite rising defaults PCA was imposed on these banks. The analysis of such banks is important (Acharya, 2018) as it gives a perspective as how PCA frame work transformed the financial performance of banks in different segments. It brought to the fore the maladies afflicting especially the public sector banks. One of the main adverse impacts it made on PSBs was that it further slowed their credit growth significantly as reflected in Figure 1.5.1 :

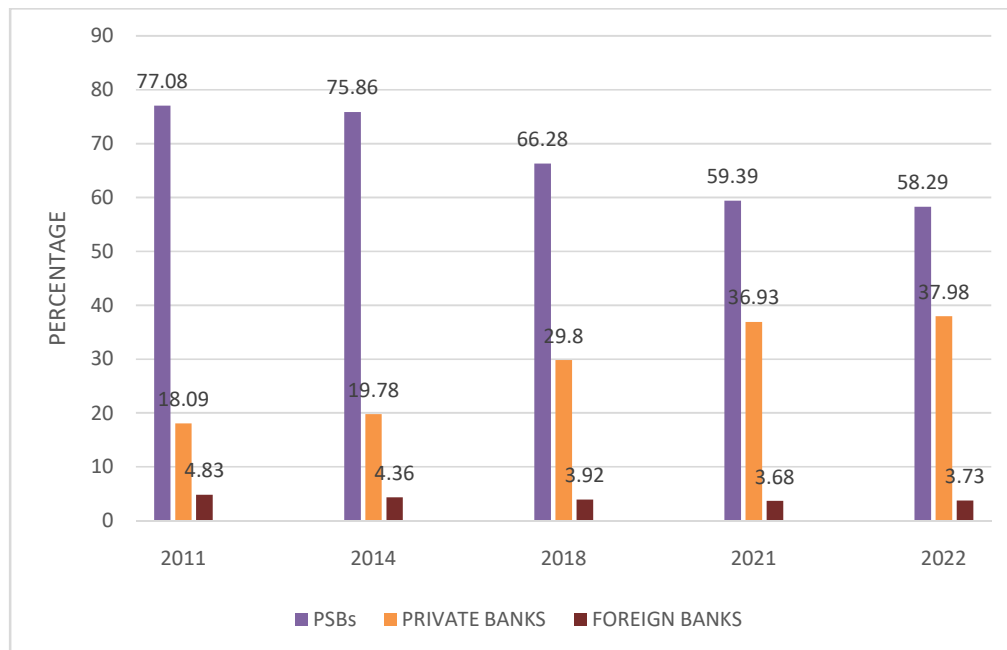


Source: Reserve Bank of India

Figure 1.5.1: Yearly Growth in Advances (Percent)

It is evident from Figure 1.5.1 that the growth in advances remained subdued from 2016 onwards due to impact of PCA and even touched negative terrain for PSBs. Banks other than under PCA picked up growth during this phase. After PCA was imposed on several public sector banks they were advised by RBI to go slow on further lending besides other restrictions. This resulted in a steep decline in the lending mainly by PSBs.

The changed scenario of share in advances of different bank groups over the years is as under:



(Source: Self-Construct from RBI Data)

Figure 1.5.2: Bank Group wise Share in Advances

It can be established from Figure 1.5.2 that share of public sector banks in credit has declined from 75.86 % in 2014 to 58.29% in 2022 due to Asset Quality Review (audit conducted by RBI officials to crystallize big-ticket bad loans of banks) the resultant surfacing of NPAs and imposition of prompt corrective action. It can also be easily comprehended that due to PCA banks' consistent deterioration of quality of credit disbursements, RBI intervention was absolutely necessary to save various banks from insolvency like situation. PCA resulted in halting the abnormal credit growth of banks which were already facing shortage of capital due to provisioning requirements.

The corporate book of banks in India continues to be hit by slippages regularly. Fresh slippages are reported by banks at the time of quarterly result announcements in investor meets. The trouble is still brewing on the asset quality front and it may grow further as COVID 19 takes a toll on Retail (especially Housing and Mortgage loans). For emergency lines of credit under ECLGS disbursement dates have been extended (For fund based it is June 30, 2023) and only time will tell if borrowers benefitting under the scheme are able to liquidate their additional borrowing in time. The high inflation due to unending war between Russia and Ukraine and depreciation of rupee

may also take its toll on many capital intensive industries due to high cost of imports/ inputs.

1.6 STEPS INITIATED BY GOVERNMENT OF INDIA TO TACKLE NPAs

In the past Government has taken various steps to tackle NPAs which include formulation of DRTs (Debt Recovery Tribunals), Lok Adalats, SARFAESI (Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest) Act and ARCs.

The loan recovery mechanisms like DRT and SARFAESI Act however failed due to massive litigation by the borrowers and granting of stay against bank action by different courts. The government had to bring in a landmark 'Insolvency and Bankruptcy Act' to empower the banks in their recovery effort. This initiative of Government to have enacted the Insolvency and Bankruptcy Code in May 2016 lays down the procedure for initiating Resolution/ Liquidation Process against corporate debtors and therefore is a step aimed at bringing faster resolution of NPA accounts in a time bound manner.

Due to critical position of banks and many of them having been put earlier under PCA framework of Reserve bank of India the government decided to restructure some of the public sector banks.

1.7 CONCEPT OF RESTRUCTURING

Banks are in the business of lending depositors' (Creditors) money to their borrowers through the act of intermediation. This is subject to an element of risk. A bank takes a host of exposures in different areas of lending like agriculture, small scale industry, retail business or corporate sector but the loan book is subject to certain risks as some borrowers may not be able to pay on due dates or not pay at all due to various reasons. The non performing loans of banks put the depositor's money at stake as they are not covered fully by deposit insurance guarantees. At present the bank deposits in India are covered by the Deposit Insurance and Credit Guarantee Corporation (DICGC) upto a maximum limit of Rs Five Lakhs only which was enhanced recently from Rs.1 lakh in February 2020, for both principal and interest as on the date of liquidation of a banking entity.

If any banking institution fails to perform its intermediation function properly it faces difficulties of liquidity and is unable to honor its promise to return the monies on call and/ or on demand. Historically there have been many panic runs on such illiquid banking institutions worldwide by the depositors to take back the amounts kept by them earlier. The case of Silicon Valley Bank (SVB) in U.S.A is a recent case of poor liquidity maintained by a bank to earn higher bond yields. It is the international experience that various governments have used takeovers of ailing banks or resorted to restructuring (merger) of weak entities with strong banking entities to avoid any spillover of a bank failure to the other parts of economy.

Restructuring is resorted to for a better performance, sustaining the operations and bringing about a continuing existence of an organisation. It is achieved by way of merger or amalgamation of different entities generally in the same business for backward or forward linkages or even for horizontal inorganic growth but the underlying is pooling of synergies. In a banking parlance it aims for better financial performance by improving competitiveness, expansion/diversification of lines of businesses for enhanced profitability, continued growth and successful business operations. The amalgamation creates a large bank to the satisfaction of all stakeholders and insulates it from the challenges posed by emerging business environment.

In the case of amalgamation of banks the factors like examining business of each bank, their business plans for next few years, their regional spread and financial strength / weakness might be considered. The areas of synergies are to be properly identified out of which total business of the bank, cultural background of staff, the products handled, treasury operations and IT platform on which the operations are handled are very critical. The idea of mergers of banks by Narsimham Committee (NC-I) was that bigger banks can compete at international level. A well structured and executed merger can help in generating synergies of workforce, operations and therefore leads to better operational efficiency. Also they as big bank can raise capital from market to the desired extent and needs. These agile banks can also build up a better brand value and thus reposition in the financial world. There are numerous difficulties in the initial merger activity, the biggest of these is continuity in

operations and customer service. It is up to individual banks how fast they can synchronize operations of the merged entities.

1.7.1 Modalities of Bank Restructuring

Though different restructuring options for troubled banks have been exercised in different countries the following modalities have been attempted frequently to save the banking crisis :

- Merger or winding up
- Change from Private to Government ownership or it may be from Government to Private ownership as well.
- Comprehensive operational and financial restructuring of existing Banks.

Restructuring implies that the restructured or intervened banks may be subject to operational and financial restructuring.

Operational restructuring is required to reduce the expenses and losses and the concerned authorities must recognize that restructuring must be accompanied by measures to control the loss-making activities. Management and staff at senior positions may have to be changed, risk management systems improved, unviable branches closed, specialized functions and subsidiaries (which require capital from the parent bank) spun off, and staff size substantially reduced with substitution of technology. At the same time, bank assets must be managed as efficiently as possible so as to minimize credit losses. Experienced staff with credit appraisal experience must be retained for a good asset portfolio and if needed professional staff is required to be hired. The aim should be to bring the bank back to profitability as soon as possible.

Financial restructuring entails to ensure the solvency of the amalgamated entity through Recapitalization. Government of India too has been ensuring to recapitalize PSBs so as to meet the Basel norms on capital adequacy. Dziobek and Pazarbasioglu (1997) mentioned Capital Infusions by the Government of country having banking crises as the initial support measure to stop spillover of the crisis to the economy. The closure of banks having low chances of survival even with support for maintenance of

capital adequacy and the desired liquidity is exercised as the next best option. In many countries foreign banks have been asked to buy out local banks.

One of the most public supported and acceptable measures by different countries is amalgamation of weak banks with domestic strong banks. However it may result in initial hardship to debtors (borrowers) and creditors (depositors) of the merging banks by way of moratorium on merging banks or operational issues faced by customers even if no moratorium is declared. Even though all countries have some amount of insurance for depositors for failed banks it is generally witnessed that governments step in early to provide full safety of hard earned money of depositors. Another institution which is generally talked about for reviving health of the ailing banks is hiving off bad assets of such banks in a type of Asset Reconstruction Company commonly called a 'Bad Bank' these days. The objective is to make the managements free and concentrate on the core (profitable) business of the banks and not to waste energies for recovery of NPAs. Transferring of NPLs to a specialized recovery set up was observed to be an effective way of addressing the banks' problem. By such an action managements of affected banks improved credit dispensation and increased their profitability. However the decision to hive off bad loans off the banking book does not come without its demerits as the branches generating such NPAs wash off their hands for recovery of such assets. The asset recovery units find it monotonous to chase bad assets. The frustration creeps in the recovery teams due to prolonged litigations to get judgements in banks favour or in taking the sale of charged assets to its logical conclusion as the borrowers put all their might to stall recovery proceedings of banks.

Another significant alternative adopted by Central Banks and Governments is to offer sick and insolvent banks for sale to private players through a bidding process (Change in bank ownership structure).

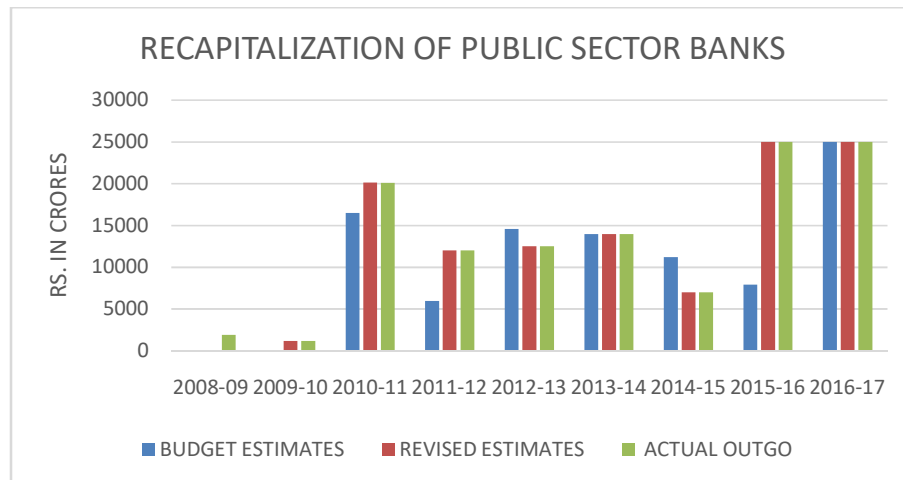
For Bank Restructuring the same model cannot be applied in all countries and in all situations (Hryckiewicz et al., 2020). Some good results can be witnessed by Merger in initial stages of a banking crisis situation but it does not bring desired outcome in a late stage of the crisis. Financial restructuring of a bank (balance sheet management) is considered to bring the desired outcome instead of bailout of a banking entity by

various modalities as discussed above. This can be helpful even during systemic crises of a serious proportion. However it is of utmost importance that regulators and Governments take immediate and transparent steps to mitigate the suffering of bank depositors for safety of their hard earned money. The equity investors can take a hit as they have to share the rewards and losses of the entity in equal measures.

‘Goodhart Model’ of Goodhart et al. (2005, 2006a) is based on Government takeover of banks, privatization of the banks in distress and a Bad Bank alternative. In India two of the mechanisms of ‘Goodhart Model’ have recently been used to mitigate the distressed banks. Mergers and a Bad Bank approach have been embarked upon by the Government of India in recent past to control and prune the bad loan portfolio of banks. However other options of restructuring too have been tried by the Government of India and the regulator detailed as under:

1.7.2 Governments’ Capital Injection (Recapitalization)

One of the most frequently used restructuring option by the Governments of different countries is to make capital injection in the distressed banks. GOI also recapitalized public sector banks starting from the year 2008-09. Though it was a small amount by 2010 it touched a high figure of Rs.25000 crore in the years 2015-16 and 2016-17 (Figure 1.7.1):



(Data Source: CAG Report No.28/2017)

Figure 1.7.1 : Recapitalization of Public Sector Banks

It is interesting to note that budget estimates for capitalisation of PSBs had to be revised upwards in some of the years.

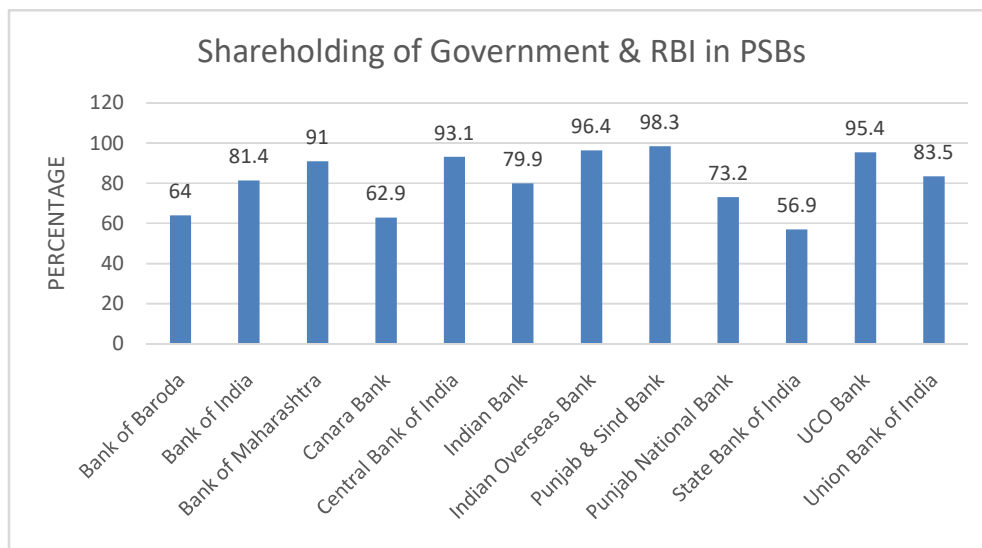
1.8 COST OF RECAPITALIZATION

Significant capitalization of PSBs was done by the Government in the past years. However it is pertinent question as to who bears this cost of capitalization. In China three set of entities have shared bank restructuring costs which are existing and new investors, depositors and borrowers and the government (Ma,G 2006). The reasons attributed are that the existing and new investors may help in recapitalization because of brand value of banks concerned, the depositors and borrowers may bear the cost indirectly through a higher net interest margin. The depositors lose money as they get lower interest on their deposits whereas the borrowers pay higher interest on their loans as the lower cost of deposits is not transmitted to the borrowers in full. Government cannot allow failure of any banking institution as it may have a spillover to the economy. The Chinese Government undertook since 1990s important steps to improve balance sheets of Chinese Banks. The restructuring cost is estimated to be as high as 22 percent of 2005 GDP.

In India the most of the largest banks now are state-owned. These banks have to be strengthened further for privatization and /or future amalgamation. A fresh bout of NPAs may be knocking at their footsteps due to high inflation, further depreciation of rupee to boost exports so essential to preserve Foreign Exchange Reserves and big business houses mired in controversies of corporate governance. In case these banks need recapitalization the government and ultimately the taxpayer will end up absorbing a portion of the capitalization funds as public funds out of budgetary support are injected into the banking sector.

To have a real estimate of cost of Financial Restructuring of banks is a difficult task. Besides ensuring capital requirement of banks to meet Basel Norms (Capital has a high cost), the money spent by the government for keeping distressed banks liquid and guaranteeing the bonds issued for purchase of non-performing loans by the bad banks are enormous cost to the Government.

The real costs can only be ascertained after sale proceeds of privatized banks are received and recoveries from sale of NPAs by the bad Bank are realized in cash. The Gross cost of financial Sector Restructuring was 12, 15 and 45 percent of GDP in Malaysia, Korea and Indonesia respectively between 1997 to 1999 (Lindgren et al., 1999). At the end of 2003 the conservative cost of bailout in Japan at the expense of taxpayer is 20 percent of GDP (Hoshi and Kashyap 2004). In a developing country like India recapitalization of Public Sector Banks at taxpayers' money is therefore not justified in view of the fact that the amount spent through budgetary support for the purpose has increased substantially after the year 2015 due to doubling of NPAs. The Government holding in some of the PSBs has already increased to a very high level due to the impact of recapitalization (Figure 1.8.1):



(Source: RBI Data)

Figure 1.8.1: Government and RBI holding in Public Sector Banks

It is also noticed that the unmerged banks BOI, BOM, CBI, IOB, PSB and UCO Bank have a very high holding by Government of India and RBI which ranges from 81 percent to 98 percent. The Indian government holds the highest 98.30% stake in Punjab & Sind Bank as of March 2022 followed by IOB (96.4%), UCO Bank (95.4%), Central Bank of India (93.1%) and Bank of Maharashtra (91%). In Bank of India such holding is 81.4 percent. The government's stake in SBI was 61.58% about

ten years ago which has now come down to 56.90% as of March 2022. But the largest banks like Bank of Baroda, PNB, SBI and Canara Bank may need to be recapitalized further at a point of time in future. Das & Ghosh (2005) studied the interrelationship between capital and operating efficiency of State owned banks for the period 1995-96 to 2000-01. It was concluded that capitalization improved productivity of banks. Banks with inadequate capital are subject to a higher degree of regulatory pressure than adequately capitalized ones. Also for medium sized banks the results indicated that lowering Government ownership tends to improve productivity.

The undercapitalized banking institutions worldwide have been resorting to ever greening of the distressed assets so as not to provide additional capital for NPAs. It has been observed that performance of Indian banks in their financial management was really bad due to their wrong lending policies and had to be capitalized to meet the Basle norms for capital adequacy. As Governments are hesitant to make budgetary allocations repeatedly for recapitalization of public sector banks they have to resort to different forms of restructuring like mergers and privatization of weak banks.

Mergers are supposed to strengthen the banks financially as it helps in avoiding the complex restructuring (operational as well as financial) of the weaker bank to achieve financial stability. The merger transforms the merging entities into a larger bank building up their competitive strength and capacity to access capital markets. Indian banks being smaller in size are unable to compete in various areas like sourcing of cheaper funds, big ticket/ corporate lending rendering of all types of financial services under one roof and lack of technology initiatives. Most of the bigger Corporates seek international funding for their capital expenditure requirements. Mergers are therefore aimed at faster inorganic growth to expand markets, size and product portfolio of the banks. Organic growth is slow and does not facilitate to cope up with fast changing market conditions. "Considering the increasing competition in the Indian banking sector the expansion oriented corporate restructuring exercises can be pursued to form large size banks which are globally competitive"(Vanjerkhede 2019).

1.9 RESTRUCTURING OF PUBLIC SECTOR BANKS BY THE GOVERNMENT OF INDIA AND STATED OBJECTIVES

Indian economy is poised for phenomenal growth despite all odds and the difficulties arisen due to the COVID. It is now at the threshold of becoming a USD 5 trillion economy the ambitious target set by the Government of India. The transformational reforms and Foreign Institutional Investment are likely to support for achieving the achievable target. Banks being the growth engines are at the epicentre of envisaged economic and financial sector reforms and will be the beneficiary of booming economy.

Bersch et al., (2020) observed that the regulators as a first initiative assist the distressed banks to receive capital and if this does not help then Mergers are resorted to. After the process of injecting capital in PSBs, the Ministry of Finance too embarked upon the journey of Mergers in the industry to strengthen banks. As per recommendations of Sh. Narasimham, consolidation of banking industry had been debated continuously in economic circles but this did not happen despite there being a huge network of bank branches of PSBs (after nationalisation), of private banks after opening up of the economy and arrival of other banking entities like RRBs, Local Capital Area Banks and Small Finance Banks. However one thing has to be borne in mind is that despite so much of bank network in the country a large number of population was without a bank account and without availment of Government support schemes. It is only 'Jan-Dhan Yojna' which helped to bring the operational capabilities of banking system to touch masses. Consolidation of banks resorted to by the Government after 30 years of NC-I recommendations is aimed to bring rationalization of branches and economies of scale to merging banks and also strengthen them to face competition from private banks.

Five Associate Banks of State Bank of India namely State Bank of Bikaner and Jaipur, State Bank of Mysore, State Bank of Travancore, State Bank of Hyderabad and State Bank of Patiala merged with their parent bank SBI on 1st April 2017. The merger can be termed as a merger of sister concerns. On the same day state owned Bhartiya Mahila Bank also merged with SBI. With the merger of associate banks, India's largest Public Sector Bank SBI becomes one of the top 50 Banks in the world.

Subsequently in 2019, Boards of Bank of Baroda, Dena bank and Vijaya bank three merging banks considered their merger and approved the same in-principle. Thereafter government in consultation with Reserve Bank of India merged two PSBs into Bank of Baroda effective from April 1, 2019.

The Financial Year 2019-20 was a milestone for Indian Public Sector Banks as Government further announced a mega consolidation of 10 PSBs. It was decided to merge Oriental Bank of Commerce and United Bank of India into Punjab National Bank, Andhra Bank and Corporation Bank into Union Bank of India, Syndicate Bank into Canara Bank and Allahabad Bank into Indian Bank effective from 1.4.2020. Thus leading PSBs were to be amalgamated into four large scale banks. The mega consolidation was aimed to raise PSBs to a scale comparable to standard of global banks and to empower the amalgamated entities with a stronger balance sheet, enhanced capacity for credit delivery and to have bigger risk appetite with increased operational efficiency.

It will also be easier now for MOF and the RBI to deal with only a few big banks. The selection of top management and keeping proper check on banks' overseas operations and domestic lending has been a herculean task. The large number of statistical returns and effective administrative controls too is a problem. The consolidation which is favoured by the merging banks and the government seemed to offer some problems relating to integration of different cultural background of staff in merging banks. The same had to be handled on priority by regular staff meetings and internal communications. Also as banks become larger, they lose touch with the customers as bureaucracy creeps in. Being bureaucratic means rule /score based lending and personal judgement of bank officers is dispensed with resulting in loss of valued customers /business. This aspect is also required to be taken care of by anchor banks.

The Finance Minister however, in a presentation to media on 23-8-2019, indicated the benefits of consolidation of PSBs as their new incarnation as big banks with enhanced capacity to increase credit due to their with strong national presence and global reach and operational efficiency gains to reduce cost of lending. The intent was clearly to make PSBs bigger and stronger.

The benefits accrued / to accrue in future to the banks under consolidation are spelt out below:

Bank of Baroda + Dena Bank + Vijaya Bank

- Operations rationalised by initiation of verticals for strong retail loan growth
- Profitability enhanced and high profit trajectory

As part of Government's reform process of fewer but larger public sector banks which would have lower costs, higher profitability, ability to raise capital from the markets and consistently invest in technology, Dena Bank and Vijaya Bank were merged in Bank of Baroda on April 1, 2019.

PNB+OBC +United Bank of India

- High CASA and lending capacity combined in consolidated bank
- Large cost reduction potential due to network overlaps
- Cost saving and income opportunities for JVs and subsidiaries

Canara Bank+ Syndicate Bank

- Large cost reduction potential due to network overlaps
- Similar culture to enable smooth consolidation
- Cost saving and income opportunities for JV and subsidiaries

Union Bank + Andhra Bank Corporation bank

- Business to become twice to four and a half times of existing bank business
- Large cost reduction potential due to network overlaps
- Cost saving and income opportunities for JVs and subsidiaries

Indian Bank + Allahabad Bank

- Doubling of business size
- Major scaling up of reach due to complementary networks
- High CASA and lending capacity in consolidated bank

One thing common in amalgamation of different banks is the same technology platform for different groups which have been merged presumably to facilitate easy integration of their operations. After the amalgamation all banks chalked out a roadmap and governance mechanism for smooth integration. Town hall meetings were conducted for communication with employees as well as customers on benefits of merger and continuity of operations. Harmonization of policies, products and processes of merging banks was initiated and the changes in Rate of Interest and service charges were communicated to customers. Major work of bringing all merging banks to same technology platform had also to be completed. The merger aimed at bringing improvement in operational efficiency by harmonization and rationalization of Branches, ATMs, Vendors, Software, Fixed Assets and Systems.

1.9.1 Basis for Restructuring of Public Sector Banks

Governments have spent substantial resources to clean up the balance sheets of public sector banks. Their restructuring has been done by merger of different banks to obviate the need for further recapitalization. However it can still be assumed that more capital will still be required for their growth and to offset the likely losses from potential NPAs as the government has not moved forward to restructure the remaining six public sector banks. Banks are not able to deploy funds profitably as big ticket corporate lending is not taking place. Also in the absence of high economic growth many sectors like real estate and MSME have not looked to the credit support from banks. This will also definitely hamper the profits of public sector banks which can be ploughed back. Therefore their dependence on government for capital remains in place.

The rationale for restructuring of different public sector banks could have been due to various factors like same technology platform, same cultural background of staff, cost savings by avoiding branch overlap or merging banks having weak financials with a bank having better/sound financials. However the primary objective seems to reduce NPAs of these banks resulting in their better financial health to enable them to raise capital at their own.

1.10 MOTIVATION FOR THE STUDY

It is known that all countries have resorted to Bank Restructuring at some point of time to avoid systemic risks in the sector. Only a sound banking system can bring economic upliftment of a nation. The studies by researchers in this area explained in ‘Review of Literature’ have struggled to significantly point out weaknesses in banking system prevailing at relevant times which relate to capital adequacies, asset management, managerial competence, financial leverage , liquidity , legal reforms, banking frauds , integration of manpower (psychological) and technology issues emerging out of willing or forced merger of banks. The impact of financial ratios on NPAs of banks has also been studied by many scholars whereas others have tried to see the impact of bank mergers on increase in shareholders’ wealth in pre-merger and post- merger scenarios. However the rationale behind recent mergers of public sector banks is not studied through their financials. A deep study of financials of banks is necessitated to establish any relationship between different sets of merging banks. Also it cannot be construed that with the recent group of mergers, the need for recapitalization of PSBs will get resolved. Though NPAs have started to decline but keeping in view the macroeconomic factors and danger of deterioration in financial position of banks, substantial amount of Recapitalization of some PSBs may be required. Also more mergers /restructuring of banks may be necessitated in future due to weak links in the banking system. This study attempts to explore possibilities of such restructuring.

1.11 CHAPTERISATION OF THESIS

Chapter 1: This relates to evolution of banking in India over the years and its contribution to Indian economy. It deals with credit growth in various sectors and massive scale up of non-performing assets of the public sector banks and the consequently the need for their recapitalization.

Chapter2: It deals with Review of Literature on the subject of financial performance of banks in public and private sector undertaken at different time periods, the role of non-performing assets in impacting the financial ratios of banks, the reasons for increase in NPAs of banks due to macro-economic factors and factors internal to the

banks. A review of studies pertaining to restructuring of banks in different countries and the benefits or otherwise is also undertaken.

Chapter 3: It explains the research methodology pertaining to research gap, need and significance of the study, different objectives of study, framing of hypotheses, selection of sample and the study period, sources of data collection and the statistical tools and techniques deployed for analyses and the model of study.

Chapter 4: It presents the reasons and trends of non- performing Assets in Public Sector Banks with a Content Analysis through Atlas ti software.

Chapter 5: The chapter highlights the financial performance of different merged and unmerged banks over the Study period.

Chapter 6: It is a study of the relationship between independent variable GNPA and different dependent financial variables (indicators)of Public Sector Banks.

Chapter 7: The chapter explores and compares the effect of Financial Performance on Restructuring of Public Sector Banks

Chapter 8: It analyses the past restructuring of PSBs from different financial perspectives and offers suggestions for further restructuring of Public Sector Banks.

Chapter 9: It offers a Summary of the Results of the Research Study, Conclusion and Suggestions.

Chapter-2

REVIEW OF LITERATURE

The chapter contains a review of literature on the research topic ‘Study on Financial Performance, Non-Performing Assets and Restructuring of Public Sector Banks’. Accordingly it is discussed in three segments. The first one deals with studies relating to evaluation of performance of public sector banks through CAMELS model or through financial ratios. Most of the literature on financial performance of banks deals with CAMELS analysis comprising of Capital Adequacy, Asset Quality, Management Evaluation, Liquidity Assessment and System of Internal Controls for a small number of years and for a set of few banks. Some of such studies deal with the pre and post merger analysis of financials of public and private sector banks. The second part relates to the reasons and comparison of Non-performing Assets in different banking segments. Some of these studies deal with macroeconomic factors causing generation of NPAs in banks whereas others deal with factors internal to banks for upswing in bad assets. The last part relates to research work on international experience in restructuring of banks and the ways it should be handled.

2.1 FINANCIAL PERFORMANCE OF PUBLIC SECTOR BANKS

It was observed by Lindgren et al., (1996) that at the time of financial scrutiny full-scope evaluation of the performance of a bank is made by banks through a CAMEL rating. Such assessments can only be made satisfactorily on-site as the assessment of management capability cannot be made through CAMEL Rating. More limited, targeted on-site inspections can focus on compliance with prudential regulations enforced by the regulator. Also a well functioning system of banking is crucial for macro- economic policies to be successful. Secondly if banking system is weak it can endanger the macroeconomic stability of the nation. Bodla and Verma (2006) used CAMEL Model for the period 2000-01 to 2004-05 to evaluate the performance of SBI and ICICI. It was concluded that in terms of assets quality, earning quality and management quality ICICI is better and SBI has better Capital Adequacy. Both the banks have good liquidity position without much variance. Through CAMELS rating of Public Sector Banks, Kalaichelvan (2011) did not observe notable change in

liquidity position of the public sector banks due to their acquisition activities but as net earnings of these banks increased significantly in short time periods after acquiring other bank sit can be stated that net earnings of PSBs are positively influenced by acquisition deals. The financial performance of ICICI bank was also studied by using CAMEL analysis (Balakrishnan 2019) which is analytical in nature. Secondary Data for the period 2014-2018 has been used for ratio analysis. It was observed that in earning quality parameter bank was having a growing trend and the liquidity parameters of the bank were also on the top position. However under the capital adequacy ratio parameter, bank was average (Bodla and Verma 2006 also confirmed it though for an earlier period of 2001-2005), in the asset quality parameter the bank was moderate and management efficiency parameter of the bank had been witnessing an increasing trend.

Ahmad and Jegadeeshwaran (2013) in an attempt to find out difference in NPA management of different banks collected and analyzed data for a period of short period of five years (2008 to 2012) and observed an increasing trend in GNPA and NNPA of all the PSBs but the rate of growth is different for different banks. Banks got different ranks on the basis of mean and final ranking was done on the basis of average gross NPA rank and net NPA rank. Andhra Bank and Corporation Bank got first rank among all the twenty banks and Punjab and Sind Bank and Indian Bank got second and third rank respectively. Due to the different strategies adopted by banks in management of NPAs the level of their bad assets also differed as established by ANOVA test. Siauwijaya (2017) also used CAMELs rating on selected banks to establish that private banks outperformed the public banks in Indonesia. The merger of Public Sector Banks was initiated in 2019 with merger of BOB, Dena and Vijaya and of other banks in 2020. By using CAMELS score the recent merger of Public Sector Banks was analyzed for only one year by Jain (2020). The study conducted for FY 19(performance of merged entities is not evaluated over a time horizon) observed that 10 amalgamated banks perform inferior to the remaining unmerged banks. The deficiency in CAMELs model is observed by Aspal and Dhawan (2016) on the plea that it does not take into cognizance the Credit Risk and as such it is not comprehensive. Shukla (2016) studied 46 scheduled commercial banks for size, growth, profitability and soundness. It was found that condition of PSBs is pathetic in

terms of CRAR and NPA ratio. In 2014 CRAR of 88.5 percent Public Sector Banks decreased as compared to 65 percent in case of private sector banks. Also 80.8 percent of PSBs witnessed increase in NPAs as against 75 percent of private banks. Kapoor (2016) used the Polynomial Regression Model covering a period from FY 2001-2002 to FY 2014-2015 to study the trend to predict the value of dependent variables i.e. Sector Wise NPA, Gross NPA, Gross Advances, Net NPA, Net Advances, Cash Recovery, Write Off and Gross Reduction for various time periods on independent variable i.e. Year for estimating the dependent variable. The impact of various dependent variables on independent variable i.e. Year was found significant.

Klein (2013) confirmed that bank level factors have a significant impact on non-performing loans as confirmed from negative correlation between NPLs and Equity to assets ratio and return on Equity. Aggressive lending evaluated in terms of loan-to-asset ratio is responsible for bad loans.

Haque (2014) studied performance of Indian banks by comparing the financial performance of different Scheduled Commercial Banks (SCBs) through ROA, ROE and NIM but observed ROE only to have a significant means of difference among the peer groups. Singh and Singla (2016) evaluated private sector banks using a CAMEL model and found that banks which were established earlier like IndusInd Bank and ICICI Bank as compared to others are better in terms of management efficiency, liquidity and capital. Better operational efficiency, higher interest and non interest income was suggested for PNB, SBI and BOB as area for improvement by Saharan and Sharma (2016) on a database spanning five years. Mouneswari et al., (2016) studied 20 Public and Private banks through CAMEL (Five parameters) and concluded that, the four factors Profit per employee, Debt-equity ratio, Total Assets/ Total deposits ratio and Net NPA / Total advances ratio are the major independent factors which impact positively the financial performance of the banks taking return on assets as dependent variable. Gulati (2018) analyzed secondary data regarding profitability and NPAs of different banking groups for a period of 20 years viz. from 1997-98 to 2016-17. To study the impact of NPAs on profitability the statistical technique of linear regression was used. It was concluded that the highest impact of NPA on profitability was observed in case of public sector banks whereas impact on

other banking groups was lower. Findings of Antoun et al., (2018) surprisingly hold that bank size has a negative and significant impact on bank performance. It is established from the study of banks in CEE countries that economies of scale benefit is derived only by small banks and such banks have more diversified income, better quality of their assets and higher earnings. Banks that incur higher operating expenses increased their capital adequacy and liquidity. The empirical findings indicate a positive and significant impact of bank concentration in CEE (Central and eastern European countries) on capital adequacy and liquidity. Regarding the impact of macroeconomic variables, inflation is seen to have a positive impact on asset quality and earnings, whereas higher economic growth leads to higher capital adequacy and liquidity

Budhedeo et al., (2018) evaluated through time series data, the financial performance of the public sector banks on the basis of selected financial parameters from 1995-96 to 2016-17. The two phases clearly established positive performance in the initial phase between 1995-96 to 2006-07 and the declining trend in the second phase between 2007-08 to 2016-2017 attributed to post global financial crisis period. The financial performance of select private sector banks was found to be relatively better than the public sector banks throughout the sample period of 2012-16 (Srinivasan and Britto 2017) by studying the impact of liquidity, solvency and efficiency on the profitability of the selected Indian commercial banks by employing the panel data estimations. Kaur and Kumar (2018) observed that Bank specific determinants like ROE, Return on Advances, CD Ratio, Return on Investment and Capital Adequacy Ratio have been found to negatively influence GNPA (dependent variable) in Public Sector Banks. Also if banks have strong capital base the sound profitability will lower NPAs. Regarding macroeconomic factors, depreciation of local currency is observed to reduce NPL levels whereas rising interest rates add to non-performing baggage of banks. Agrawal and Meena (2020) studied performance of only one public bank (Bank of Baroda) and one private bank (HDFC Bank) using CAMELS model. Secondary data for the year 2008-09 to 2017-18 was analysed by using ratio analysis, mean, standard deviation and t-test. HDFC Bank performance was found to be better than Bank of Baroda over these ten years and it is also concluded that there is significant variation in performance of public sector and private sector banks. Tanwar

(2020) expressed the view that banks in economy face diverse forms of risk such as default risk, operational risk, and interest rate risk and CAMELS model assists to analyze such risks and thus evaluate the financial strength of different banks. For study purpose public, private and foreign banks in India were selected on the basis of total income and profit from 2015-2016 to 2017-2018 through use of techniques mean, standard deviation, coefficient of variation, rank and CAGR. It was concluded that in some of the parameters PSBs and Private Banks were good and in others Foreign Banks. As such no conclusive result is drawn by the study. Valliammal and Manivannan (2018) too established significant impact of NPAs on profitability through a study of the net profit of selected banks. A study by Dhananjaya (2019) observes Vijaya Bank and Indian Bank to be better in profitability and ROA and lower GNPA than other banks. Deterioration in ROA across all PSBs indicates that the growth of NPAs is adversely affecting the profitability of banks, which is confirmed by presence of strong negative correlation (-0.78) between GNPA and ROA. Saradhi and Siddiqui (2021) studied the impact of increase in GNPA on profitability for the period 2004-05 to 2016-17 and it was observed that ROA and ROE of public sector banks are negatively impacted. However the period of study is before the GNPA ratios of all banks started showing an upward trend and faced a full blown crisis to assess the full impact of GNPA on banks' financials. A CAMEL's rating of impact of mergers on the performance of the acquiring banks namely Indian Overseas Bank (IOB) and The Federal Bank Ltd (FBL) through the pre-merger versus post-merger analysis observed that private sector bank (FBL) is in better position as out of twenty CAMEL ratios considered for the study twelve ratios of FBL are better than that of IOB (Vanjerkhede 2019). A sample of 12 PSBs listed on NSE and BSE was taken for the period 2010-11 to 2021-22 (Nalliboyina & Venkata Chalam 2023) to study the determinants of profitability. It is observed that bank asset size, cost to income, net non-performing assets, credit deposit ratio and inflation are negatively related to ROA, ROE and NIM.

2.2 NPA PROBLEM OF BANKS AND THE IMPACT ON THEIR FINANCIALS

The literature on NPAs has earlier been analysed by Pundir and Choudhury (2021) through a review of 2 Data Houses i.e. Taylor and Francis and Web of Sciences. A

total of 362 papers were found and reviewed from these 2 Data Houses. After exclusion and inclusion of papers based on some variables 347 papers were excluded and finally only 15 relevant papers written on this topic were found. It is therefore concluded that there is dearth of relevant literature on the subject. Many authors have attributed macro-economic factors for the growing incidence of NPAs in banks. On the other side some authors have observed the reasons internal to the banks. Customers' behavior and inefficient management of credit portfolio have been attributed as reasons for the alarming increase of NPAs of banks which in turn affects their efficiency. Also there are many attempts to see the impact of a particular financial ratio or a set of such ratios on NPA increase of banks but the possible reverse impact of NPAs on financial ratios of banks necessitating options for their restructuring is yet to be explored.

Some of the significant studies are as under:

Fofack (2005) revealed the significance of macro and microeconomic factors like economic growth, real exchange rate appreciation, the real interest rate, net interest margins as the causes for determination of NPLs during the economic and banking crises that affected the large number of countries in Sub-Saharan Africa in the 1990. Messai and Jouini (2013) studied a sample of European banks to find out the variables that may affect the non-performing loans of banks. The results show that GDP growth and the ROA of credit institutions have a negative impact on non-performing loans. The unemployment rate and the real interest rate affect impaired loans positively. Murari (2014) observed the ratio of gross NPAs to total advances of banks had declined from 12.4% to 2.1% between 2001 and 2013. It was reiterated that the decline in ratio of NPAs indicates better asset quality of PSBs and private sector banks. It is established by studies that besides erosion of capital, the rise in NPAs impact negatively the concerned bank's financial efficiency and credit growth. Due to paucity of capital and fear of further accretion of Non-Performing Assets banks go slow on credit. There is another view that banks with higher bank capital are inclined to undertake more credit risk meaning a bank with a higher amount of capital can provide for higher quantum of losses if bad loans rise.

Sengupta and Vardhan (2017) emphasised that timely solution of bad assets is a key requirement for banks. It is important that there is no one fit all approach and therefore rather forcing a regulatory forbearance for restructuring of loans in default, it should be left to individual banks to take a call on merits. The banks should be enabled and encouraged to take a quick action for an early identification rather concealment of difficult to recover assets so that timely support can be lent to genuine borrowers. This will help in conservation of capital by degradation of assets quickly to loss assets. In Kenya poor appraisal of credit proposals and diversion of funds for other purposes than for the stated purposes added to NPLs (Richard 2010). Ghosh Amit (2015) in the context of US Banking Industry emphasized that there was an evidence of ‘too big to fail’ behaviour on the part of banks. From a capital management point of view this presents a challenging decision for banks. While greater capitalization may be beneficial to ensure more profits it also results in increase of non-performing loans as there is a tendency on the part of banks to dilute lending norms. Therefore an optimal extent of capital in banks’ balance sheets maintaining simultaneously high credit standards to reduce NPLs will induce prudent lending. Corporate governance factors like board composition and ownership vis-a-vis macro-economic variables playing a more significant role than bank specific factors in determining NPA level of banks was considered to be a subject of investigation. Sodhi and Waraich (2016) attributed high inflation, depreciation of the rupee and economic recession to growing incidence of non-performing loans. However it was observed that in terms of growth and profitability private sector banks were performing better than PSBs. Chavan and Gambacorta (2016) on a study of the banks in India observed that banks finance even undeserving borrowers also because of collaterals with high valuations. However, whenever there is a downturn in asset prices, bad loans of the banks go up as banks and borrowers find it impossible to liquidate their loan outstanding from sale of underlying collateral. A one-percentage point increase in loan growth was found to be associated with an increase in NPLs over total advances (NPL ratio) of 4.3 per cent in the long run. V. Acharya (2017) observed that if a banking system remains systematically undercapitalized and new lending is not made under a strict supervisory watch, then the economy may have a credit misallocation issue known in banking parlance as ‘loan ever-greening’ or

‘zombie lending’. If such loans are classified as NPAs these require capital allocation due to higher provisioning. Through evergreening route banks only defer capital allocation and run the risk of violating minimum capital adequacy norms of the regulator.

Gupta and Gautam (2017) in their study found that the level of NPAs both gross and net is having an increasing trend and the same is attributed to the improper discharge of responsibilities by all parties connected to lending of banks. Improper valuation of the principal and collateral securities at times results in NPAs due to casual and routine handling of credit sanctions.

Tandon et al., (2017) through use of Multivariate panel data analysis suggested banks to reduce the business cost through technology initiatives. Also equity to asset ratio is statistically significant and has positive effect on profitability. NPA management in public sector banks needs attention as the same affects profitability and banks should manage capital judiciously as high capitalized banks tend to perform better and are more profitable. Another study Mishra, A.K et al., (2020) concluded that public sector banks can be regarded as less efficient as compared to private sector banks. Their study related to Macro-economic determinants of non-performing assets in the banking system and by using panel data regression analysis proved that there is significant difference between public sector banks and private sector banks in India in terms of their NPAs and relative efficiency. Rajaraman and Vashishtha (2001) also performed a panel regression on data for five years from 1999-2000 on non performing loans of 27 public sector banks. It was conclusively established that Gross NPA is definitely a better indicator than net NPA. The observation is significant as GNPA does not account for provisioning made for non-performing loans and indicates the absolute quantum of such loans with a bank. It is suggested that for banks having higher concentration in states where there has been marked industrial decline, such as United Bank of India with its high presence in West Bengal, recapitalisation with operational structuring does not serve any purpose and is a waste of public money. Closure of such banks with liquidation of assets including real estate at market determined value should prove to be far more cost-effective even with full depositor protection.

There are different views on role of Priority Sector lending in accretion of bad loans in banking sector. Many authors have blamed squarely the directed 40 percent lending to agriculture, micro, tiny, small and medium level industry for high incidence of NPAs in all banks (Kamini Rai 2012). The view is shared by Singh Asha (2013), Singh V.R (2016), Abhijit Sinha (2016) Gupta and Sangeeta (2018). Korde and Laghate (2014) too attribute growth of NPAs to public sector banks in the Indian perspective and emphasize that Priority Sector lending results in high NPAs and this should be worrisome for the Indian economy. It is asserted strongly by all these authors that in India, priority sector lending is a significant reason for the accumulation of NPAs in the banking sector.

The view as above has been contested by researchers like Reddy (2002), Swamy (2013), Mukhopadhyay (2018) and Chandrasekhar & Ghosh (2018) who observed the quantum of NPAs is smaller in priority sector than in non-priority sector. These researchers and many others therefore rebutted the cause of NPAs to be the priority sector lending and emphasised that rural credit dispensation for financing the important segment of society, is viable. It is observed through data analysis that the large industries contribute more to bad loans. Whereas the share of NPAs in priority sector declined from 50% in 1995 to 23.5% in 2017, the NPAs in non-priority sector had gone up from 46.5% to 76.5% during the same period. A study by Neha Rani (2014) also revealed that share of nationalized banks in priority sector NPA was greater in 2008 but after that it is decreasing. However amount of NPA in nationalised banks and SBI group banks is increasing but their percentage share in total NPA is continuously decreasing. It was emphasized that there is a need to concentrate on non priority sector in the banks as non-performing assets were increasing in this sector. Tripathi and Syed (2017) however gave a different dimension to NPAs in Priority sector by attributing weak collection system of such loans in the public sector banks.

Datta Chaudhuri (2005) emphasized that NPAs destroy the balance sheet of the institution as these denote the bad quality of possessed assets. As the cessation of income happens it has implications for accretion of capital thereby impacting the returns to shareholders. The institution having high NPAs also loses its capacity to go

to the market and raise capital for expansion of business and fulfil its regulatory capital adequacy requirements. Narula and Singla (2014) analyzed annual reports of Punjab National Bank from 2007 to 2012 by using coefficient of correlation and surprisingly found a positive correlation between Net Profits and NPA of PNB. Das and Dutta (2014) concluded that there is no significant difference between the means of NPA of the banks by conducting a study on SBI and its associates, and the other PSBs based on the secondary data from 2008 to 2013. ANOVA was used for the purpose. Gandhi Kalpesh (2015) studied financials of SBI for the period of 2010 to 2014 and observed that SBI too saw rising NPAs since 2010 which is a serious issue for the bank. Jayakodi and Rengarajan (2016) studied the trend in NPA ratio of select Public and Private Sector banks to find a relationship between their Gross NPAs and profitability measure (only one measure of profitability by way of Return on Assets was chosen). By finding a correlation between GNPA and ROA of Public and Private Sector banks it was concluded that there is an adverse (negative) effect of GNPA on ROA. Dhananjaya and Raj (2017) observed that Gross NPAs in PSBs increased from 5.20 percent in 2014-15 to 9.10 percent in 2015-16 which is endangering the banking sector. The high NPAs leave banks with a low provision coverage ratio due to lower profitability. The recovery measures banks pursue are also not effective in resolving bad debts. Mishra and Pawaskar (2017) studied Bank of Maharashtra for Total Provision Ratio, GNPA, Net NPA, Sub- Standard, Doubtful and Loss assets for the period 2011-16 and observed that there was deterioration of all such ratios for the bank. Accordingly the Bank was advised to be proactive in the selection of clients and customers and improve performance in the key areas.

Rashmi Singh and Sharma (2017) selected public and private banks on the basis of their market capitalization to find the possible relationship between NPAs and their ROA by using panel data regression from 2013-2017 and established that GNPA and NNPA have no impact on ROA of private sector banks whereas these impact ROA of Public Sector Banks. Government has been consistently recapitalizing PSBs due to rising NPAs from 2010 onwards. Kokane and Nerlekar (2017) studied relationship between NPAs and Capital Adequacy of PSBs and SBI Group from 2009 to 2015 which is before announcement and induction of massive recapitalization of PSBs in the years 2017-2020. A negative correlation was established between NPAs and CAR

of different banking groups. It is expected that the infusion of capital will help banks to reduce the NPAs. Satpal (2014) observed that extent of NPA is comparatively very high in public sectors banks as compared to private banks and foreign banks and suggested government needs to take more steps to curb the problem. Gulati (2018) studied comparative impact of NPAs on profitability of various groups of banks by statistical testing of data for number of years. Gross NPAs to gross advances ratio has been taken as an indicator of NPAs and for profitability net profit as percentage of total assets, net profit as percentage of total equity, interest earned on advances as percentage of average advances, net profit as percentage of total funds and interest income as percentage of total assets was taken. The finding established that the highest impact of NPA on profitability is there in case of public sector banks whereas foreign banks, new private sector banks and old private sector banks are ranked second, third and fourth position respectively. Nachimuthu and Veni (2019) also tried to find out the impact of NPAs on the profitability of SCBs for the period 2007-08 to 2016-17. It was significantly related to the Ratio of Gross NPA to Gross Advances and ratio of Net NPA to Net advances, Ratio of Gross NPA to Total Assets and Ratio of Net NPA to total assets and thus concluded that the profitability of the banks has reduced due to rise of bad loans of banks in India. Garg (2019) observed that due to high NPAs the PSBs were recapitalised by the Government. It is expected that these freshly capitalised banks would loan more to gainful segment. The beneficiary banks must create enough benefits and pay profits to the Centre to legitimise recapitalisation through government bonds. Thus without an expansion in lending, the revival of economy is not possible. Governments need to reach to banking crisis by unfalteringly recapitalising banks but it should not result in a moral hazard. Devika (2020) observed that the recapitalization benefits PSBs but increase in NPAs makes the infused capital less effective and valuable for only a small period. A critical review of non-performing assets in the Indian banking industry was done by Agarwala V and Nidhi (2019) who observed that increase in NPA levels is witnessed for small and big banks alike and these not only impact the profitability level of banks but also impact negatively the shareholders. Tyagi et al., (2020) confirmed through regression analysis that Non-Performing assets have direct and a significant impact on the profitability of banks. For the purpose secondary data pertaining to

select public sector and private sector banks was collected and regressed. Wadhwa and Ramaswamy (2020) in their research also revealed that there was significant impact on Net Profits due to NPAs. The data of some public and private banks having highest NPA ratios for the period 2015 to 2019 was analyzed by correlation analysis and multiple regressions to compute the impact of different financial heads on NPAs. The results revealed that NPA was negatively correlated with Net profits in the selected banks except HDFC Bank. Sharma & Dhiman (2023) studied the impact of GNPA on financial parameters of PSBs and concluded that it impacted negatively CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR of all the banks.

2.3 RESTRUCTURING IN BANKS

In literature, the words Restructuring, Merger and Consolidation of Banks have been used as synonyms. There has been good number of international research studies on Restructuring of Banks but not much Indian literature is available on the subject. These studies describe the growing incidence of NPLs as the primary reason (as they affect the financials of banking entities adversely) necessitating the restructuring of banks. Some of the major financials affected by growing NPAs are Return on Assets, Net interest margin and Capital Adequacy. There is therefore the need for prompt action to assess how the distress in banks affect the customers' need for credit. Most of the research carried out on Bank Restructuring under the aegis of IMF and the Central Banks of different countries have expressed the need for dealing with bank distress on priority to ward off a systemic spillover and also to take long term measures to curb the contagion. As per IMF (Lindgren et al., 1999) different phases in managing and resolving a systemic bank crisis are 1) The acute crisis phase: Measures to be initiated to stop the panic and try to stabilize the system 2) The stabilization phase: Initiate steps to Restructure the Banking System and 3) The Recovery phase: Effective steps to normalize the system (which include privatization of banks nationalized earlier and selling bad assets).

The expected role of government of countries affected by the damage to their economies by bad assets and the urgency for initiating merger/ restructuring of banking system to avert any crises is also debated in various research studies. Sheng (1991) observed crises or distress in banks occur when depositors seek to protect their

deposits and thus avoid loss of their valued savings. Sometimes the panic to do so results in bank runs. To prevent this, governments make announcements of safety of the funds to reassure the bank customers. Many a time Government action results in bank restructuring to maintain public confidence in banking and as such preserve the sanctity of the social contract. Bank restructuring thus acts as a demonstration of good governance. Most banks fail because of inefficient management or having inadequate capital. The primary reasons for the fragility of the banking system are the macroeconomic shocks or the flawed policy of the government. Rhoades (1993) observed through a study of efficiency effects by various expense ratios that horizontal bank mergers during 1981-1986 did not generally result in efficiency gains. The acquiring banks on average were found to be more efficient than the target banks. Focarelli et al., (2002) found no conclusive results on the benefits of mergers and acquisitions even though the banking industry is witnessing consolidation. Income from services improves by mergers but there is simultaneous increase in staff costs. Because of a decrease in capital ROE improves. Houston et al., (1994) also observed that larger banks do not necessarily create banks which have higher efficiency and earn higher profits. The ROE for merged banks outperforms that of the banking industry only after a reasonable period of three years but it is experienced that better outcome of merger process does not extend to ROA which is a better and trusted measure of performance.

Expressing a contrary view bank-level data for 80 countries the years 1988-95 was used by Kunt and Huizinga (1998) to establish that banks with lower market penetration do not yield higher margins resulting in lower profits. Athanasoglou et al., (2006) too concluded that bigger size of the banks corresponds to higher incomes and higher ROA leads to better profits signifying mergers to be beneficial to the merging entities. The event study methodology was used by Anand and Singh (2008) to document positive and significant increase in value to the shareholders of bidder banks indicating better efficiency and profitability. Dziobek and Pazarbasioglu (1997) selected a sample of 24 countries where systemic bank restructuring happened to ascertain the best practices through a statistical analysis considering changes over a nine year period for countries where the restructuring began before 1991. Countries were included where problems were considered to be systemic (systemic is defined as

a situation where problems affected banks in aggregate held at least 20 percent of the total deposits of the banking system). The survey establishes that successful restructuring is positively correlated with prompt action and the countries which took prompt action within one year of the occurrence of problems in banks were successful. Daniel and Saal (1997) emphasised that systemic bank restructuring is a multiyear process and generally consists of a comprehensive package of macroeconomic, institutional, and regulatory steps by assessment of the problem. The important part is to determine who will bear the losses of restructuring. The typical country experience is public sector absorbs a major share of the accumulated banking system losses besides administrative costs of bank liquidation and restructuring. Some countries have assigned such losses on depositors also without causing a panic or a run on banks. Countries like Cote d'Ivoire, Latvia, Peru and Spain have successfully imposed limited losses on depositors and other creditors (Dziobek and Pazarbasioglu 1997). Governments however are wary of such action because of political fallout and loss of confidence by general public in their governments.

Abel and Szakadat (1998) studied the journey of transformation of banking industry in Hungary which started in 1983 and completed in 1997. The problem started in the country after switch to a two-tier banking system which took place when the economy fell into recession and inflation started to increase. This development impacted the supply side as long-term financing became riskier because of increasing inflationary uncertainty (making rational calculation for the longer term more difficult). Banks stopped extending more investment credits and thus were dependent on small businesses and state owned enterprises (SOEs) and faced distress over time which necessitated restructuring of State Owned Commercial Banks (SOCBs). Although at a high cost, the bad debts of the SOCBs were carved out. In 1994 consolidated banks had a positive cash-flow, and became profitable. This may have contributed to the fact that all major SOCBs have now been privatised. The treasury has been able to collect some revenues from the privatisation of SOCBs. As major banks are now in foreign hands, the state has no direct control over credit allocation but considered the most successful in transforming its banking sector in the Central European economies.

The acquiring banks generally restructure the loan portfolio of the acquired bank resulting in better lending policies which ultimately are responsible for generation of higher earnings for the merged bank. Akhavein et al., (1997) through empirical study concluded that by a deliberate shift in investment policies to lend more than keep the money in safe bonds due to higher interest earnings, the merged banks increase revenues and thus experience a statistically significant 16 percentage point average increase in profit efficiency relative to other large banks. Milbourn et al., (1999) too endorsed the view that merged banks tend to earn more by increasing the ratio of loans to securities in the asset portfolio. Also the merged entities try to offer a diversified product mix (like banks in India now sell Gold, Insurance products, Mutual Funds, Fast Tags) at one place to boost the areas of incomes. The view is contradicted by Altanbus (2001) by observing that efficiency in the German banking market related to bank size is not based on any evidence. Boot (1999) expressed that there are powerful forces behind consolidation and it is only partially driven by value-maximizing behaviour. Therefore the political dimension in consolidation cannot be ignored.

Several empirical studies have established that the presence of state-owned banks generally is associated with a lower level of financial development. Hawkins and Mihaljek (2001) attributed the main reason for privatization of the State owned Commercial Banks (SOCBs) to their poor performance and frequent costly bailouts which resulted from inadequate systems of governance. It is the generally accepted perception that the presence of state-owned banks tends to slow the development of the financial sector which encourages privatization of the sector. Halkos and Tzeremes (2013) observed from empirical findings that mergers or acquisition between efficient banks does not ensure an efficient amalgamated bank. Many companies are resorting to mergers or acquisitions as a major significant move to improve their performance due to the obvious and multiple gains such as reduction in costs, up scaling of skills and products, freeing up abundant resources and the resultant additional profits. It was observed by many researchers (Altunbas et al., 2001, Akkus et al., 2015, Lahoti 2016) that to reap the benefits of economies of scale as a principal objective, a large number of international and domestic banks all over the world are engaged in merger and acquisition activities. Besides Mergers and

Acquisitions aid the firm in external growth, provide it competitive advantage and therefore it is treated as an important corporate strategy. Today's economy is integrated with global markets and therefore mergers and acquisitions (M&A) are resorted to for inorganic growth, to attain larger market share, face competitors in the same product category and enlarging bouquet of products to reduce business risk as a conscious decision to expand geographically. A bigger bank with national reach can add large number of customers for sale of its products at a much lower cost.

Hawkins (2000) insisted on transparency to public to deal with NPAs so that a core of healthy banks can fulfill their primary role of economic development. For taking the banks out of distress it must be able to identify the scale of the problem and commit the necessary fiscal resources at an early stage of crisis. The supervisors who want to close insolvent banks must be extended full support. Privatization and Restructuring of Banks in Brazil was studied by Baer and Nazmi (2000) who observed that Public banks were made to work for social lending. The question is to avoid such abuse if banks are privatized, who will be lending for areas, population groups and economic sectors which are not attractive to private banks. It was suggested the central bank's intervention to integrate poorly run private banks with healthier ones and the opening of banking to foreign banks, may improve the efficiency and safety of the banking sector. Such big merged private banks can concentrate credit disbursements in prosperous areas and to more privileged socio-economic groups. Government can create incentives in a privatized financial system to guide some of the resources of private banks towards neglected economic and social sectors and backward regions. Williams and Nguyen (2005) examined the impact of changes in bank governance on bank performance for a sample of commercial banks operating in South East Asia. The evidence in support of privatization as claimed by the authors suggests domestic private-owned banks should target improvements in profit efficiency. The study suggests future bank privatizations will increase the overall efficiency and productivity of SE Asian banking systems as more bank privatizations were scheduled.

Leslie (2000) observed that Systemic bank restructuring requires strong government leadership because the process seeks to preserve an essential economic infrastructure

and entails major macroeconomic and wealth distribution effects. It was suggested to keep the public well informed about the restructuring as public may lose confidence in the system in a non-transparent restructuring exercise. Laeven and Valencia (2008) emphasize that “choosing the best way of resolving a financial crisis and accelerating economic recovery is far from unproblematic. Many approaches have been proposed and tried to resolve systemic crises more efficiently. Some have focused on reducing the fiscal costs of financial crises, others on limiting the economic costs in terms of lost output and on accelerating restructuring, whereas again others have focused on achieving long-term, structural reforms. Trade-offs are likely to arise between these objectives”. It can therefore be understood that Governments may have to spend heavily through fiscal policy to come out speedily from a banking crisis. In case it does not happen the structural reforms may only be achieved with large output losses and high fiscal costs.

Based on the survey data of Siam Commercial Bank (SCB) restructuring in Thailand from 291 middle managers, Pinprayong and Siengthai (2012) investigated and compared SCB business and organizational efficiency before and after corporate restructuring. The data were collected through a questionnaire survey by using Wilcoxon Signed-Rank Test. It was observed that corporate restructuring led to a positive change especially higher level of efficiency at the business and organizational level besides increase in market share by showing revenue and net profit growth. The service style changed from the conservative bank to customer-centric bank. Benzekkoura et al., (2014) also endorsed the improved performance of the banks as a result of restructuring. The improved performance of the bank occurs by controlling cost through scale of operations and the introduction of technology for development of products. Vo and Nguyen (2018) who observed that inefficiency creeps in banking systems because of Government intervention. Most of state-owned banks having been infused with recapitalization dose result in higher marginal costs to generate revenue with higher inefficiency. The government should reduce its intervention in market, be transparent, allow privatization of the state-owned commercial banks to introduce a sense of competition in the market. There is another view (Kithinji 2019) that bank restructuring by way of injecting additional capital can increase profitability but reverse is also true that increasing asset quality reduces profits of

banks as it involves huge provisioning of NPLs. Yildirim (2014) demonstrated that the level of competition in Turkish Banking did not increase despite the restructuring that was undertaken and which resulted in increased foreign bank participation in the aftermath of the country's financial crisis of 2000 to 2001 and the subsequent global financial crisis.

In a study of bank bailouts in Germany, Bersch et al., (2020) observed that mergers are often a means of restructuring a bank and preventing it from defaulting. It was very rightly observed that initial capital support occurs more frequently before a merger than it does in a situation where no merger takes place. Merger makes it substantially more difficult to conduct a control group study, because the bank prior to the merger is substantially more different from the one afterward (e.g. with respect to size, regional focus). The distress in system is identified by typical rescue measures taken by supervisors like capital support i.e. capital injections and guarantees as well as distressed mergers which are often the last resort after previous capital support measures have failed. Germany had numerous mergers in all banking segments and therefore the number of banks fell from approximately 4300 in 1990 to 2700 in year 2000 and 2000 banks in 2010. Berg et al., (1991) emphasized to retain a sufficient number of independent banks on the market as they did not find any evidence of cost savings from increased bank size and emphasized that there is a case for restrictions on the ongoing concentration process. Berger and Hannan (1998) expressed the view that as the concentration in a market increases, firms with a greater monopoly power charge higher prices and hence profitability increases. Market power may also result in higher costs rather than higher profits due to inefficiencies related to the fact that management is under less pressure to minimize costs, which is the so-called quiet life effect. Carletti (2002) too observed that most empirical literature seems to point towards the standard adverse effects on prices of increased concentration in banking as small number of big banks may in fact create more instability in the system. The view is shared by Ino and Matsuki (2020) who established empirically that the merger increases the market share of the merged bank and thus allows it to set higher markup, which results into lower deposit rates. Herwadkar et al., (2022) analysed the impact of recent bank mergers in India between 2019-2020 on the short-term and medium-term performance of the acquirer banks. Data envelopment analysis (DEA) suggests that

the efficiency of acquirers improved post-merger due to an increase in scale or productive capacity. Abisola (2022) through descriptive and inferential statistics (multiple regression analysis) of secondary data of 10 Deposit Money Banks (DMBs) in Nigeria, for a period of 12 years from 2006 to 2018 showed that the proxies of bank size (total assets, number of and customers' deposit) had a cumulative effect on return on asset for financial performance. Kress (2020) expressed the view that distress at a single large bank poses a significantly greater threat to the economy than distress at several smaller banks with equivalent total assets. It is emphasized that agencies responsible for merger of banks overlook three statutory factors namely financial stability, the public interest and financial and managerial considerations. Bank amalgamation also hurts customers. Consolidation among large banks elevates risks to financial stability. Shaktikanta Das (2019) defended the merger of Indian public sector banks and observed that the government, with an objective to create strong and competitive banks, has announced an amalgamation of PSBs in order to create stronger banks with global presence. This consolidation as per the recommendations of Narasimham Committee (NC I) in 1991, is based on the idea to enable such banks to compete at the national and international level. A well-executed merger generates synergies of workforce and capital, helps in streamlining of operations, leads to significant improvements in efficiency and can entail diffusion of best practices across the board between banks. The bigger and agile banks, in principle, could reposition themselves with better branding exercises. Large banks are considered to have better risk management expertise than their smaller banks. Also because of their bigger size they have more opportunities for diversification of risk (McAllister & McManus, 1993). Many others (L'opez- Espinosa et al., 2013) too observed that a bigger bank may result into a greater loss given default upon the financial system but it may benefit from the diversification opportunities provided by segmented markets and consequently reducing default risk. Researchers (Fungacova and Solanko2008) established that large banks in Russia have higher insolvency risk than small ones. On the other hand Altunbas et al., (2007) empirically found negative relationship between bank size and risk which seems to explain the diversification effect. It can be assumed that bigger banks are better capacitated to be able to

withstand systemic crisis though there may remain some weaknesses on operational level.

Chapter -3

RESEARCH METHODOLOGY

This chapter deals with the research gap and the methodology adopted for carrying out the present study as under:

3.1 RESEARCH GAP AND SIGNIFICANCE OF THE STUDY

This study has been necessitated due to rising NPAs of Public Sector Banks in India and consequent merger of 10 public sector banks into four large banks and the earlier merger of associate banks with State Bank of India and of Dena Bank and Vijaya Bank with Bank of Baroda. Recent merger will impact more than 400 million customers of these banks for enhanced customer service expectations and also employees of these banks for improvement in their working conditions. Most of the studies on Financial Performance of Banks in India have analyzed data only upto 2015-16 to see impact of NPAs on a single financial ratio of a few commercial banks. This study evaluates the role of NPAs in deterioration of nine key financial ratios of Public Sector Banks due to their homogeneous nature and same ownership. The study period is 2011-22 divided in two segments, one upto the date of merger and another after the merger. The time horizon of 2011-22 has witnessed huge slippages in asset quality. The NPAs grew consistently higher and higher in this period backed by spurt in stressed advances. Asset Quality Review (AQR) undertaken by the Reserve Bank of India forced the PSBs to declare the true classification of their advances. As a consequence the NPAs peaked to a staggering figure of Rs. 10.40 lakh crore in March 2018 forming 11.2 percent of gross advances. This necessitated recapitalization of PSBs and also forced the Government of India to undertake their restructuring. The basis for grouping of different banks for merger is not in public domain other than they may be on the same technology platform. This has not been studied by researchers. Also this study attempts to ascertain the correlation between the financial performance of different constituents of groupings of banks like the group of Bank of Baroda, Dena Bank and Vijaya Bank with Bank of Baroda as the anchor bank and other similar groupings.

There have been many studies made on mergers in India as well as in other countries to analyze the impact of such a move on the financials of merged entities. Some researchers find mergers to be favorable whereas others find it futile based on erosion of “shareholders” wealth and non-achievement of stated objectives for merger. Most of the studies have confined themselves to the CAMELS rating. Many researchers have tried to find the reasons for growing incidence of non-performing assets leading to weakening of financial performance of Public Sector Banks but an in depth analysis is missing. This study attempted a Content Analysis of the research done as to the causes of Non-Performing Assets which brings to the fore real reasons relating to External Environment, Bank-Specific Internal reasons and Borrower specific reasons for slippage of borrowal accounts to NPA category. Restructuring of some PSBs had to be undertaken to make them bigger and stronger entities. The basis for grouping of different banks for merger is not in public domain other than that they may be on same technology platform. The financial strength after restructuring is supposed to enable them to raise capital resources from market which will obviate the need for their repeated capitalization at the expense of taxpayer.

This study attempts to find the impact of NPAs on the Financial Performance of different groups of merged entities and the possible financial reasons for mergers of PSBs in recent past which has not been researched earlier. It is also proposed by the Government to privatize some of the PSBs in terms of budget speech of the Finance Minister on Feb1, 2021. The study also attempts to identify PSBs for further restructuring in future.

3.2 RESEARCH QUESTION

Has the high incidence of NPAs resulted in deterioration of financial ratios of the Public Sector Banks forcing the government to undertake their restructuring and the possible correlation between financials of different groups of such restructured banks?

3.3 OBJECTIVES OF STUDY

The objectives of our study are as under:

1. To identify the reasons and trends of non- performing assets in Public Sector Banks.

2. To study the financial performance of Public Sector Banks.
3. To study the relationship between Non-Performing Assets and financial performance of Public Sector Banks.
4. To explore and compare the effect of financial performance on restructuring of Public Sector Banks.
5. To analyse the past restructuring of Public Sector Banks from various perspectives and study the possibility of further restructuring

3.4 HYPOTHESIS OF THE STUDY

H₁: There is no significant relationship between NPAs and financial performance of public sector banks.

H₂: There is no significant effect of financial performance on restructuring of public sector banks.

3.5 SOURCES OF DATA COLLECTION

The study is based on secondary data obtained from Reserve Bank of India official website based on financial statements of PSBs, Money control.com and investor presentations published by Public Sector Banks. The data consists of all public sector banks other than State Bank of India covering the period 2011 to 2022 for examining the impact of GNPA on financial ratios chosen for analysis. The period is critical as this time horizon has witnessed huge spurt in NPA growth of public sector banks. The time period between 2011-16 witnessed growth in NPAs due to high growth of advances in Public Sector Banks due to aggressive financing of various sectors of economy. In the period 2017-2020 the growth of advances slowed down due to PCA having been imposed on a number of banks and also slowdown of economy due to the pandemic.

3.6 SAMPLE SIZE: All the Public Sector Banks, nineteen in number, form part of the study other than State Bank Group. This is due to the reason that State Bank and its associates merger is a type of merger of sister concerns with the same management.

3.7 THE PERIOD OF STUDY

The period of study is from FY 2011-12 to 2021-22 as this is a critical period which witnessed phenomenal growth of loan assets of banks as well as huge slippages in the form of Non -Performing assets. Consequently the mergers of different banks was undertaken during this period with an objective to make them bigger and stronger. The restructuring happened for different banks as under:

- Bank of Baroda + Vijaya Bank + Dena Bank----- Effective 01-04-2019
- PNB+ United Bank of India+ Oriental Bank of India – Effective 01-04-2020
- Canara Bank+ Syndicate Bank ----- Effective 01-04-2020
- Union Bank of India + Corporation Bank+ Andhra Bank- Effective 01-04-2020
- Indian Bank + Allahabad bank----- Effective 01-04-2020

3.8 TOOLS AND TECHNIQUES

Relevant statistical tools like Descriptive Stats, Trend analysis, Ratio Analysis, Correlation, Regression, Grouping and Ranking Method have been used to analyze the data and bring forth the results.

3.9 MODEL OF STUDY

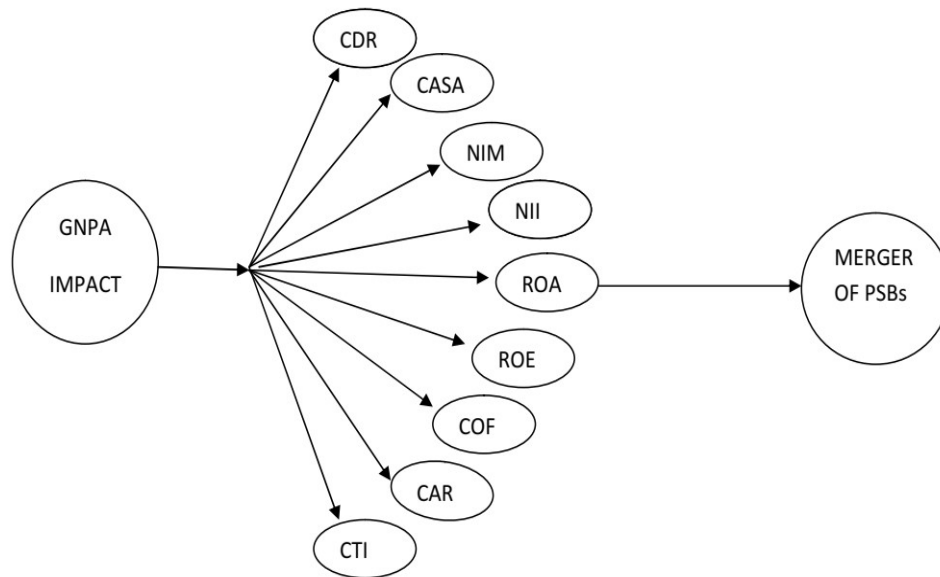


Figure3.9.1:Model of Study

Variables of Study

Independent Variable : Gross NPAs.

Dependent variable : 1. Financial Performance*
2. Restructuring

* Financial performance includes financial ratios such as Credit Deposit Ratio, CASA, Net Interest Margin (NIM), and Non-Interest Income to Total Assets, Return on Assets, and Return on Equity, Cost of Funds, Capital Adequacy Ratio and Cost to Income Ratio.

Restructuring / Amalgamation of various public sector banks with one anchor bank has been decided by the Government of India. The commonality of financial performance between various groupings of amalgamated banks has been explored.

3.10 ASSUMPTIONS

As the data has been collected from Reserve Bank of India's official sources / website it is considered authentic and has not been tested for 'Normality' as the same can not undergo any change (Olabode et al.,2019). It is assumed therefore that the Secondary Data gathered for this research is free from errors such as Clerical Errors, Changing Circumstances and Inappropriate Transformations. Hence the data validity and reliability tests such as Validation on Normality of Data is not conducted. The data collected is directly used in statistical tools for analysis of individual banks' financial performance. The output as received through SPSS for Correlation and Regression is reported in Chapter 6.

3.11 ACHIEVEMENT OF OBJECTIVES

1. To identify the reasons and trends of Non Performing Assets of Public Sector Banks - Trend analysis has been used by obtaining relevant data from RBI website. Reasons of accounts turning NPAs and their increase in the system have been studied from various research papers and further analyzed by using ATLAS ti software.

2. To study the financial performance of Public Sector Banks- Financial Ratios have been tabulated from relevant data from RBI website/ Banks' financial statements and analyzed.
3. To study the relationship between Non-Performing Assets and Financial Performance of Public Sector Banks- The objective was achieved by using Pearson Correlation and Linear Regression.
4. To explore and compare the effect of financial performance on Restructuring of Public Sector Banks- Descriptive Statistics and Ratio Analysis have been used.
5. To analyse the past restructuring of Public Sector Banks from various perspectives and study the possibility of further restructuring – Grouping , Ranking Method and Garrett rank scores.

Chapter 4

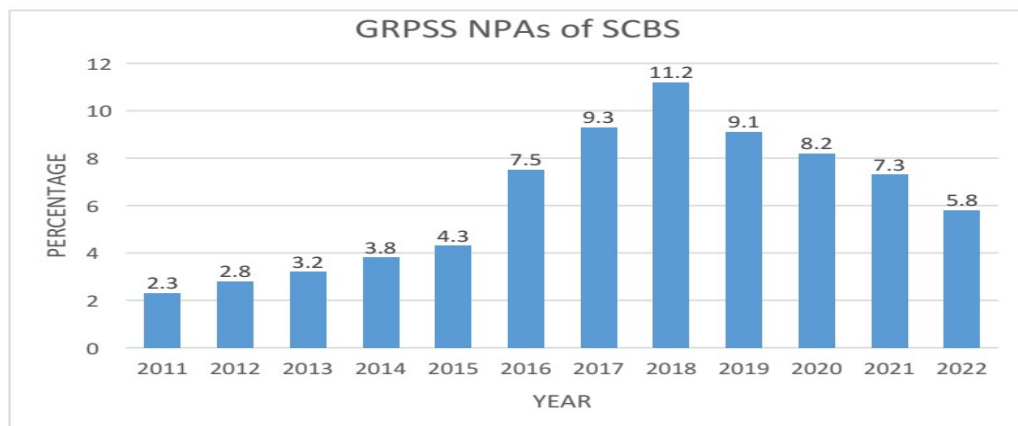
Objective 1- To identify the reasons and Trends of Non-Performing Assets of Public Sector Banks

4.1 TRENDS OF NON-PERFORMING ASSETS

Non- Performing Assets have impacted negatively the Indian banks over the years. Though these cannot be wiped off completely from the banks yet it is important to control this critical parameter of financial performance of the banking sector. Management of NPAs is significant for bank profitability and growth of the economy. Bad debts or NPAs are not always created due to the fault of a bank. Though managements of different banks try their best to reduce NPAs but due to various macroeconomic, bank and borrower related specific factors it is not possible to eliminate these altogether from the banking system. One of the objectives of our study is to analyse the reasons and trends of non-performing assets of Public Sector Banks.

Before an analysis of reasons for NPAs which result in cessation of income for the banks is undertaken, it is important to have a look at the trend of this unwanted class of assets with the SCBs and PSBs.

The figure 4.1.1 explains the growth of Non-Performing Assets in the Scheduled Commercial Banks in India since 2011:

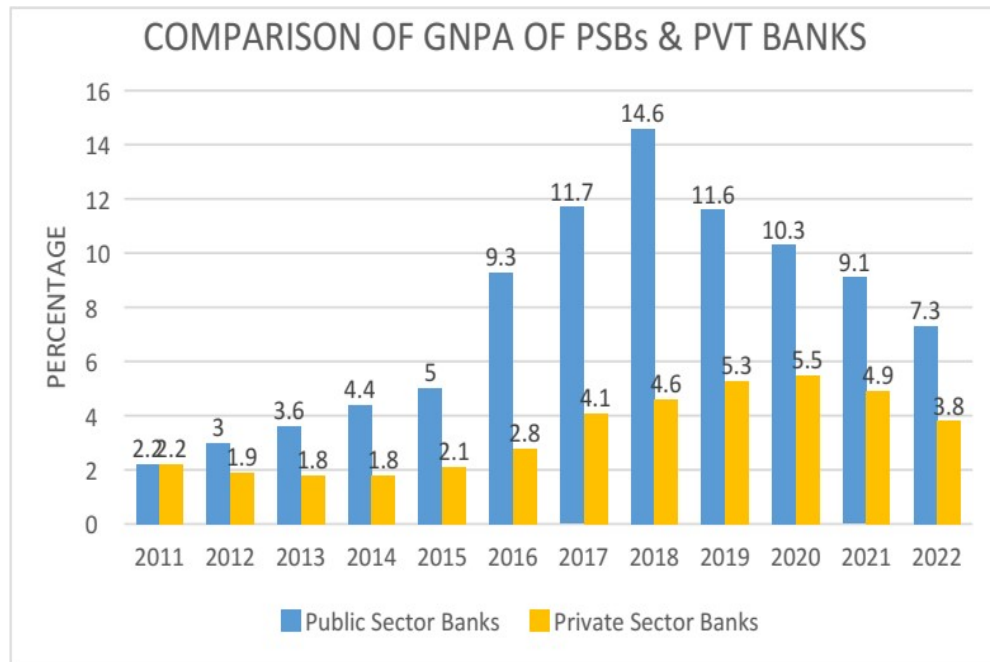


(Source: Author's Construct from RBI Data)

Figure 4.1.1 : Trends of Gross NPAs in Scheduled Commercial Banks

The above figure explains that NPAs of banks in the country grew from 2.3 percent of total advances in 2011 to 11.2 in 2018 percent (more than quadrupled) in a span of 8 years. However it is noteworthy that in a short period of 3 years the NPAs more than tripled from 3.8 percent in 2014 to 11.2 percent in 2018. The accounts which were stressed came to the fore in this period and were booked as NPAs. The steep increase in NPAs from 2014 to 2018 is due to forcing of banks to be transparent by RBI and undertaking inspection of major accounts of all banks by way of AQR. This was followed up by putting several banks under PCA mechanism of RBI .The high incidence of NPAs in banks and their undercapitalization subsequently acted as a strong trigger for the Government of India to undertake massive recapitalization of banks in public sector. As a result of efforts put in by the central bank and the MOF, the NPAs have started moving downwards after 2018 and reduced to 5.8 percent in 2022.

It is noteworthy that it was only Public Sector Banks which aggressively financed the economic boom in various sectors like telecom, infrastructure development, mining, iron and steel and road projects and therefore their growth of NPAs was quite high whereas new private sector banks like ICICI and HDFC shyed away from financing big projects and therefore their GNPA growth was much lower than their public sector counterparts as can be observed from Figure 4.1.2:



(Source: Author's Construct from RBI Data)

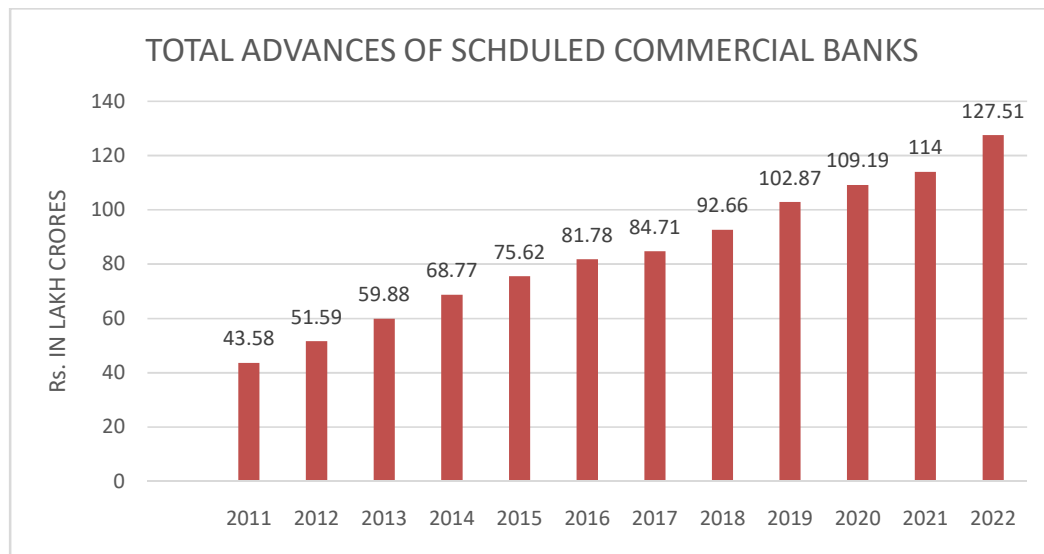
Figure 4.1.2 Gross NPAs of Public Sector & Private Sector Banks

4.2 IMPACT OF NPAS ON THE BANKING SYSTEM AND ECONOMY

The impact of growing incidence of NPAs on the banks is double edged. Banks do not earn any income on these bad assets and also they have to keep provisions out of their profits as per regulatory directives on their different classes to offset likely losses in future. Consequently the economy, of which banking sector is an important segment, also gets affected. The bad effects of NPAs are listed as under:

Deceleration of economic growth

When the NPAs in a banking institution increase, it tends to go slow on further lending. The lack of regulatory capital prohibits banks to make fresh sanctions and even restrict disbursements in the existing sanctioned accounts. Enhancements of existing limits of borrowers too are restricted. Since the outstanding of Gross Advances of banking sector go down, the ratio of GNPA to advances goes up. This systemic deceleration of lending also brings down the economic activity in all sectors and thus affects the GDP growth of the country.



(Source: Author's construct from RBI Data)

Figure 4. 2. 1 : Growth of Advances of Scheduled Commercial Banks

It can be observed from the figure 4.2.1 that between 2014 to 2017 when the NPAs of scheduled commercial banks were exhibiting an increasing movement, the growth of advances had decelerated. Between 2011-2014 the advances had increased from Rs.43.58 lakh crore to Rs.68.77 lakh crore (57.81 percent) whereas the growth of advances between 2015 to 2018 increased from 75.62 lakh crore to 92.66 lakh crore (22.53 percent) and has remained stable in the next three years (23 percent) upto 2021. Krueger and Tornell (1999) concluded that financial deregulation without an appropriate and stringent regulation having been put in place might lead to a lending boom, which in turn creates vulnerabilities in the banking system. When domestic bank credit disbursements expand too rapidly it takes a toll on the quality of the banks' portfolios which deteriorates. As a result even a small negative shock can drive many loans into non-performing category and generate banking and balance of payments crises.

Profitability

As NPA accounts do not generate any interest income for the banks it directly affects the profitability of the banks. Income from NPAs is now booked only on actual realization and not on accrual basis. This has an adverse impact on bank's interest

income/ total income. Accordingly due to deceleration of credit disbursements in banks facing high NPAs, the interest income and the resultant total income declines. Also as fresh sanctions/enhancements are not made, the non-interest or the fee based income which is generated by processing & documentation fees, fund transfers, issuance of letters of comfort, opening of letters of credits and guarantees also declines. A bank having NPAs also has difficulty to have market borrowings by way of Tier 2 capital bonds. The banks have to offer higher interest rates on such bonds further eroding profitability of banks as the increased cost of borrowing cannot be passed on to borrowers of the bank who always seek reduction in interest rates through their respective trade associations /chamber of commerce and customer meets organized by various banks.

Capital Adequacy

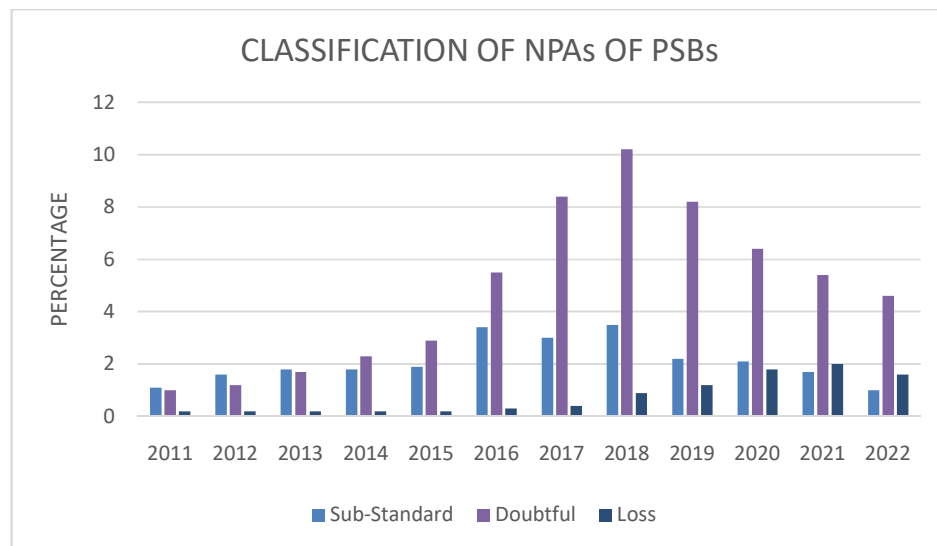
As the profits of banks get depleted by not earning interest on loan accounts there is no retained earnings left for transfer to Reserves to augment capital. In terms of prudential guidelines the NPAs have to be provided for in the books of banks against likely losses. For loss assets 100 percent provision has to be kept which erodes the capital of the banks and necessitates recapitalization by the owners to avoid insolvency.

Loss of confidence in managements of banks by Creditors (Depositors) and Investors

Growing incidence of NPAs denotes bad asset quality of banks and may lose depositors' confidence in the bank management. Many accounts are reported as fraud accounts in public domain where investigating agencies also step in which brings fear in the staff and management of banks. Investors shy away from such banks as they do not perceive these banks worth putting their hard earned money. Similarly the correspondent banks through which international business is transacted and who give lines of credit to domestic banks shy away and even recall the facilities sanctioned and availed by banks having high incidence of NPAs.

Loss (Hair-Cut) in Resolution of NPAs

For resolution of NPAs banks have to take huge cuts (losses) depending upon the erosion in value of underlying assets and the collaterals pledged with them. The haircuts as these are technically called become elongated with the ageing of assets as these suffer from obsolescence and need heavy expenditure for bringing the same to operations. It is observed ‘Banks may have to take a haircut of 60%, worth Rs 2.4 lakh crore, to settle 50 large stressed assets with debt of Rs 4 lakh crore (CRISIL)’. These 50 large companies are from various sectors like metals (30% of total debt), construction (25%), and power (15%) and account for half of the Rs 8 lakh crore non-performing assets (NPAs) in the banking system as on March 31, 2017. Categorization of NPAs of PSBs in different classes as per aging /availability of securities is given as per Figure 4.2.2:



(Source : Author’s construct from RBI Data)

Figure: 4.2.2 Classification of Non-Performing Assets of Public Sector Banks

It is observed from Figure 4.2.2 that the doubtful and loss assets increased manifold from 2014 onwards as RBI enforced transparency to show asset classification. It can be noted that most of the sub- standard accounts shifted to Doubtful and Loss categories between 2016--2021. It is significant to note that loss assets which were a miniscule of 0.2 percent in 2011 reached Rs.135754 crore (an alarming 2 percent of Gross Advances) in 2021. Besides many loan accounts are classified as Loss accounts

which are classified as such by banks' internal auditors or by RBI's inspectors during annual /ad hoc audits. Banks are required to keep 100 percent provision against these loss assets and are ultimately to be written off. The write off by Banks running in lakhs of crores due to NPAs is depicted in Annexure IV. The deterioration in asset classification of public sector banks can also be attributed to closing the restructuring window (Corporate Debt Restructuring or CDR). CDR enabled banks / promoters to restructure weak accounts with long gestation periods, longer repayment periods and very low interest rates hitting the banks in turn severely. However a significant decline in various categories of NPAs can be witnessed in 2022 reflecting improved performance of PSBs.

Impact on Stock prices

Investors shy away from banks which have high NPAs as they do not perceive these banks worth putting their hard earned money. It is perceived by shareholders that financial performance of a bank like Capital Adequacy and profitability will be hit with high NPAs. Accordingly their share prices also take a hit. High NPAs mean a consistent deterioration in asset quality of banks. During quarterly announcements of financial results the quantum of Gross and Net NPA is generally debated in Investor Forums and economic media to compare performance of banks.

4.3 REASONS FOR GROWTH OF NPAs

In the context of Reasons for NPAs the comment of Ex-Governor, Reserve Bank of India **Rajan (2018)** is significant stating that 'I have not seen a study that has unearthed the precise weight of all the factors responsible'. The comment speaks volumes for the all inclusive reasons of non- performing loans of banks. However a glance at the review of literature brings to the fore many reasons relating to the Business environment, Borrowers and the Bank itself. The business environment as mentioned indicated basically the recession and lack of a strong legal framework for recovery of bank dues (Dhananjaya 2017). The borrowers too became wilful defaulters and unethical in their behaviour in the sense that once they got bank funds they diverted these funds for non productive assets like real estate etc to make a quick buck. Some of them chose projects which did not take off due to mismanagement or slowing down of chosen industry. Banks having expanded phenomenally did not have

expertise for proper appraisal of infrastructure projects. They relied on techno-economic studies by other banks/ consultants and did not monitor these projects after sanction / disbursements for proper end use of the funds. This happened as term lending institutions like ICICI and IDBI were abolished (Shakti Kanta Das 2019). The IFCI role was also minimized as term lending institutions became Universal Banks and started normal banking operations. The accounts generally become NPA due to possible reasons as under:

- General slowdown of entire economy.
- Business losses due to changes in regulatory environment.
- Wilful default
- Frauds
- Mis-governance and policy paralysis.
- Diversion of funds.
- Over invoicing of machineries and siphoning of the promoters' contribution.
- Sale of stocks without depositing the sale proceeds in loan accounts.
- Investment in foreign subsidiaries where local banks lose control.

The over optimism by promoters and banks during high economic growth and the subsequent cyclic downturn of the economy, change of government policies and frauds resulted in nonperforming assets as reported in Sept 2018 by Governor RBI to parliamentary committee on NPA crisis. The Switchover to a system- based identification of NPAs by PSBs, prevailing macro-economic situation in the country, increased interest rates in the past, lower economic growth, and aggressive lending by banks especially during good times also resulted in higher NPAs of banks.

The slower than expected growth and weak external demand resulted into thinner profitability which constrained the debt repayment capacity of corporates (MD-PNB 2016).The NBFC sector also had a negative effect on the banking industry. The going down of companies like Dewan Housing and Finance company and IL&FS added huge NPAs to already burgeoning kitty of bad assets of public sector banks.

The key issues identified by the RBI (Reserve Bank of India) for rising NPAs in banks is frauds in borrowable accounts. These frauds are generally detected after a

long time due to slack internal inspection system of banks. The amount of loan account gets bigger and bigger, as NPA, as banks try to conceal/ recover the loan loss. This non-reporting of fraud by banks as soon as it comes to their knowledge also adversely affects lending by other banks or members of consortium to the borrower. As such the NPA grows in the books of banks. There could be factors like deficiencies in governance, political interferences and ethical issues like mal-intentions as well as misconduct by the borrowers unfortunately with the connivance of bank staff (Singh 2016). The case of Nirav Modi Fraud of PNB is a case in point of connivance with bank staff. The Table 4.3.1 further elaborates the menace of frauds (Borrowal and non-borrowal accounts) in the banking sector:

Table 4.3.1 Fraud Cases – Bank Group-Wise

(Amount in Rs. Crore)

Bank Group	2018-19		2019-2020		2020-21		2021-22	
	No.	Amt	No.	Amt	No.	Amt	No.	Amt
Public Sector Banks	3704	64207	4410	148224	2903	81901	3078	40282
Private Sector Banks	2149	5809	3065	34211	3710	46335	5334	17588
Foreign Banks	762	955	1026	972	521	3315	494	1206

(Source: RBI Supervisory Returns)

*Frauds reported in a year could have occurred several years prior to date of reporting.

It can be noticed that the public sector banks have the highest incidence (numberwise and quantumwise) of frauds which ultimately add to the NPAs of these banks.

In a survey conducted by Ernest &Young (2015) the reply of respondents (which included bankers) as to the reasons for incidence of NPAs in banks is reported as Diversion of funds to unrelated business or frauds (87 percent), increase in stressed assets due to lapses in the initial borrower due diligence (64 percent) and inefficiencies in the post-disbursement monitoring process (54 percent).

A study of selected Asian countries identified legal impediments, postponement of the problem by the banks to show higher returns and manipulation by the debtors using political influence as major reasons for the high NPA level in Indian banks (Reddy 2002). All the Asian countries had a weak legal mechanism for asset disposal that prevented early resolution of the problem. Taking up new projects, helping/promoting associate concerns, time/cost overruns during the project implementation stage, business failure, inefficient management, strained labor relations, inappropriate technology/ technical problems, product obsolescence, coupled with external factors like recession, nonpayment in other countries, inputs/power shortage, price escalation, accidents and natural calamities also add to the NPAs of the banks (Ranjan and Dhall 2003).

Improper selection of borrowers, deficiency in processing, Improper appraisal of assets, Lack of monitoring pre and post sanction of loans, Terms and Conditions of credit, Unsecured loans have been identified as important internal reasons for NPAs whereas selection of unsuitable and unviable scheme, mis-utilization of fund, insolvency or death of borrower, low income from project, lack of infrastructure, modern Technology and marketing facilities and willful default due to liberal government policy and sluggish legal system, price escalation of inputs, power failures are the major external reasons of NPAs (Naveenan 2018). At times, exchange rate fluctuations also result in heavy losses for companies dealing in international trade rendering the accounts as NPAs. It happens mostly in import related or foreign currency loan borrowers due to inadequate hedging of exposures.

It is the general perception that as compared to private sector, the problem of NPAs is more in public sector banks (Satpal 2014). The reasons for high NPAs in PSBs is mainly due to excessive exposure to corporate lending. Time and cost overruns of projects due to faulty credit appraisals and not giving adequate moratorium period for commencement of repayment are cited as reasons for higher NPA incidence in PSBs. Also going slow on recovery when accounts become irregular, giving time to borrowers to pay at ad hoc intervals small amounts to regularize the accounts and liberal restructures by PSBs to avoid showing the accounts as NPA so that income can be booked on these accounts to show higher profits adds to the portfolio of NPAs of

banks. Public sector banks also do most of directed lending like Priority sector loans which include agriculture, low cost housing, education and MUDRA loans to help small and medium businesses and industry. These are the sectors where they cannot be harsh for recovery due to political and social backlash resulting in higher NPAs.

4.4 CONTENT ANALYSIS

To consolidate the reasons for NPA further a content analysis has been used by a software ATLAS ti. The coding of reasons for Non-Performing Assets in banks has been categorized as under:

1.ER: External Reasons

2.I R: Internal Reasons

3.BR: Borrower Related Reasons

There are ten codes each incorporating different reasons for generation of Non-Performing Assets (Annexure-I) under the three categories. All such reasons as identified by researchers /academicians are classified under different heads.

1.EXTERNAL REASONS (ER) OF NON-PERFORMING ASSETS

ER 1-The external reasons ER 1 attributed for growth of NPAs in the banking system are explained are high inflation (statement 11:2 by Nir Klein) , other macroeconomic factors like recession and the resultant slowing economy (Statement 3:1 by Muniappan , 7:1 by Abel & Szakadat, 8:1 by Jolevski, 31:1 and 31:4 by Swamy, 32:1 by Santi Maji, 44:2 by Erdas) business environment , over optimism for fresh investments (Statement 1:1 by Raghuram Rajan) and natural calamities (statement 28:1 BY Joseph et al., 30:4 by Ahmad & Jegadeeshwaran) and Sickness of the industry(Statement 27:5 by Kalpesh Gandhi). The reasons are depicted by Figure 4.4.1 as below:

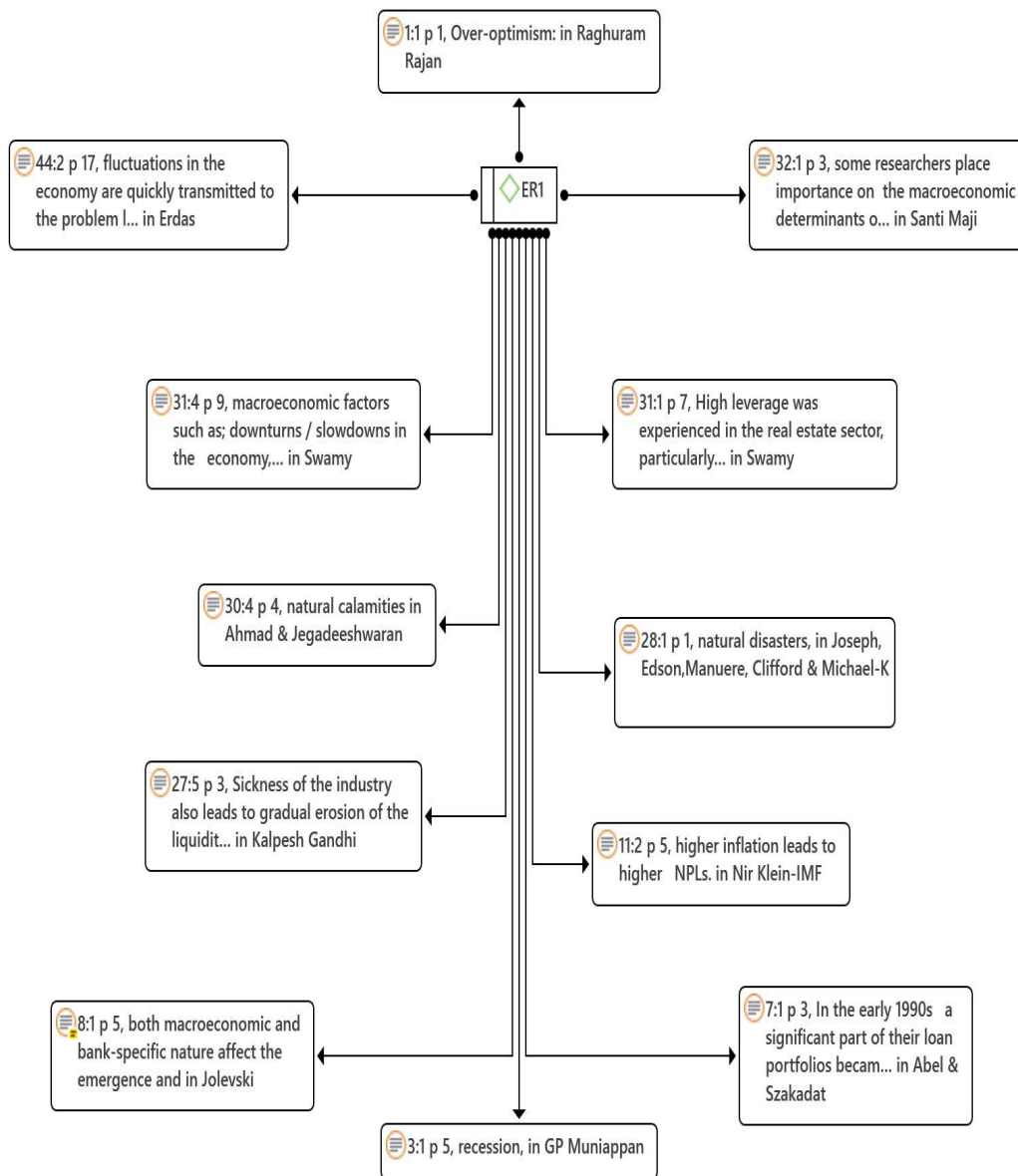


Figure: 4.4.1 : ER 1 Reasons of Non-Performing Assets

ER 2- The external reasons ER2 reasons are giving Government permissions and then Foot-dragging (Statement 1:2 by Raghuram Rajan) and by frequent changing Government policies like deregulation, Import policy changes, Excise and pollution control orders (Statement 18:4 by Fared Ahmed, 28:2 by Joseph et al., 36:3 by Wadhwa & Ramaswamy, 41:4 by Bhasin). The reasons are described by Figure 4.4.2 as below:

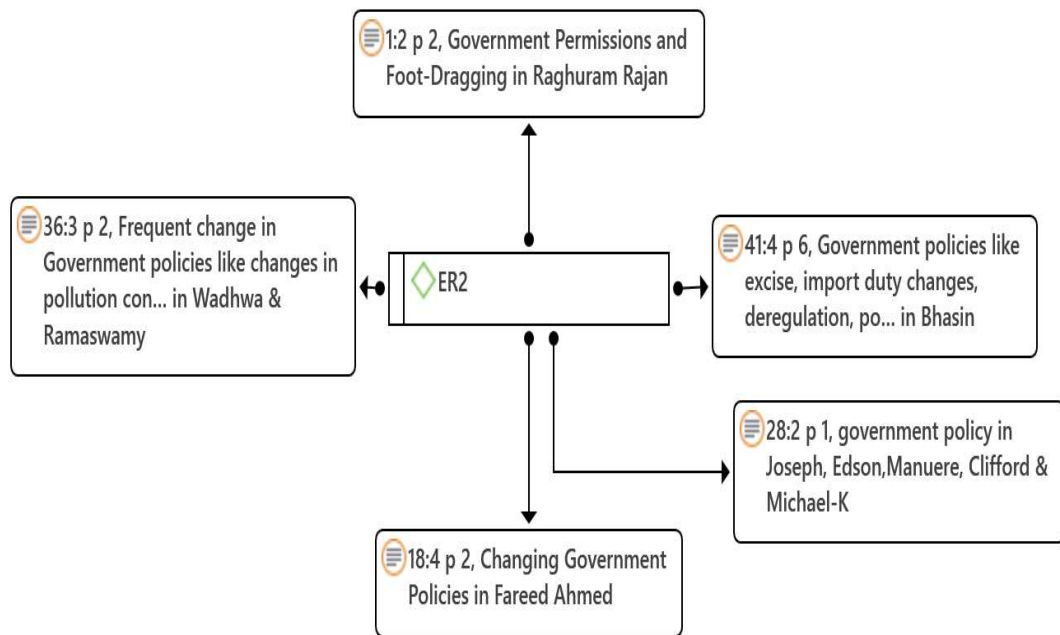


Figure: 4.4.2 : ER 2 Reasons of Non-Performing Assets

ER 3 and ER 4:

ER3 Reasons are Moral Hazard, Regulatory Forbearance, Excessive Risk Taking , Political and Social Implications (Statement 4:3 by Berger and Young, 5:4 by Aristobulo Juan, 6:1 by Fofack, 11:3 by Nir Klein, 16:4 by Arpita Ghosh, 17:1 by Prashant Reddy and 28:6 by Joseph et al., 31:5 by Swamy, 37:2 by Fogalia, 43:2 by Barseghyan and 45:2 by Ashly Lynn Joseph).

ER4 reasons are attributed to Malfeasance and Wrong doing (Statement 1:3 by Raghuram Rajan, 15:5 by Charan Singh who attributed growing incidence of NPAs to mal-intentions and misconduct by the borrowers, 22:3 by Sengupta and Vardhan who attributed NPA growth to widespread corruption scandals in the coal and telecommunications sectors, 48:2 by Chandrasekhar and Jayanti Ghosh who expressed that banks could provide long term funding to industry and to housing market only to a limited extent).

ER3 & ER4 reasons are depicted by Figure 4.4.3 as under:

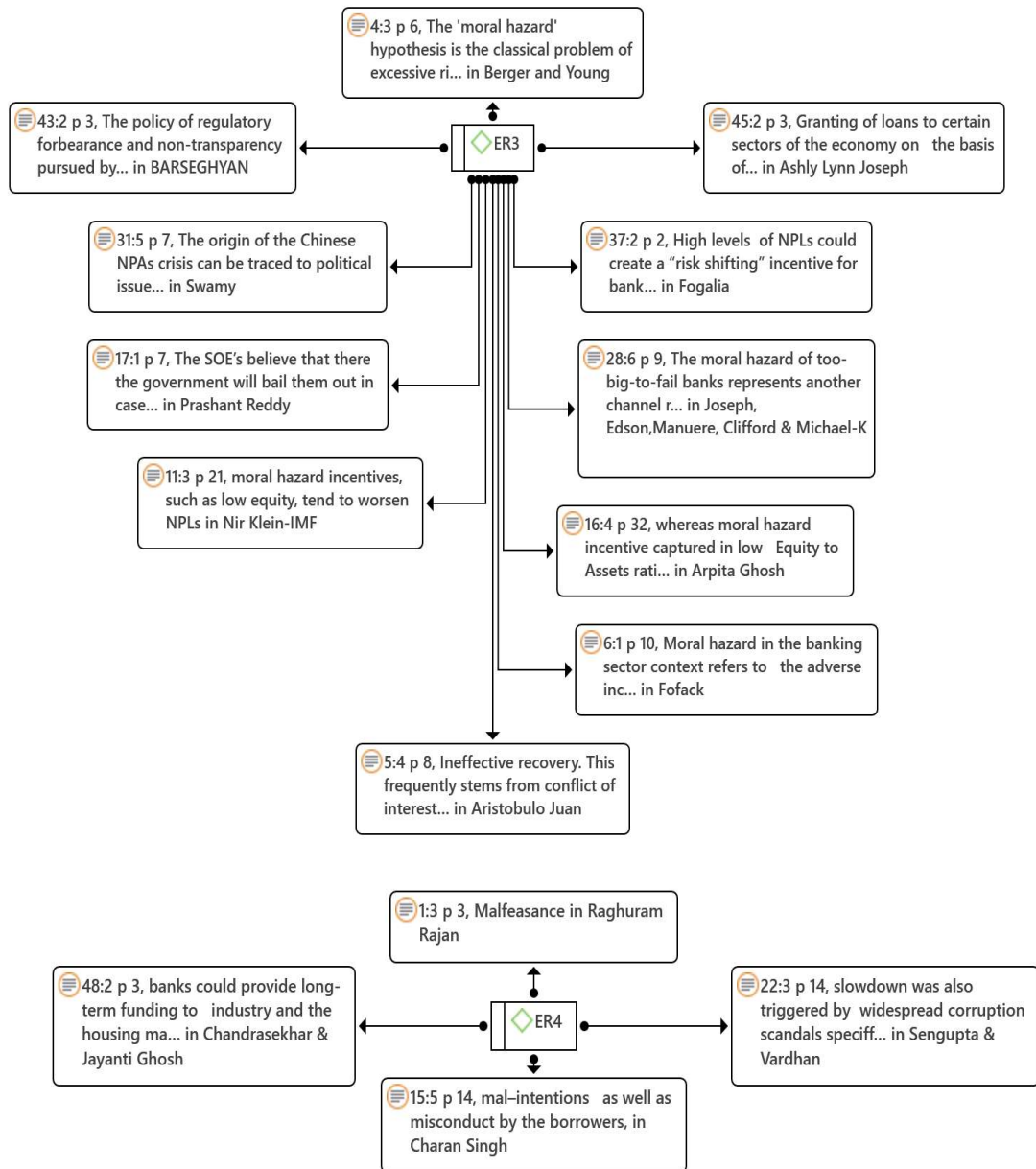


Figure 4.4.3: ER3 and ER 4 Reasons of Non-Performing Assets

ER 5 : ER 5 Reasons are listed as per Figure 4.4.4 below :

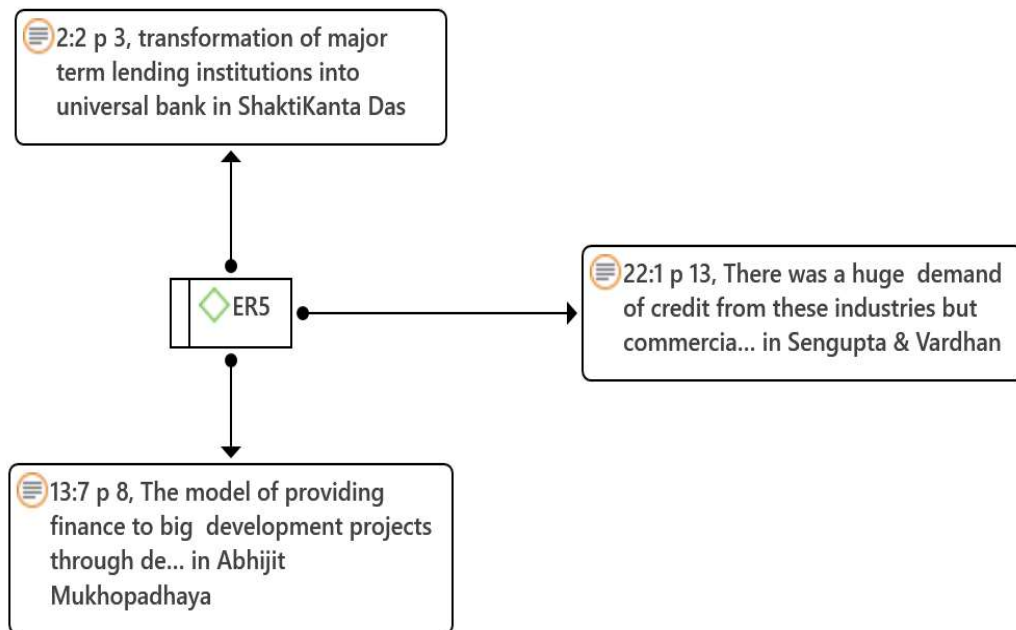


Figure 4.4.4 ER 5 Reasons of Non-Performing Assets

ER5 reasons for NPAs are assigned to transformation of major term lending institutions into universal banks / NBFCs as commercial banks' lacked expertise to appraise projects in infrastructure and Core industries (Statement 2:2 by Shakti Kanta Das, 13:7 by Abhijit Mukhopadhaya and 22:1 by Sengupta and Vardhan).

ER 6 and ER 7 : These reasons are described by the Figure 4.4.5:

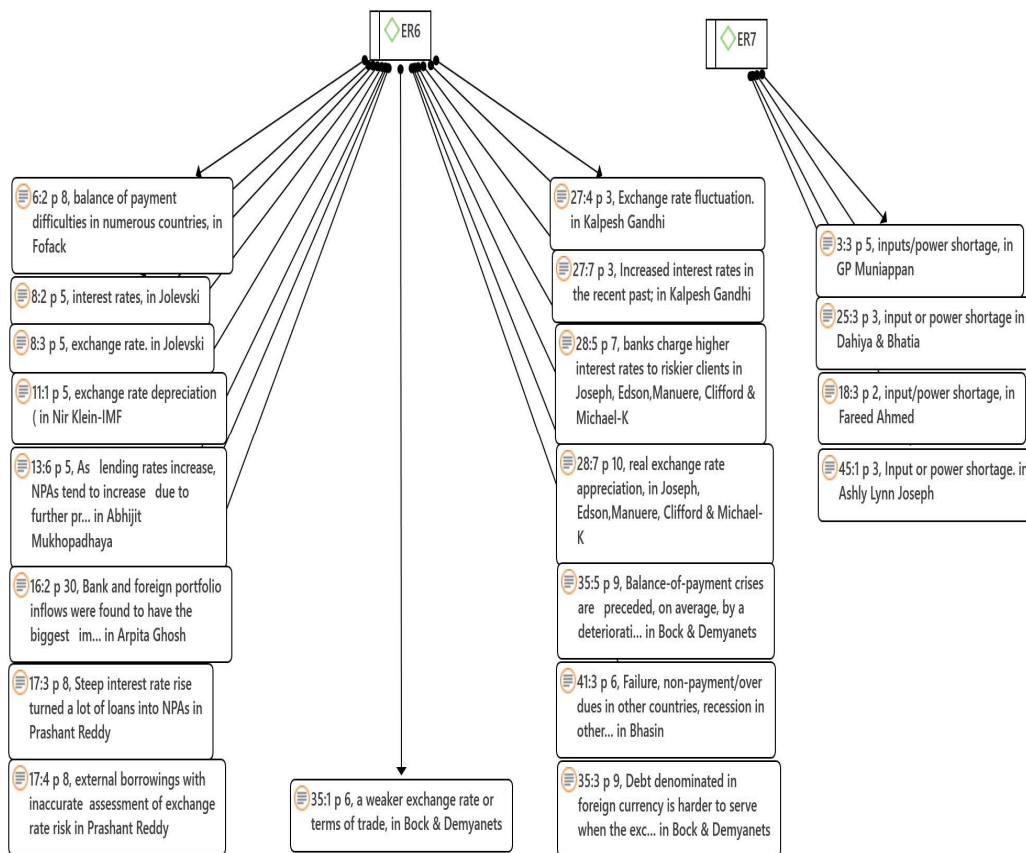


Figure 4.4.5: ER 6 and ER 7 Reasons of Non-Performing Assets

ER 6 reasons are stated to be adverse exchange rate movements resulting in huge losses for projects which did not exercise hedging options (Statement 8:3 by Jolevski, 11:1 by Nir Klein, 16:2 by Arpita Ghosh, 17:4 by Prashant Reddy, 27:4 by Kalpesh Gandhi, 28:7 by Joseph et al., 35:1 and 35:3 by Bock & Demyanets). Externalisation problems from countries having difficult balance of payments position and consequent restrictions on remittances of payments for imports, non-payment, overdues in other countries and disputes in terms of trade also gave rise to NPAs (Statement 6:2 by Fofack, 35:5 by Bock & Demyanets, 41:3 by Bhasin). Other quoted reason is Interest Rate Hike (Statement 8:2 by Jolevski, 13:6 by Abhijit Mukhopadhaya, 17:3 by Prashant Reddy, 27:7 by Kalpesh Gandhi, 28:5 by Joseph et al.).

ER 7 reasons are Raw Material / Power Shortages and price increase (Statement 3:3 by GP Muniappan, 18:3 by Fareed Ahmed , 25:3 by Dahiya and Bhatia, 45:1 by Ashly Lynn Joseph).

ER 8 and ER 9 : These reasons are mentioned by the Figure 4.4.6:

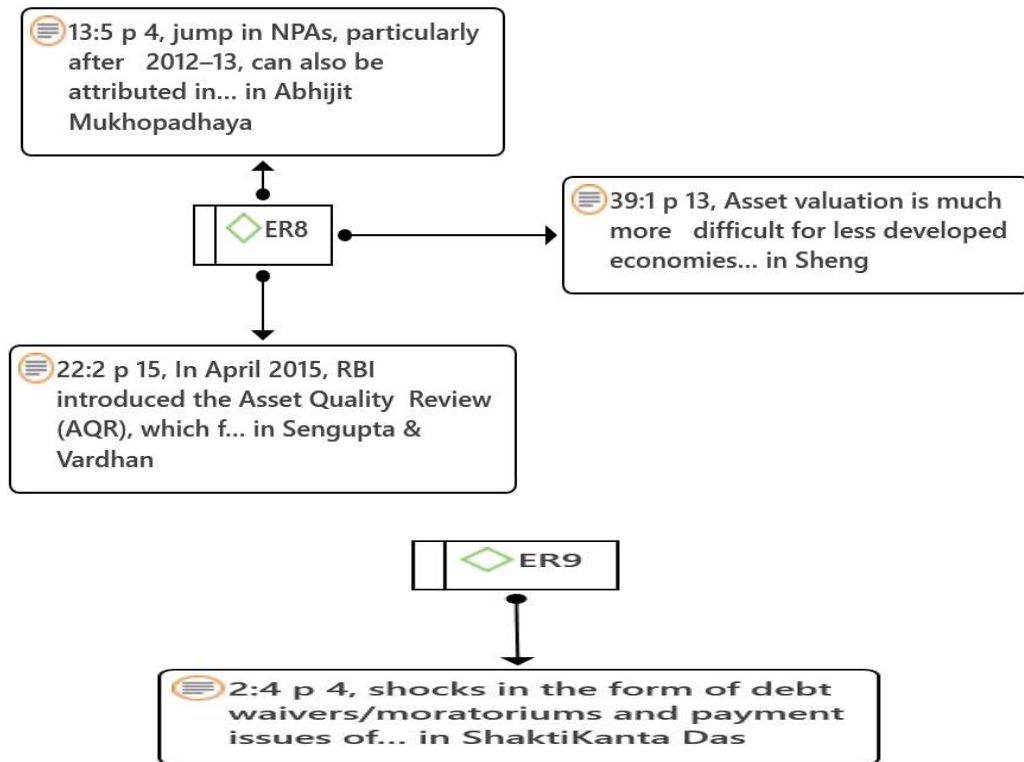


Figure 4.4.6: ER 8 and ER 9 Reasons of Non-Performing Assets

ER 8 reasons are mentioned to be transparency pressures imposed and Asset quality review (AQR) by the regulator, Reserve Bank of India (Statement 13:5 by Abhijit Mukhopadhaya, 22:2 by Sengupta & Vardhan). This is supplemented by asset valuation which is difficult for less developed economies (Statement 39:1 by Sheng).

ER 9 relate to Debt waivers & delay in payment of dues by Government Departments (Statement 2:4 by Shakti Kanta Das).

ER10 reasons contribute to high NPAs due to Lack of Efficient Legal System, absence of Bankruptcy Laws and time consuming recovery of NPLs (Statement 15:2

by Charan Singh, 17:2 by Prashant Reddy, 33:2 by Adhikary and 38:4 by Sumant Batra). Also poor and time consuming legal mechanism for asset disposal is critical reason for high NPAs (Statement 17:6 n 17:7 by Prashant Reddy, 19:2 by Rajaraman &Vashistha, 20:3 by Evelyn Richard, 21:1 by Dhananjaya & Krishna Raj, 23:1 by Rashmi, 25:2 by Dahiya & Bhatia .

Figure 4.4.7 as below depicts the ER-10 reasons:

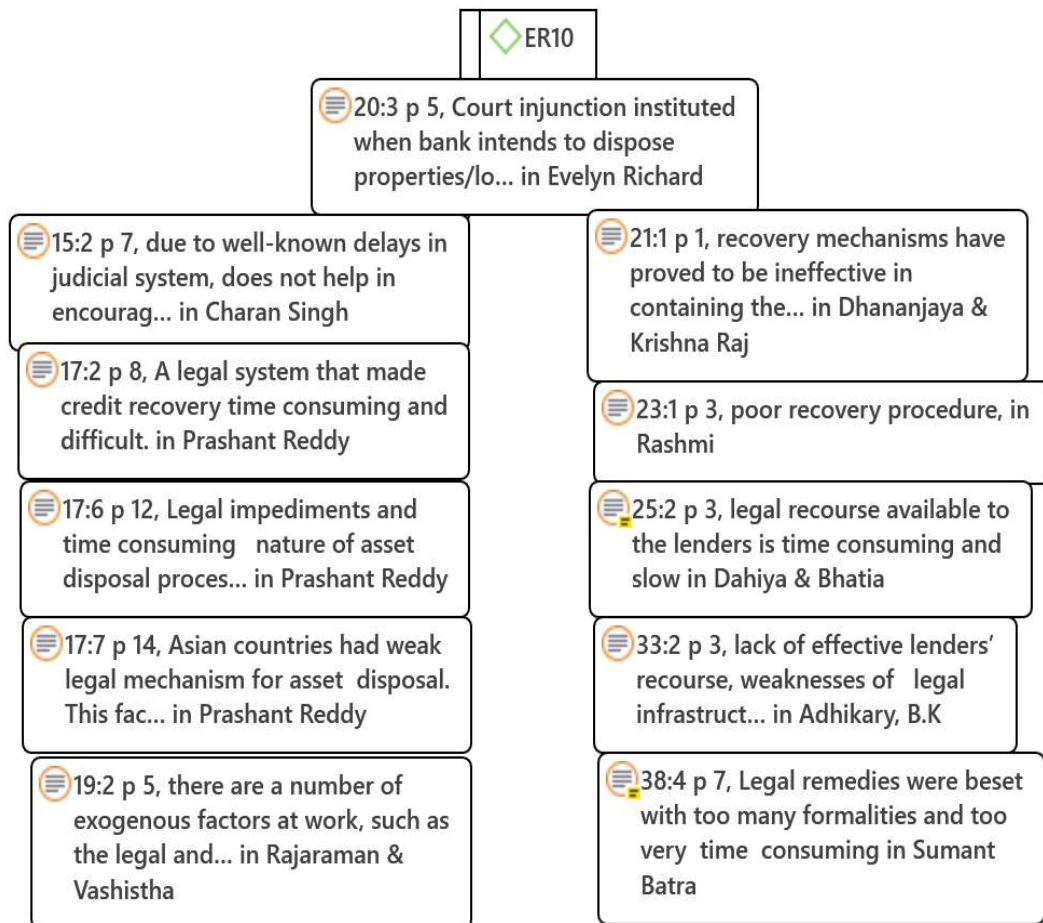


Figure : 4.4.7 ER 10 Reasons of Non-Performing Assets

2. INTERNAL REASONS (IR)

IR 1 : These reasons indicate Incompetent Boards, flawed Credit Policy of Banks, Inadequate Risk Assessment , Excess exposure to Corporate, Rapid Credit Growth, Weak Corporate Governance, Connected Lending, Corporate Bank Nexus, Inefficient operations.

Weak corporate governance is considered to be the major internal (to the banks) reasons (statement 1:5 by Raghuram Rajan, 2:3 by Shakti Kanta Das, 3:2 by GP Muniappan, 4:2 by Berger and Young, 10:1 by Louzis et al., 12:1 by Tamal Dutta Chaudhuri, 13:3 by Abhijit Mukhopadhaya, 15:3 by Charan Singh, 34:2 by Alshebami, Thomran & Adam, 42:3 by Ranjan and Dhall, 44:1 by Erdas, 49:2 by Deloitte Group). High share of corporate lending contributed to NPAs in non-priority sector significantly (Statement 32:4 by Santi Maji). High rates of growth especially by way of Corporate and connected lending aimed by banks were largely responsible for high level of NPAs (Statement 2:1 by Shakti Kanta Das, 5:2 and 5:3 by Aristobulo Juan, 8:4 by Jolevski, 9:2 and 9:3 by Dhananjaya K, 10:2 and 10:3 by Louzis, Vouldis & Metaxas, 11:4 by Nir Klein, 13:4 by Abhijit Mukhopadhaya, 16:1 by Arpita Ghosh, 19:1 by Rajaraman & Vashistha, 22:4 by Sengupta & Vardhan, 27:8 by Kalpesh Gandhi, 28:4 by Joseph et al., 31:2 by Swamy, 32:2 and 32:3 by Santi Maji, 35:2 by Bock & Demyanets, 40:4 by Shenbagavalli, 41:1 by Bhasin, 46:1 by Ari, Chen & Ratnovski, 49:1 by Deloitte Group).

It can be observed that IR-1 reasons (36 quotes) are the significant reasons of borrowal accounts becoming non-performing and appear in most of the literature under study. The phenomenal growth of advances in the Corporate Segment of Banking is considered as a dominant factor resulting in bad lending giving rise to major portfolio of non-performing assets of banks.

These reasons are elaborated by Figure 4.4.8 as below:



Figure 4. 4. 8 : IR 1 Reasons of Non-Performing Assets

IR 2 : These reasons are explained by due diligence of borrower, Lack of effective coordination between banks & financial institutions in respect of Large Value Projects at the implementation stage, Non –sharing of information with other banks/ members of Consortium about borrower (Statement 3:5 by GP Muniappan, 12:5 by Tamal

Dutta Chaudhuri, 24:2 by Dilip Gupta & Sangeeta Gupta, 26:3 by E&Y Team , 34:1 by Alshebami et al., 38:3 by Sumant Batra and 47:1 by Beaton. Figure 4.4.9 depicts the different reasons :

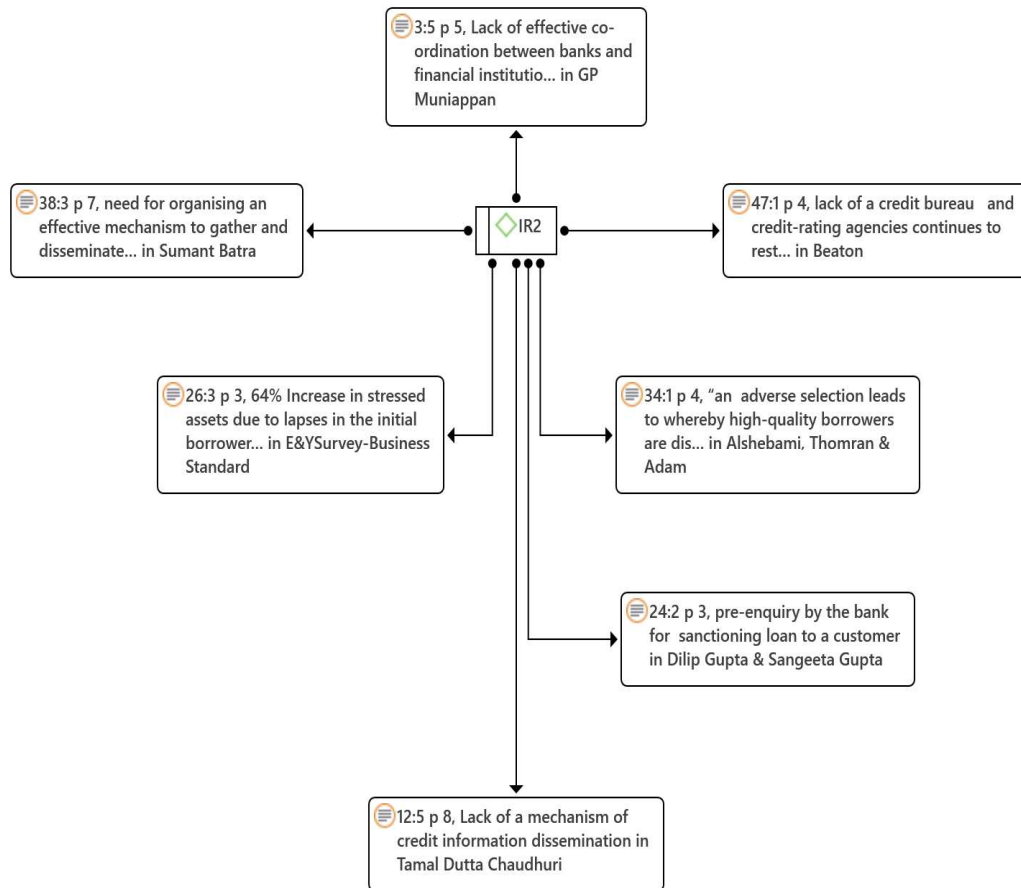


Figure 4.4.9: IR2 Reasons of Non-Performing Assets

IR 3 : These reasons are attributed to weak appraisal of credit needs, Collateral based lending Vs Cash, Unrealistic Terms of Credit (Repayment and Moratorium), Lack of knowledge & training of staff and are considered to be significant reasons for accounts turning into NPAs. (Statement 6:3 by Fofack, 7:2 by Abel & Szakadat, 12:6 by Tamal Dutta Chaudhuri, 16:3 by Arpita Ghosh, 17:5 by Prashant Reddy, 20:5 by Evelyn Richard, 23:2 by Rashmi, 24:3 by Dilip Gupta & Sangeeta Gupta, 27:3 by Kalpesh Gandhi, 30:2 by Ahmad & Jagdeeshwaran, 37:1 by Fogalia, 38:2 by Sumant Batra, 42:1 by Ranjan & Dhall. The reasons are depicted by Figure 4.4.10 as below:

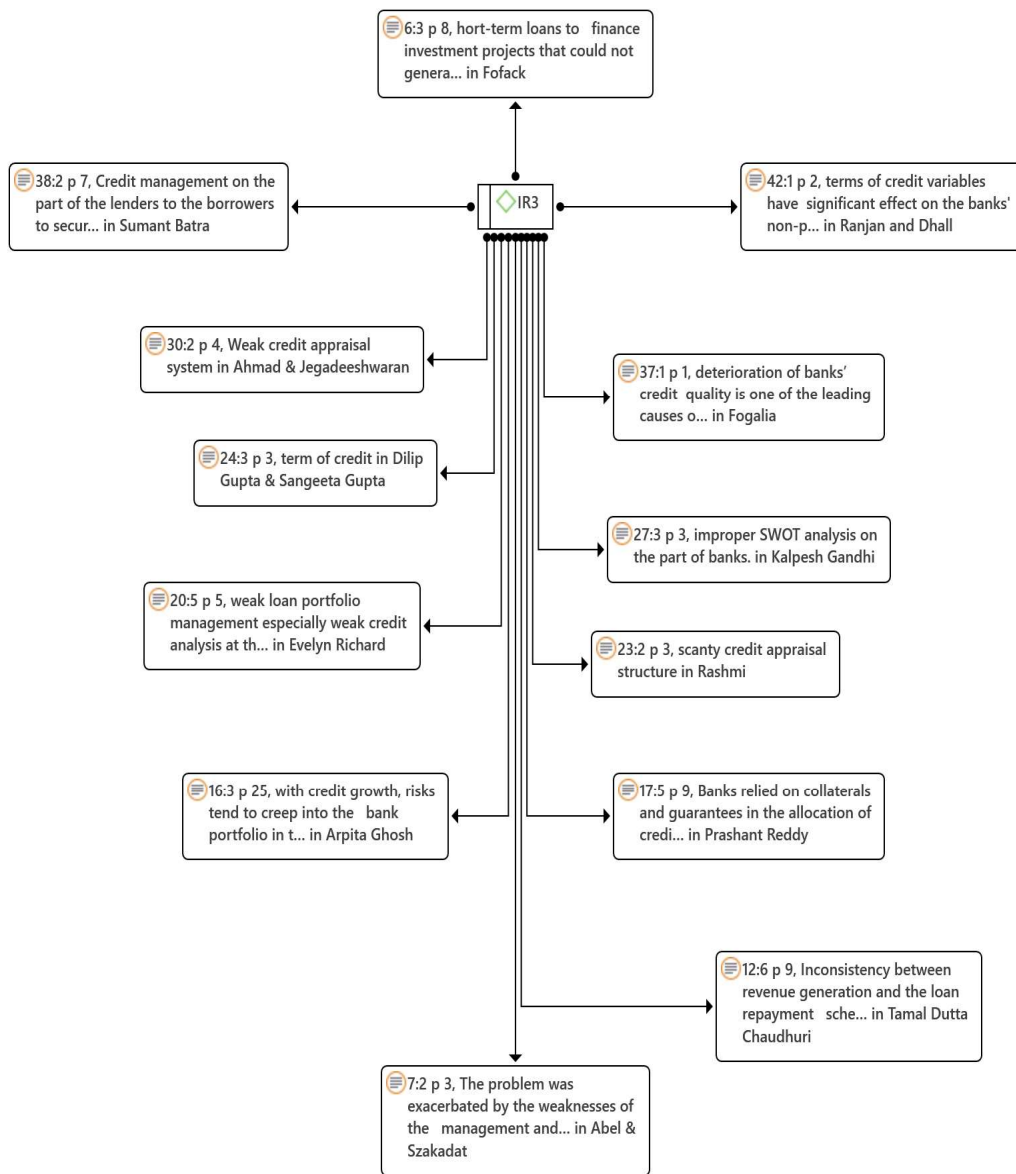


Figure 4.4.10 : IR3 Reasons of Non-Performing Loans

IR 4, 5 & 6 :

IR-4 Group of reasons are assigned to collateral based lending rather than on the basis of cash flow generation. Similarly obtaining low collateral is also considered be a significant reason for Non-Performing Assets of banks (Statement 12:7 by Tamal Dutta Chaudhuri and 38:1 by Sumant Batra , 42:5 by Ranjan & Dhall, 43:1 by Barseghyan). Shallow property markets also limited banks’ ability to value collateral

at the real market value (Statement 47:2 by Beaton). This could have been a deterrence for disposing off the property and adjusting the NPAs by banks.

IR-5 Delay in inadequate sanction and release (disbursement) of working capital funds / limits also resulted in NPAs (Statement 14:1 by Bamoria & Jain).

IR-6 Poor post sanction follow up and supervision (Slackness on the part of the credit management staff in their post sanction follow up to detect and prevent diversion of funds resulted in non- performing assets (Statement 3:6 by GP Muniappan, 15:1 by Charan Singh, 21:3 by Dhananjaya & Krishna Raj, 26:4 by E&Y Survey, 30:3 by Ahmad & Jegadeeshwaran, 33:1 by Adhikary). Lack of advanced collection system and good information sharing system with the banks was also a reason for NPAs of the banks (Statement 42:4 by Ranjan and Dhall). Many banks followed cost efficiencies and profitability targets and thus had low monitoring of advances resulting in higher NPAs (Statement 46:2 by Ari, Chen & Ratnovski). The reasons are elaborated in Figure 4.4.11 as under:

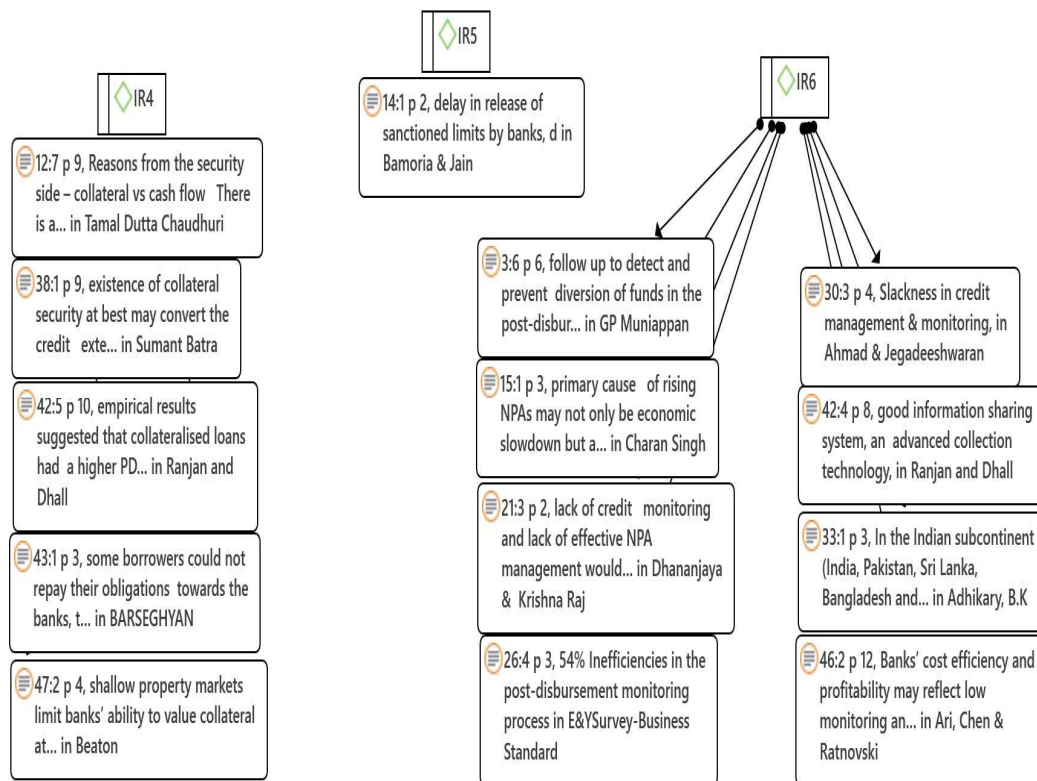


Figure 4.4.11: IR4, IR5 and IR 6 Reasons of Non-Performing Assets

IR 7, 8, 9 & 10 : This set of reasons as mentioned in literature are elaborated in Figure 4.4.12.

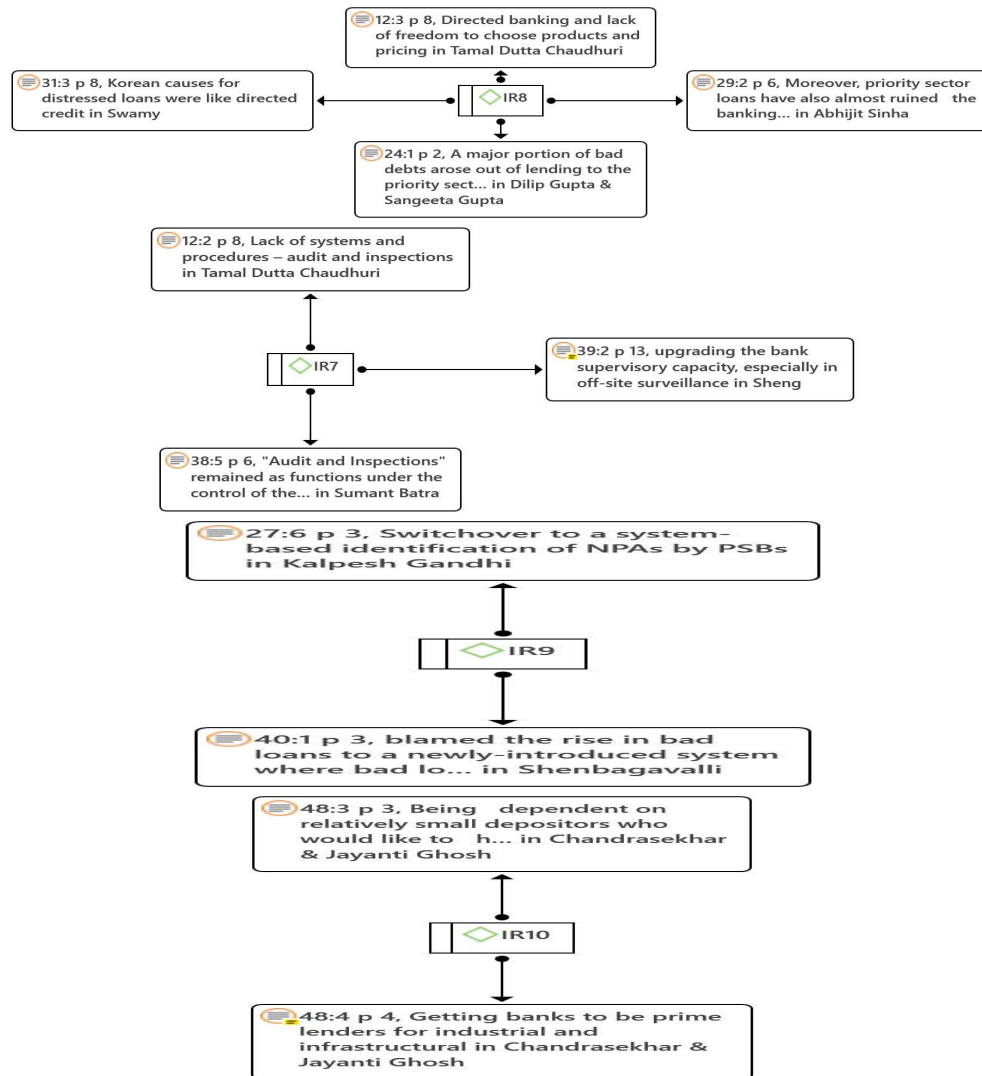


Figure 4.4.12:IR7, IR8, IR9 and IR10 Reasons of Non Performing Assets

IR 7-Non-transparent accounting policy and poor auditing practices/supervision contributed in NPAs (Statement 12:2 by Tamal Dutta Chaudhuri, 38:5 by Sumant Batra and 39:2 by Sheng).

IR 8-Directed and target oriented credit (as per Government priorities) to lend to priority sectors of economy is quoted by many authors as reasons of growth of NPAs

(Statement 12:3 by Tamal Dutta Chaudhuri, 24:1 by Dilip Gupta & Sangeeta Gupta, 29:2 by Abhijit Sinha and 31:3 by Swamy).

IR 9-Use of technology (System based identification of NPAs) to crystallize bad loans as per NPA norms to bring about transparency as directed by the regulator resulted in massive non-performing assets (Statement 27:6 by Kalpesh Gandhi, 40:1 by Shenbagavalli).

IR10-Mismatching of maturity of deposits and tenor of loan products also significantly added to NPAs as banks lent generally for a period of 5-6 years for highly capital intensive projects with a long gestation. The non generation of cash for repayment over a short period resulted in slippage of large number of big accounts to NPA (Statement 48:3 and 48:4 by Chandrasekhar and Jayanti Ghosh).

3. BORRPWER RELATED (BR) REASONS

BR 1, 2 & 3 : The borrower related factors have contributed significantly in generation of NPAs .

BR-1These reasons relate to Product obsolescence and Lack of entrepreneurial knowledge (Statement 3:4 by GP Muniappan , 20:4 by Evelyn Richard).

BR-2 The most quoted reason for accounts turning into non-performing assets is Diversion of funds and for purposes other than agreed ones (Statement 12:4 by Tamal Dutta Chaudhuri, 14:3 by Bamoria and Jain, 20:1 and 20:2 by Evelyn Richard, 26:1 by E&Y Survey, 36:4 by Wadhwa & Ramaswamy) . The diversion takes place because of the doubtful integrity of borrower (Statement 28:3by Joseph et al.).

BR-3 Non-use of hedging by borrowing firms also contributed to NPAs (Statement 11:5 by Nir Klein, 35:4 by Bock & Demnanets).

The borrower related factors BR 1, 2 and 3 as above are exhibited in Figure 4.4.13 as below:

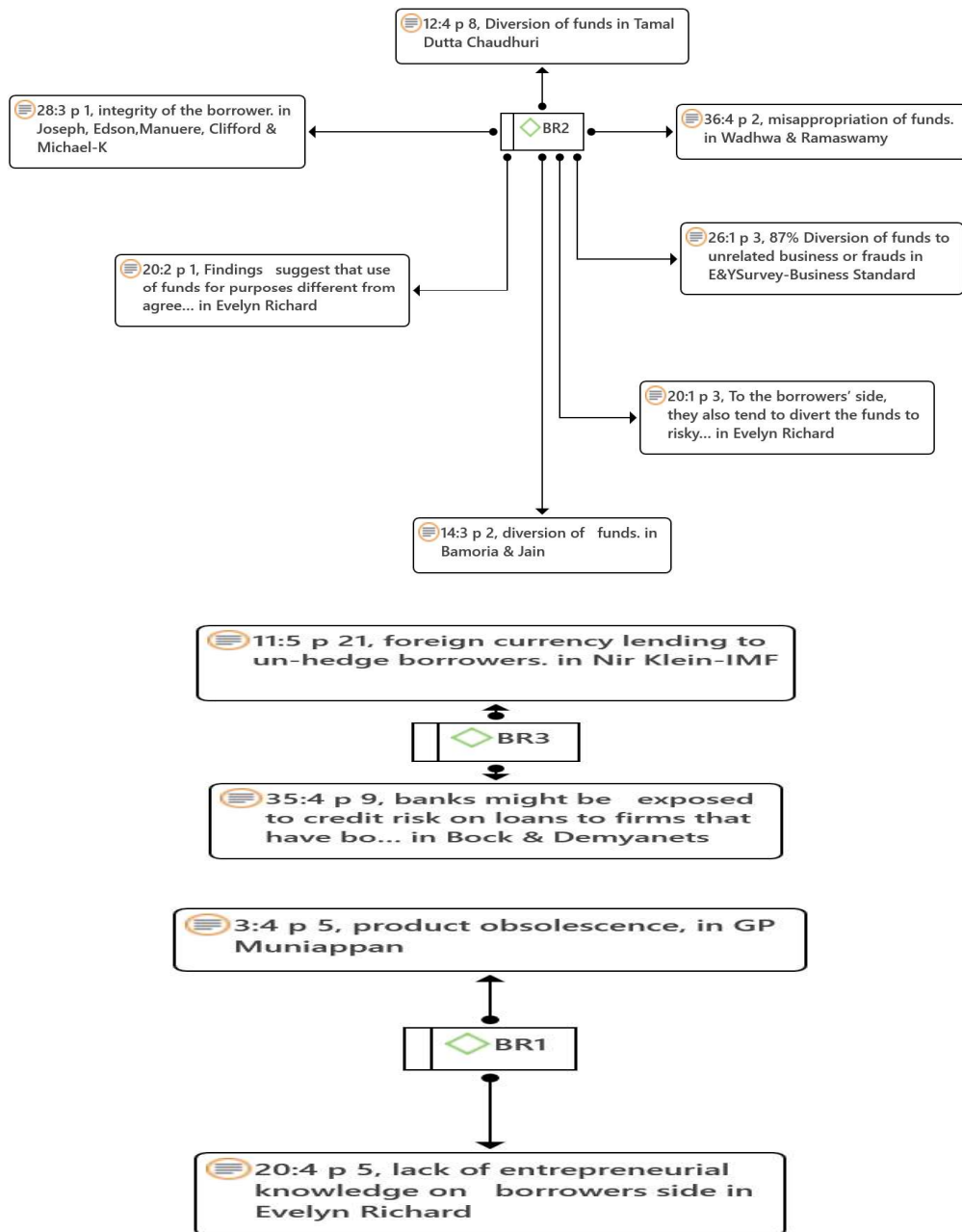


Figure 4.4.13: BR1, BR2 and BR3 Reasons of Non-Performing Assets

BR 4 and 5 reasons are described by the figure 4.4.14 as below:

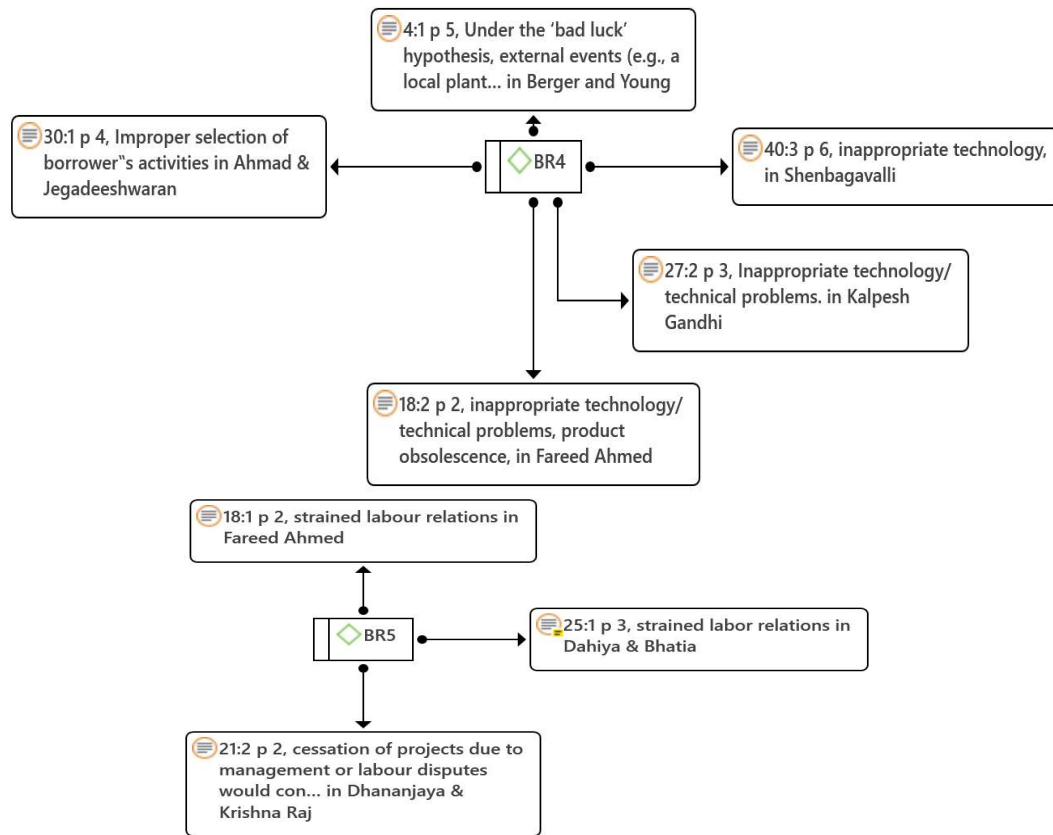


Figure 4.4.14: BR4 and BR5 Reasons of Non-Performing Assets

BR4-As per Figure 4.4.14 external events like plant closing (Statement 4:1 by Berger and Young), inappropriate technology , technical problems (Statement 18:2 by Fareed Ahmed, 27:2 Kalpesh Gandhi, 30:1 by Jegdeeshwaran, 36:1 and 40:3 by Shenbagavalli) are attributed as reasons of NPA.

BR5-Labour disputes too are responsible for generation of NPAs. (Statement 18:1 by Fareed Ahmed, 21:2 by Dhananjaya & Krishna Raj, 25:1 by Dahiya and Bhatia).

BR 6 and 7: These reasons relate to integrity of borrowers and Wilful Default by them and stated by researchers as under:

BR6- Integrity of borrower leading to raising of adequate funds (Statement 28:8 by Joseph et al., 45:3 by Ashly Lynn Joseph)

BR7-Wilful default (Statement 9:1 by Dhananjaya K, 13:1 by Abhijit Mukhopadhaya, 24:4 by Dilip Gupta & Sangeeta Gupta, 29:1 by Abhijit Sinha and 40:2 by Shenbagavalli) is important determinant for rise of NPAs.

Figure 4.4.15 exhibits BR 6 and BR 7 reasons as below:

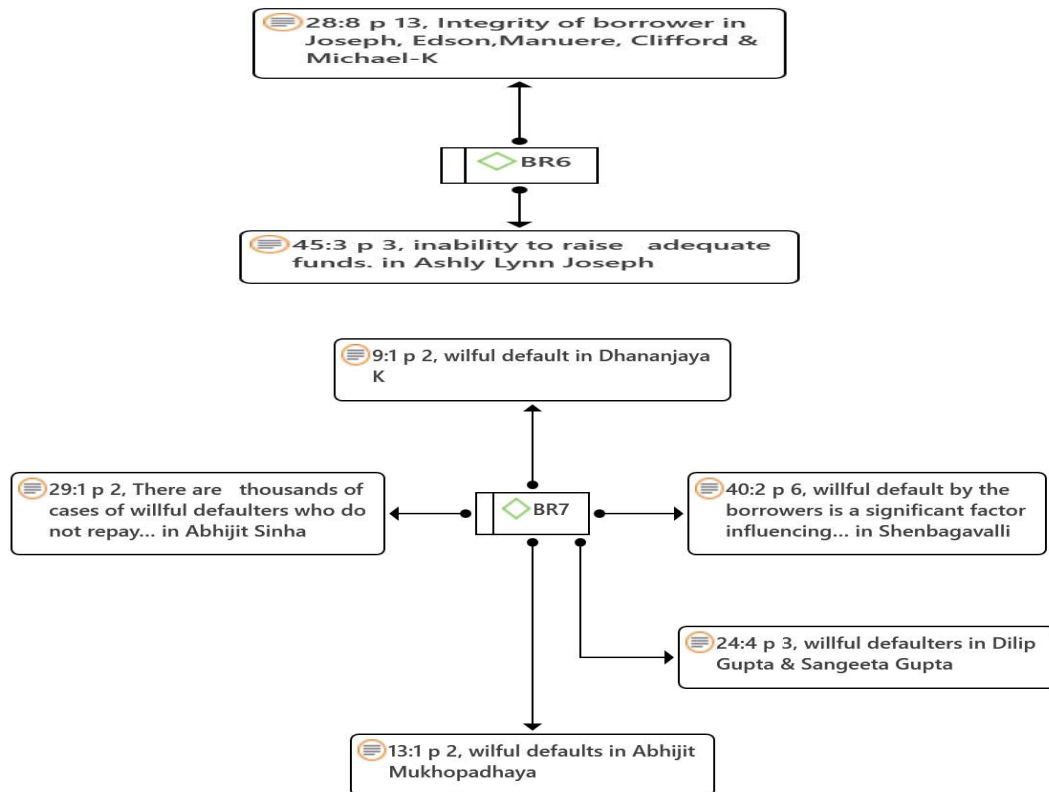


Figure 4.4.15: BR 6 and BR 7 Reasons of Non-Performing Assets

BR 8, BR 9, BR 10 – These reasons are elaborated by the figure 4.4.16 as under:

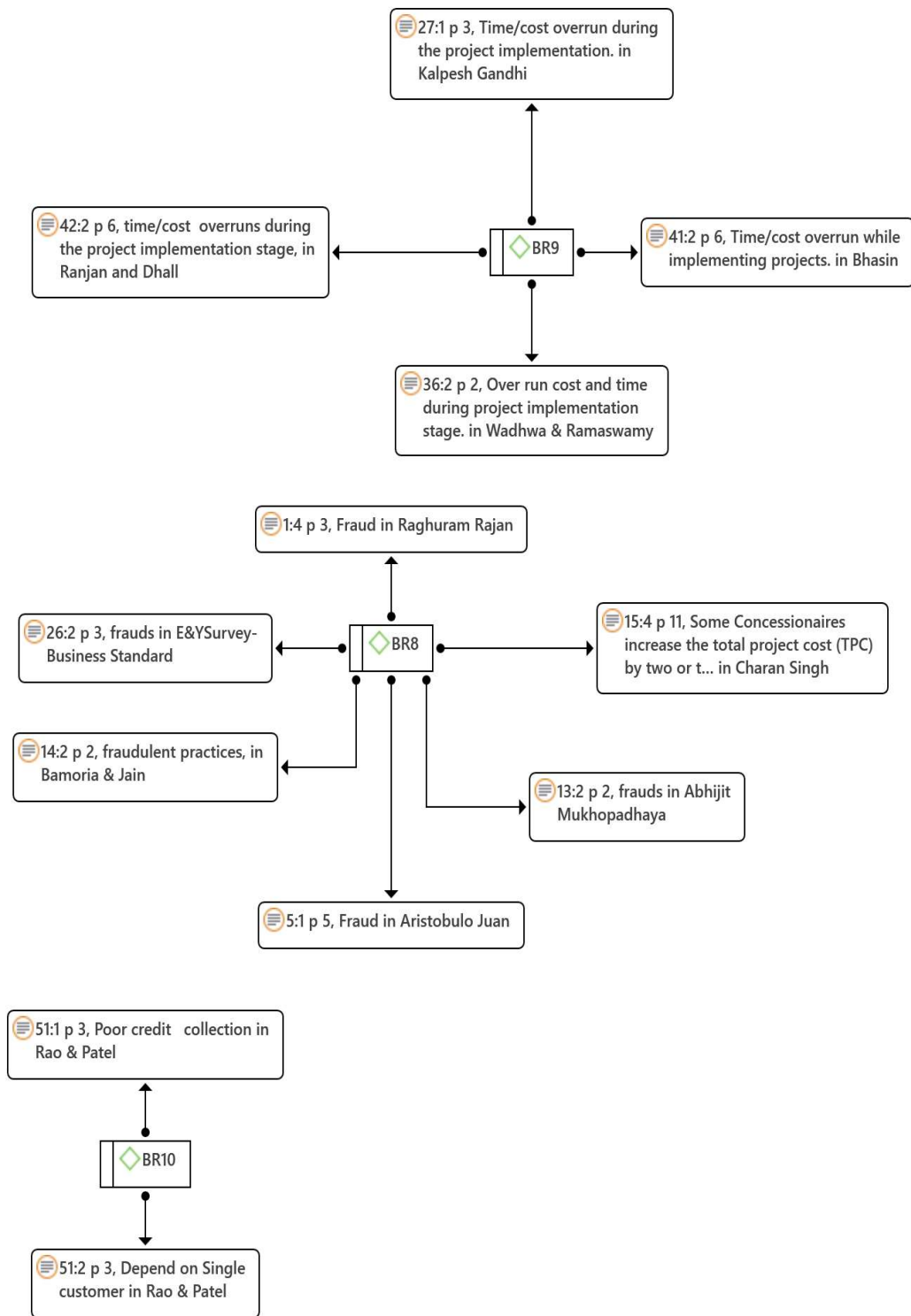


Figure 4.4.16: BR8, BR9 and BR10 Reasons of Non-Performing Assets

BR 8-Fraud is an important determinant of accounts turning NPAs (Statement 1:4 by Raghuram Rajan, 5:1 by Aristobulo Juan, 13:2 by Abhijit Mukhopadhaya, 14:2 by Bamoria & Jain , 26:2 E&Y Survey (Business Standard). Increasing the total cost of a project through fraudulent means without contributing any equity is also significant reason for increase of NPAs (Statement 15:4 by Charan Singh).

BR9-Time and Cost overrun during the project implementation is considered to be an important factor to the growth of NPAs (Statement 27:1 by Kalpesh Gandhi, 36:2 by Wadhwa & Ramaswamy , 41:2 by Bhasin and 42:2 by Ranjan and Dhall.

BR10-Also Poor Credit collection and dependence on a single customer are stated to be reasons for NPAs (Statement 51:1 and 51:2 by Rao and Patel).

Chapter 5

Objective 2- To study the financial performance of Public Sector Banks in India

The concept of Financial Performance has been extensively used in case of financial institutions particularly banking industry. There are specific reasons why performance of banking organizations is required to be measured. The significant reason is to make distinction between banks that are performing or otherwise according to some specified benchmark (Berger & Humphrey 1997). Other banks can emulate the policies / practices of the efficient units for improved performance. The owners or the regulator can make a periodic review to assess the effectiveness of its own policies/ directives and the implementation by the chosen top management of these banks. It is generally the review of management efficiencies which further leads to critical decisions undertaken by the owners for merger of weak links with the strong ones to keep intact the value of their investments. This in turn can enable the restructured entities to face the challenges and the competition at the market place.

Financial ratios

In this second objective of study an analysis of financial performance of Public Sector Banks is made. Ten financial ratios have been analyzed for the period beginning 2011 upto the date of merger of different groups of banks. For merger of Bank of Baroda, Dena Bank and Vijaya Bank analysis is made upto year ending March 2019. For other groups of merged banks the period is taken upto their date of consolidation which is March 2020 and for Un-Merged banks financial analysis is made upto March end 2022. The following financial ratios have been taken to evaluate the performance of nineteen Public Sector Banks. These ratios are the ones used extensively to analyze the financial performance of banks by the managements, investors and the economic journals:

Gross NPA, Credit Deposit ratio (CD Ratio), CASA, NIM, Non-Intt Income (NII), ROA, ROE, Cost of Funds (COF) , CAR and Cost to Income (CTI)

The analysis has been done group-wise of amalgamated banks in respect of different financial ratios and is presented below:

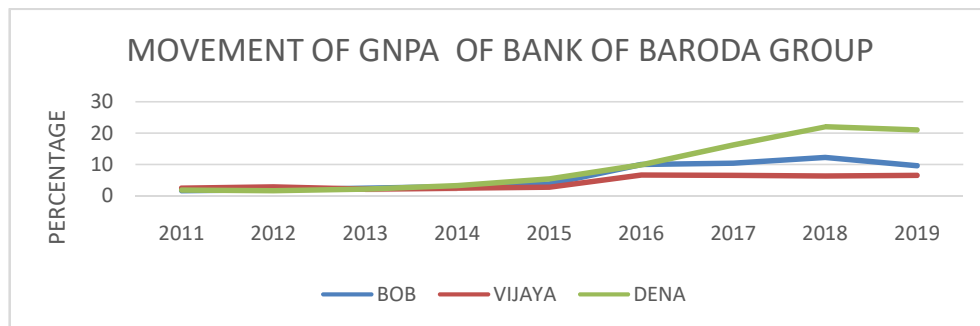
5.1 GROSS NON-PERFORMING ASSETS (GNPA)

It is a ratio of loans that are in default as a percentage of the total advances of the banks. It includes the principal and interest due in an account not paid by a borrower within the 90 days period presently allowed by the regulator. The GNPA ratio of different groups of merged banks is as under:

Table 5.1.1: GNPA Ratio for the period 2011-2019

GNPA Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	1.62	2.56	1.86
2012	1.89	2.93	1.67
2013	2.40	2.17	2.19
2014	2.94	2.41	3.33
2015	3.72	2.79	5.45
2016	9.99	6.64	9.98
2017	10.46	6.59	16.27
2018	12.26	6.34	22.04
2019	9.61	6.58	21.07

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

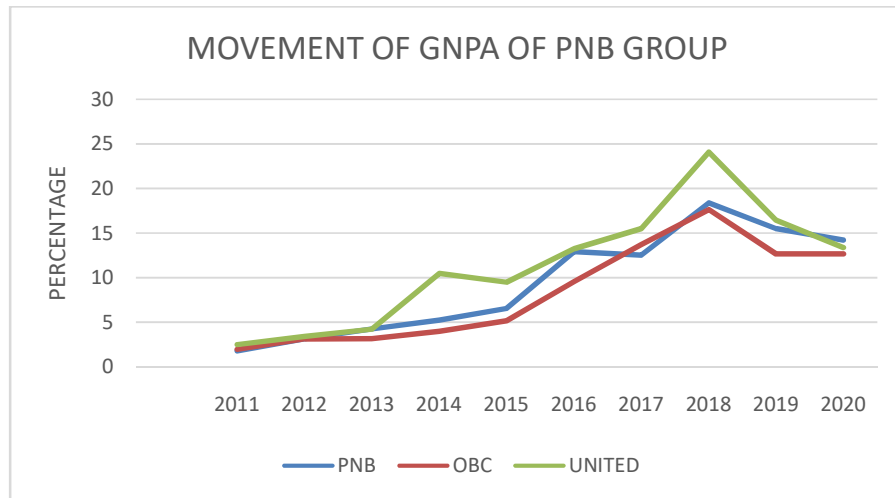
Figure 5.1.1: Movement of GNPA of Bank of Baroda Group

From Table 5.1.1 and Fig. 5.1.1 it can be observed that GNPA ratio has been continuously rising for all the banks for the period of study. Whereas it was a low of 1.62 for Bank of Baroda in 2011, it touched a high of 12.26 in 2018. This is consistent with the alarming proportion of Public Sector Banks' GNPA ratio of 14.6 percent in the same year. Vijaya Bank's performance can be considered as reasonable with a high of only 6.64 in 2016. Dena Bank's GNPA ratio started climbing up from 2016 and touched a very high ratio of 22.04 percent in 2018. It can be stated that of all banks in the group, Vijaya Bank performed better in managing its GNPA ratio as the ratio remained in single digit only from 2011 to the year of merger (2019).

Table 5.1.2: GNPA Ratio for the period 2011-2020

GNPA Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	1.79	1.98	2.51
2012	3.15	3.17	3.41
2013	4.27	3.21	4.25
2014	5.25	3.99	10.47
2015	6.55	5.18	9.49
2016	12.90	9.57	13.26
2017	12.53	13.73	15.53
2018	18.38	17.63	24.10
2019	15.50	12.66	16.48
2020	14.21	12.67	13.40

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

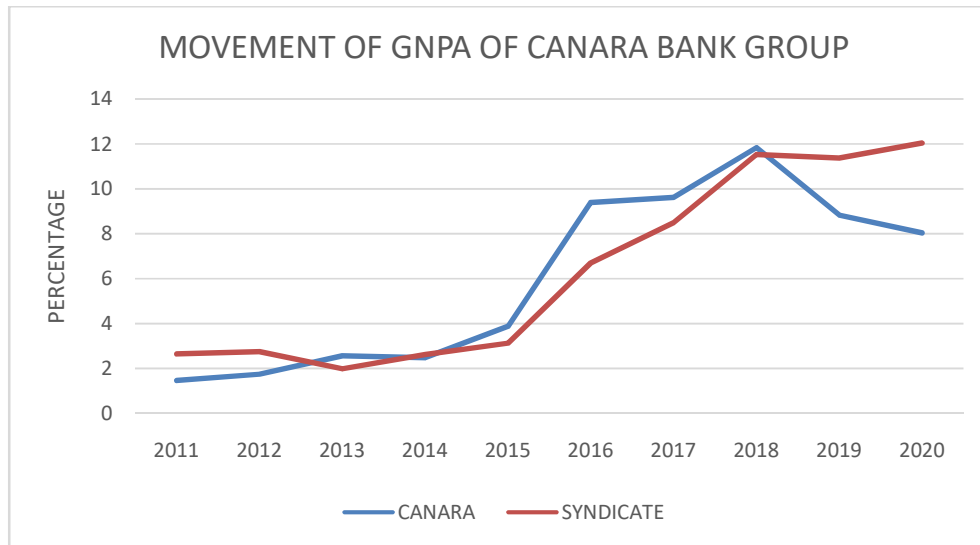
Figure 5.1.2: Movement of GNPA of PNB Group

Table 5.1.2 and Figure 5.1.2 highlight that PNB and OBC which were able to keep GNPA ratio below or near 5 percent upto 2014 saw a consistent increase from 2015 onwards touching a high of 18.38 percent and 17.63 percent in 2018 respectively. The position of United Bank was not satisfactory from initial years and changed for the worst in 2018 putting one fourth of advances under GNPA category at 24.10 percent. It can be stated that all three banks showed weakness in GNPA Ratio. It is significant to note that GNPA ratio for all the three banks exhibited reduction towards the year of merger. The highest reduction can be noted surprisingly in the case of United Bank of India as GNPA came down to 13.40 from a high of 24.10 in just two years.

Table 5.1.3: GNPA Ratio for the period 2011-2020

GNPA Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	1.47	2.65
2012	1.75	2.75
2013	2.57	1.99
2014	2.49	2.62
2015	3.89	3.13
2016	9.40	6.70
2017	9.63	8.50
2018	11.84	11.53
2019	8.83	11.37
2020	8.04	12.04

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.1.3: Movement of GNPA of Canara Bank Group

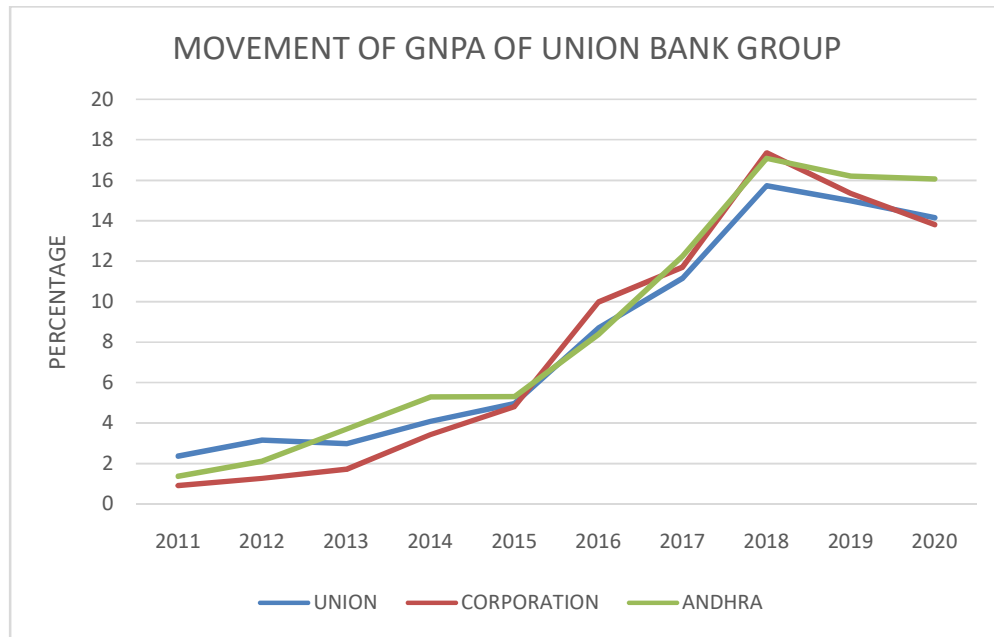
Table 5.1.3 and Figure 5.1.3 depict that GNPA ratio of Canara Bank and Syndicate Bank have been within reasonable limits upto 2015 (below 4 percent) but increased thereafter to 11.84 percent and 11.53 percent respectively in 2018. Syndicate Bank

GNPA ratio was lower than Canara Bank from 2015 to 2018. Whereas Canara Bank was able to reduce it substantially in next two years to 8.04 percent, GNPA of Syndicate Bank increased further to a high of 12.04 percent in 2020. This can be stated that on a comparable basis Canara Bank kept its NPAs in control by keeping a check on slippages and effecting recoveries reflected in improvement of its GNPA Ratio.

Table 5.1.4: GNPA Ratio for the period 2011-2020

GNPA Percentage 2011-2020			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	2.37	0.91	1.38
2012	3.16	1.26	2.12
2013	2.98	1.72	3.71
2014	4.08	3.42	5.29
2015	4.96	4.81	5.31
2016	8.70	9.98	8.39
2017	11.16	11.70	12.25
2018	15.73	17.35	17.09
2019	14.98	15.35	16.21
2020	14.15	13.80	16.07

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

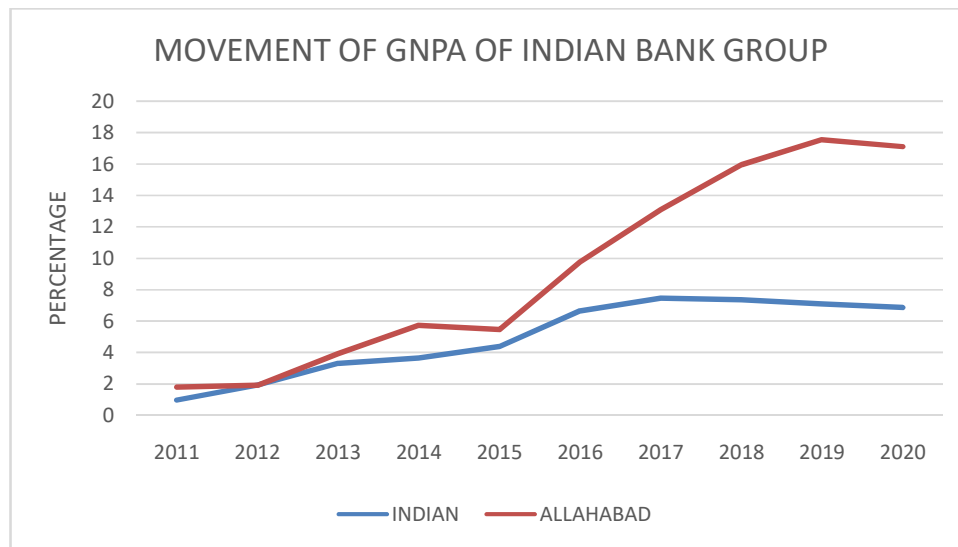
Figure 5.1.4: Movement of GNPA of Union Bank Group

From **Table 5.1.4** and **Figure 5.1.4** it can be observed that Union Bank of India, Corporation Bank and Andhra Bank have witnessed steady rise in their GNPA's after 2011. Union Bank of India GNPA rose from a low of 2.37 in 2011 to a very high ratio of 15.73 percent in 2018. The other two banks in the group witnessed a higher deterioration of GNPA ratio. Corporation Bank GNPA ratio climbed up from 0.91 percent to an alarming high of 17.35 percent whereas Andhra Bank ratio increased from 1.38 percent to 17.09 percent in 2018. Union Bank and Corporation Bank have been able to reduce their GNPA's after 2018 but Andhra Bank was still having high ratio of 16.07 percent till 2020, the year of merger. The performance of Corporation Bank improved much in 2020 compared to the other two banks in the group.

Table 5.1.5: GNPA Ratio for the period 2011-2020

GNPA Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	0.99	1.80
2012	1.94	1.91
2013	3.33	3.92
2014	3.67	5.73
2015	4.40	5.46
2016	6.66	9.76
2017	7.47	13.09
2018	7.37	15.96
2019	7.11	17.55
2020	6.87	17.11

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.1.5 :Movement of GNPA of Indian Bank Group

Table 5.1.5 and **Figure 5.1.5** depict that both banks witnessed increase in their GNPA ratio from 2011 onwards. However Indian Bank exhibited clearly much better performance as the bank could contain GNPA in a single digit ratio

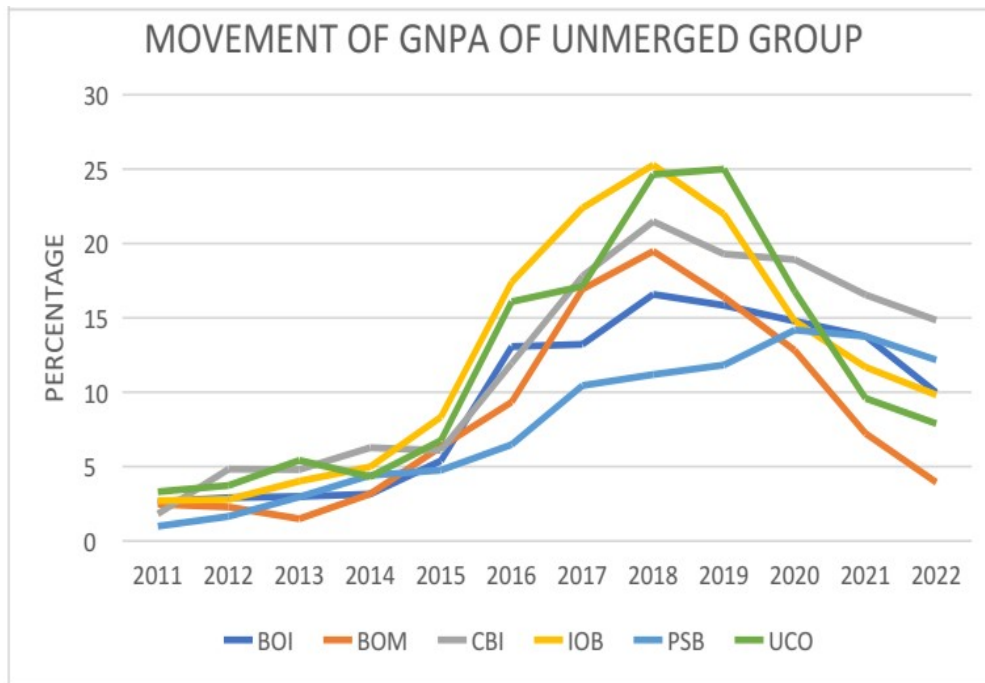
throughout the study period. Also after touching a high of 7.47 percent in 2017 its GNPA ratio has been declining regularly and has come down to 6.87 in 2020 one of the best in the industry, in the prevailing circumstances. As compared to it, Allahabad Bank reflects consistent increasing trend in GNPA from 2011 onwards and reached a very high ratio of 17.55 and 17.11 percent respectively in 2019 and 2020. It can be stated that Allahabad Bank was a weak bank in respect of GNPA ratio.

BANKS NOT CONSIDERED FOR MERGER

Table 5.1.6: GNPA Ratio for the period 2011-2021

GNPA Percentage (2011-2021)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	United Commercial Bank
2011	2.64	2.47	1.82	2.71	0.99	3.31
2012	2.91	2.28	4.83	2.79	1.65	3.73
2013	2.99	1.49	4.80	4.02	2.96	5.42
2014	3.15	3.16	6.27	4.98	4.41	4.32
2015	5.39	6.33	6.09	8.33	4.76	6.76
2016	13.07	9.34	11.95	17.40	6.48	16.09
2017	13.22	16.93	17.81	22.39	10.45	17.12
2018	16.58	19.48	21.48	25.28	11.19	24.64
2019	15.84	16.40	19.29	21.97	11.83	25.00
2020	14.78	12.81	18.92	14.78	14.18	16.77
2021	13.77	7.23	16.55	11.69	13.76	9.59
2022	9.98	3.94	14.84	9.82	12.17	7.89

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.1.6: Movement of GNPA of Unmerged Group

It can be observed from Table 5.1.6 and Figure 5.1.6 that increase in GNPA ratios for all the un-Merged banks was very high. In case of Bank of India it deteriorated from 2.64 percent in 2011 to 16.58 percent in 2018 and in Bank of Maharashtra from 1.49 percent in 2013 to 19.48 percent in 2018. In Central Bank of India it continuously rose from 1.82 percent in 2011 to 21.48 percent in 2018 whereas in Indian Overseas Bank the decline was huge from 2.71 percent in 2011 to 25.28 in 2018. Punjab & Sind Bank was successful in containing GNPA to the maximum of 14.18 in 2020 from a low of 0.99 percent in 2011 but another bank in the group UCO Bank witnessed one of the highest slippage in the industry of its GNPA ratio to 25 percent in 2019. However the bank has been able to significantly reduce the NPA level to 7.89 percent in 2022. Bank of Maharashtra too has exhibited a remarkable decline in GNPA from a high of 19.48 percent in 2018 to 3.94 percent in 2022. Other banks continue to have high level of bad assets. Central Bank of India can be considered to be the worst performer in the group with GNPA of 14.84 percent in 2022.

5.2 CREDIT-DEPOSIT RATIO

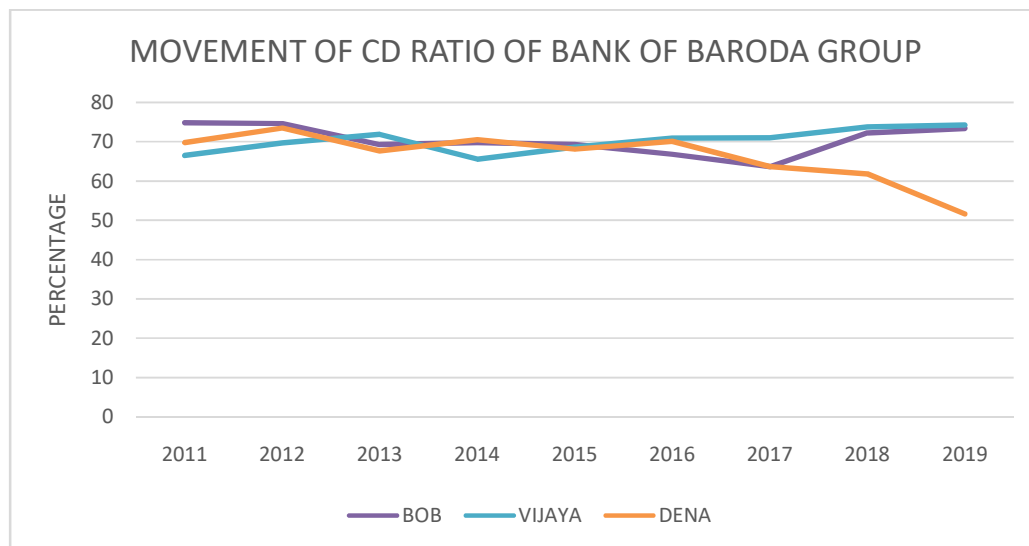
The ratio reflects the capability or the efficiency of a bank management to deploy bank deposits in lending operations. The credit of a bank is extended out of bank deposits. It is thus a ratio of credit of a bank as percentage of total deposits. It is expected that a bank earns more by lending the money to borrowers than keeping it in investments/ Bonds. Keeping the liquidity requirements of a banking entity and also SLR/CRR requirements an ideal ratio 70-75 percent is preferred by Public Sector Banks. Lower CD ratio implies that bank is following a conservative policy. Private Banks generally show a higher CD ratio than their public sector counterparts due to the reason that the absolute deposit base of PSBs is quite high and it is difficult to attain higher C-D ratios. Also if NPAs rise it reduces the lendable resources of banks thus affecting their CD ratio. This ratio represents the bank's ability to make optimal use of available resources and convert deposit into loans. Hence, high NPAs reduce the funds available with a bank and affect the credit generation capacity. (Fries and Taci 2005).

There is another view of academicians who observed that NPAs increased with increase in credit growth. As banks competed with their peer banks to attain high loan growth targets to increase profits, the all important 'credit risk' was missed. Therefore higher loan growth generally resulted in higher NPAs (Salas and Saurina 2002). The view was also endorsed by Keeton (1999) who observed that banks in a zeal to achieve higher loan growth first reduce the interest rate charged on new credit disbursements. The targeted higher loan growth also results in lowering of minimum credit standards for new loans. This happens by way of dilution of credit appraisal, ignoring cash generation capacity of project, unrealistic date of commencement and a collateral with improper valuation. Such a reduction in credit standards increases the chances that some borrowers will default on their loans and generate NPAs. Thus higher NPAs ultimately result in lower CD ratio as an outcome of cessation of fresh lending. Bank-wise CD Ratios are given hereunder:

Table 5.2.1: Credit-Deposit Ratio for the period 2011-2019

Credit-Deposit Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	74.87	66.51	69.82
2012	74.67	69.72	73.47
2013	69.25	71.91	67.67
2014	69.79	65.57	70.49
2015	69.32	68.62	68.08
2016	66.85	70.94	70.11
2017	63.70	71.08	63.69
2018	72.28	73.86	61.79
2019	73.40	74.29	51.62

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

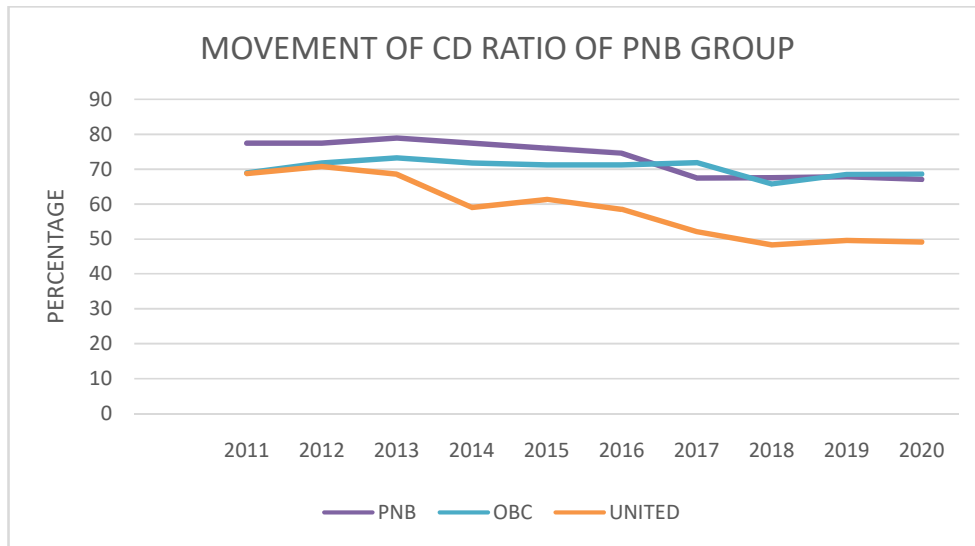
Figure 5.2.1: Movement of CD Ratio of Bank of Baroda Group

Table 5.2.1 and Figure 5.2.1 show that CD Ratio of all the banks slipped below 70 percent in many of the years. The ratio for Bank of Baroda slipped lower between 2013 and 2017. Dena Bank also witnessed a continuous decline in its C D Ratio between 2015 and 2019 with exception in 2016. However Vijaya Bank performed well in credit dispensation and exhibited regular increase in its CD ratio between 2014 to 2019. A better CD ratio of a bank can be attributed to its lower NPA levels. When NPAs rise for a bank there is a tendency to go slow on lending due to capital adequacy requirements/ regulatory restrictions and fear of fresh accounts slipping to NPA and this aspect is reflected well in lower CD ratio for Dena Bank. The GNPA of the bank was consistently rising from 2013 to 2018 and hence slowing down of fresh disbursements leading to decline in CD ratio.

Table 5.2.2: Credit-Deposit Ratio for the period 2011-2020

Credit –Deposit Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	77.38	68.97	68.73
2012	77.39	71.80	70.74
2013	78.86	73.31	68.46
2014	77.38	71.88	58.98
2015	75.90	71.20	61.35
2016	74.55	71.26	58.47
2017	67.47	71.90	52.10
2018	67.54	65.77	48.32
2019	67.79	68.53	49.60
2020	67.04	68.65	49.07

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

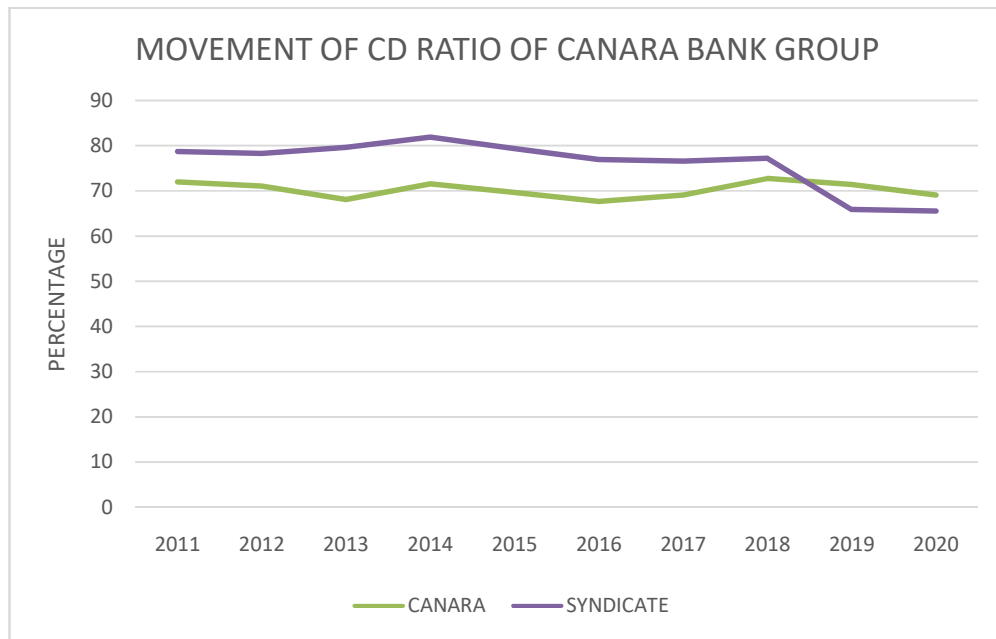
Figure 5.2.2: Movement of CD Ratio of PNB Group

Table 5.2.2 and Figure 5.2.2 show that CD ratio of all three banks is going down consistently over the years as their GNPA's were also growing in the corresponding periods. Punjab National Bank CD ratio came down from 78.86 percent in 2013 to 67.04 in 2020 and Oriental Bank of Commerce CD Ratio declined from 73.31 percent in 2013 to 65.77 in 2018. United Bank of India is the worst performer having a CD ratio below 70 percent in all the years except 2012 declining to a low of only 48.32 percent in 2018 (The GNPA of United Bank was 24.10 percent in 2018).

Table 5.2.3: Credit-Deposit Ratio for the period 2011-2020

Credit Deposit Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	72.00	78.75
2012	71.09	78.27
2013	68.05	79.61
2014	71.56	81.90
2015	69.65	79.38
2016	67.68	76.94
2017	69.05	76.63
2018	72.74	77.24
2019	71.40	65.90
2020	69.11	65.56

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

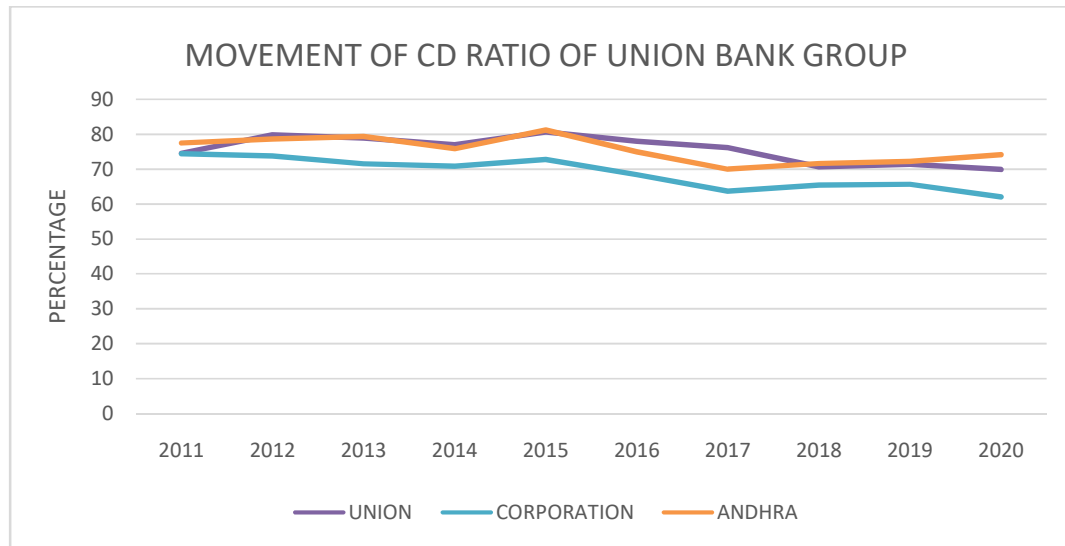
Figure 5.2.3: Movement of CD Ratio of Canara Bank Group

Table 5.2.3 and Figure 5.2.3 show that CD Ratio of Canara Bank has declined from 72.00 percent in 2011 to 67.68 percent in 2016 but recovered in 2018 to about 73 percent. The ratio declined in 2019 and 2020 to 71.40 and 69.11 percent respectively. However Syndicate Bank had been maintaining a higher CD Ratio than Canara Bank for most of the years. Before merger the bank slipped in CD ratio touching a low of 65.90 percent and 65.56 percent in 2019 and 2020 respectively. It can be stated that CD ratio of both the banks was in a modest range of 65 to 75 percent and slipped below 70 percent only in few of the years , even in years of distress.

Table 5.2.4: Credit-Deposit Ratio for the period 2011-2020

Credit –Deposit Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	74.58	74.39	77.52
2012	79.81	73.80	78.62
2013	78.90	71.51	79.46
2014	76.96	70.88	75.89
2015	80.68	72.77	81.25
2016	78.01	68.39	75.04
2017	76.21	63.64	70.02
2018	70.69	65.39	71.64
2019	71.39	65.69	72.25
2020	69.91	62.04	74.19

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

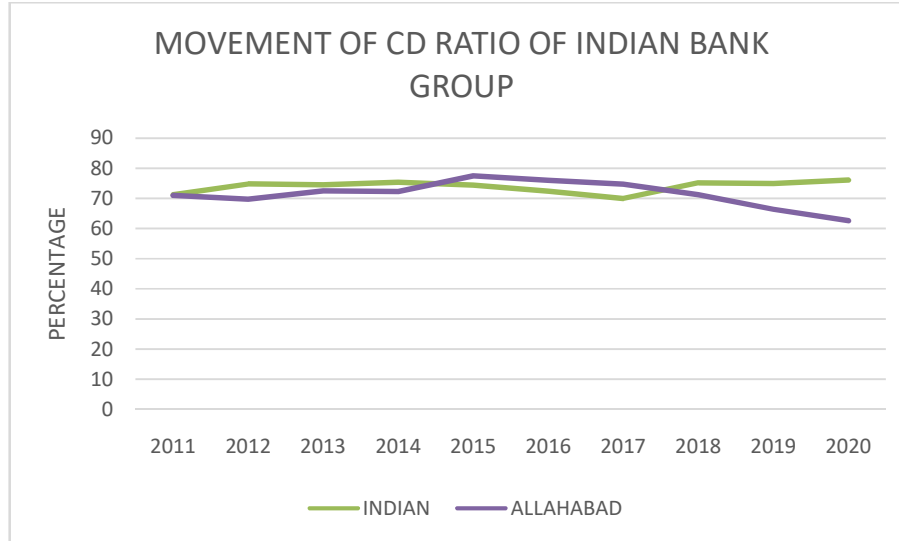
Figure 5.2.4: Movement of CD Ratio of Union Bank Group

From **Table 5.2.4** and **Figure 5.2.4** it can be observed that though CD ratio of all banks has reduced over all the years. Union Bank of India CD ratio declined by 10 percent and touched a low of 69.91 percent in 2020 after peaking at 80.68 percent in 2015. Similarly Corporation Bank also witnessed a declining trend. The bank which had a robust CD ratio of 74.39 percent in 2011 touched a low of 62.04 in the year 2020. It can be stated that CD ratio also witnessed a fall of 10 percent between 2015 to 2020 for the bank. The ratio for Andhra Bank too declined by more than 10 percent. The ratio came down from a high of 81.25 percent in 2015 to 70.02 percent in 2017. However the CD Ratio for the bank had improved to 74.19 percent in 2020 the year of merger. It is significant to note that CD Ratio of the bank never slipped below 70 percent (the Benchmark) during period of study.

Table 5.2.5: Credit-Deposit Ratio for the period 2011-2020

Credit-Deposit Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	71.12	70.99
2012	74.77	69.64
2013	74.41	72.45
2014	75.31	72.31
2015	74.38	77.49
2016	72.38	75.94
2017	69.97	74.68
2018	75.17	71.19
2019	74.88	66.35
2020	76.04	62.54

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.2.5: Movement of CD Ratio of Indian Bank Group

It can be observed from Table 5.2.5 and Figure 5.2.5 that Indian Bank has been maintaining a robust CD ratio and was above 70 percent in all the years. The ratio

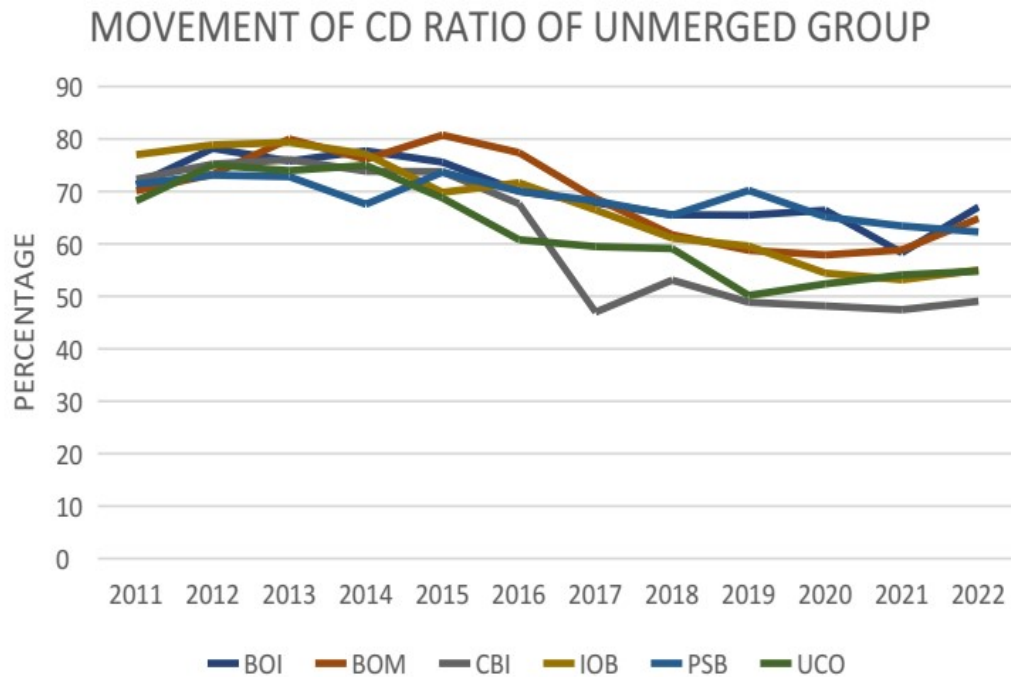
declined a little between 2014 to 2017 from a high of 75.31 percent to 69.97 percent. There was improvement in this ratio thereafter in the years before amalgamation and it touched a high of 76.04 percent in 2020. Contrary to this Allahabad Bank CD ratio had erratic movements. The ratio which was 70.99 percent in 2011 touched a high of 77.49 percent in 2015. Thereafter the ratio started slipping down consistently and reached a low of 62.54 percent in the year of merger. This is in consonance with steep rise in GNPA of the bank from 2015 onwards touching a high of 17.55 in 2019.

BANKS NOT CONSIDERED FOR MERGER

Table 5.2.6: Credit-Deposit Ratio for the period 2011-2021

Credit-Deposit Percentage (2011-2021)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	71.30	70.13	72.33	77.00	71.39	68.19
2012	78.20	73.25	75.20	78.87	73.11	75.02
2013	75.78	80.00	76.06	79.34	72.81	73.97
2014	77.73	76.13	73.86	77.15	67.55	74.97
2015	75.58	80.74	73.75	69.81	73.66	68.75
2016	70.02	77.39	67.63	71.65	70.05	60.79
2017	67.86	68.69	46.99	66.46	68.20	59.48
2018	65.54	61.73	53.09	61.10	65.44	59.10
2019	65.47	58.77	48.87	59.59	70.19	50.18
2020	66.41	57.89	48.16	54.42	65.14	52.37
2021	58.31	58.85	47.45	53.15	63.41	54.08
2022	67.02	64.84	49.07	55.02	62.30	54.80

(Source: RBI Data)



(Source: Author’s Construct from RBI Data)

Figure 5.2.6: Movement of CD Ratio of Unmerged Group

From **Table 5.2.6** and **Figure 5.2.6** it can be derived that that CD ratio of all unmerged banks is going down regularly showing weakness of their credit function. The ratio is below 70 percent for more than half the period of study impacting in turn the profitability of these banks.\

Bank of India touched a high CD ratio of 78.20 percent which declined to 70.02 percent in 2016 . The declining trend continued and the ratio touched a low of 58.31 percent in 2021. However there is a marked improvement in the ratio to 67.02 percent in 2022.

Bank of Maharashtra CD ratio was reasonably high upto 2016 remaining above 70 percent. It touched a high of 80.74 percent in 2015 and thereafter saw a declining trend to touch a low of 57.89 percent in 2020. The ratio recovered in years after merger of 13 PSBs and reached a level of 64.84 percent in 2022.

Central Bank of India Credit Deposit ratio which was a robust 76.06 percent in 2013 witnessed a declining trend thereafter. The ratio which touched a low of 46.99 percent in 2017 has remained below 50 percent in subsequent years.

Indian Overseas Credit Deposit ratio which was the highest in 2013 at 79.34 percent witnessed a declining trend thereafter. The ratio which touched a low of 53.15 percent in 2021 has improved marginally in 2022.

Credit Deposit ratio of Punjab and Sind Bank was healthy in the initial years of study and remained above 70 percent upto 2016 except 2014. The ratio however witnessed a declining trend thereafter and touched a low of 62.30 percent in 2022. However the bank exhibited better performance in the ratio than Central Bank of India and UCO Bank.

UCO Bank CD ratio witnessed a high of 75.02 percent in 2012 and after maintaining a healthy ratio upto 2014 witnessed a declining trend and touched a low of 50.18 percent in 2019. The ratio has improved in recent years and is at 54.80 percent in 2022.

Out of the six banks Bank of India, Bank of Maharashtra and Punjab and Sind Bank seem to fare better. Worst performer in the group is Central Bank of India and UCO Bank which touched a very low ratio of 47.45 percent and 50.18 percent respectively during the period of study.

5.3 CURRENT AND SAVINGS ACCOUNTS DEPOSITS (CASA)

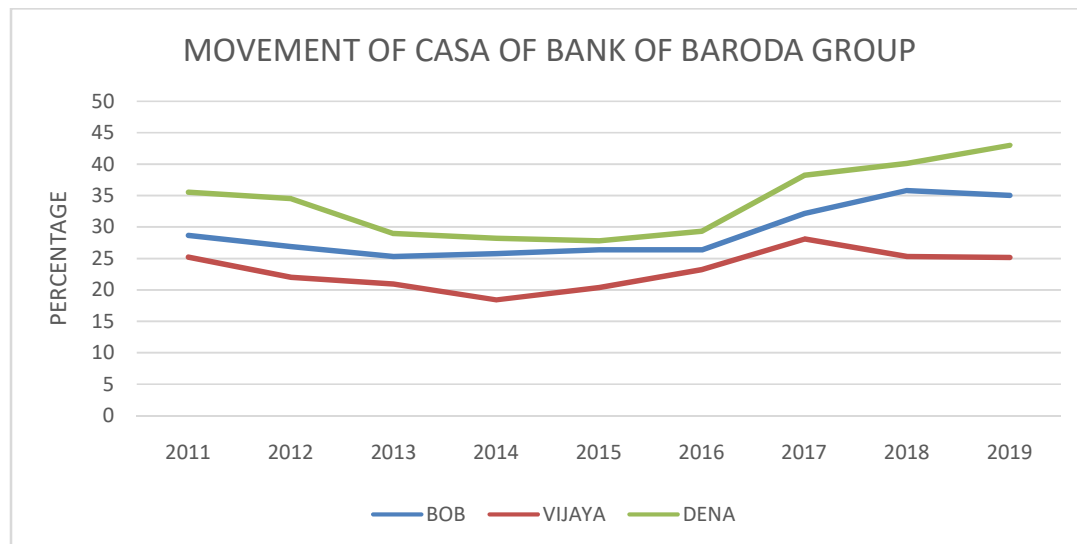
It is a ratio of Current account deposits and Saving Fund deposits as percentage of total deposits. Since on current accounts no interest is payable and on savings only a nominal interest is payable these are the preferred deposits for a bank. The higher this ratio of deposits the more profitable will be the operations of the bank. This is due to the reason that higher ratio of such deposits leads to higher net interest income because the interest paid on savings deposits is much less than on Fixed (Term) deposits. Therefore, the CASA ratio improves the net interest margin indicating better operational efficiency of the bank. A higher CASA ratio is therefore targeted by all bank managements as a high CASA ratio implies the bank's better ability to raise money at a lower cost. **Janakiraman (2018)** concluded from Pearson's correlation that CASA deposits and operating profit are positively correlated. Hence an increase in the CASA deposits will result in increase in profitability.

However these deposits cannot be deployed for long gestation projects as these are payable on call and can move out any time. Also if bank is offering higher deposit rates on Fixed Deposits, the customers may also shift surplus funds in Savings account to term deposits. Ultimately the cost of deposits will shoot up due to higher outgo on long term deposits. Since banks generally offer low-interest rates on Savings Accounts and don't pay any interest on Current Account deposits, they always reach out to retail customers mostly traders to increase their deposits in Current Accounts to lower their cost of borrowing. Therefore CASA depositors have to be kept in satisfied mode by offering prompt and qualitative service. Also freebies like free debit cards, credit cards and accidental insurance upto specified limits are offered by most of the banks for higher retention of CASA customers. Bank wise position of CASA deposits ratio is as under:

Table 5.3.1: CASA Ratio for the period 2011-2019

CASA Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	28.68	25.25	35.52
2012	26.90	22.02	34.55
2013	25.32	20.97	28.96
2014	25.75	18.40	28.18
2015	26.39	20.37	27.82
2016	26.36	23.22	29.37
2017	32.16	28.12	38.25
2018	35.81	25.35	40.12
2019	35.04	25.19	43.01

(Source: RBI data)



(Source: Author's Construct from RBI Data)

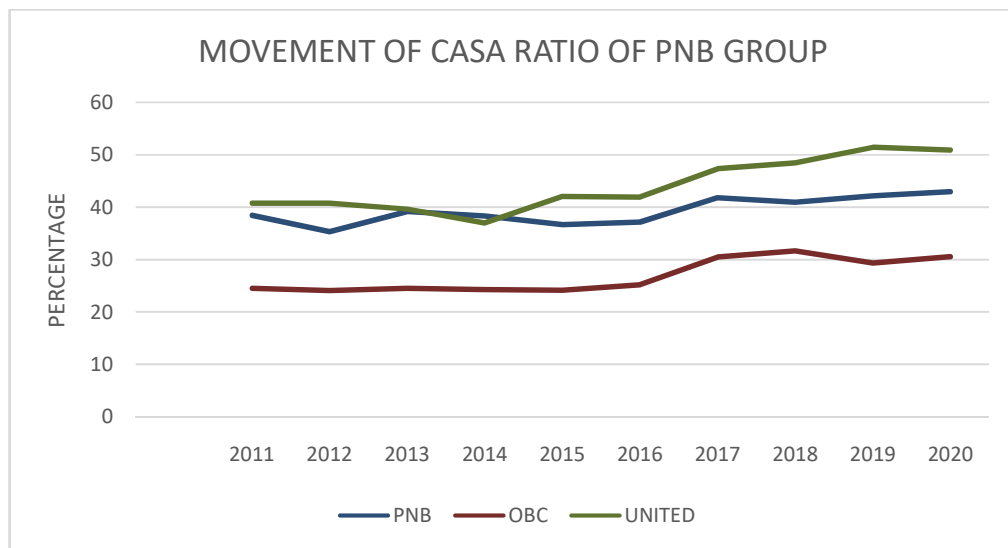
Figure 5.3.1 : Movement of CASA of Bank of Baroda Group

Table 5.3.1 and Figure 5.3.1 describes movement of CASA ratio for the three merged banks. It can be observed that Bank of Baroda had a low CASA ratio between 2011 to 2016. The highest CASA ratio for the bank during this period touched 28.68 percent. The ratio started showing improvement in the year 2017 and improved to a high of 35.81 percent in 2018 but it came down in 2019 the year of merger. Vijaya Bank CASA ratio remained below 30 percent during period of study hovering around 25 percent. It touched a low of 18.40 percent in 2014 and a high of 28.12 in 2017. It came down during 2018 and 2019 to remain in range of 25 percent. Dena Bank seemed to perform better as it maintained a healthy CASA ratio around 35 percent in 2011 and 2012 which declined continuously for next three years but recovered in 2016. In 2018 and 2019 the CASA ratio was quite healthy and near the ideal level (40 percent) at 40.12 and 43.01 percent respectively. Surprisingly Dena Bank exhibited higher CASA ratio in the years when its GNPA was highest and CD Ratio was the lowest.

Table 5.3.2: CASA Ratio for the period 2011-2020

CASA Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	38.45	24.56	40.78
2012	35.34	24.13	40.77
2013	39.16	24.55	39.65
2014	38.30	24.31	36.98
2015	36.66	24.20	42.05
2016	37.17	25.22	41.92
2017	41.82	30.50	47.33
2018	40.99	31.68	48.44
2019	42.16	29.40	51.45
2020	42.97	30.61	50.92

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

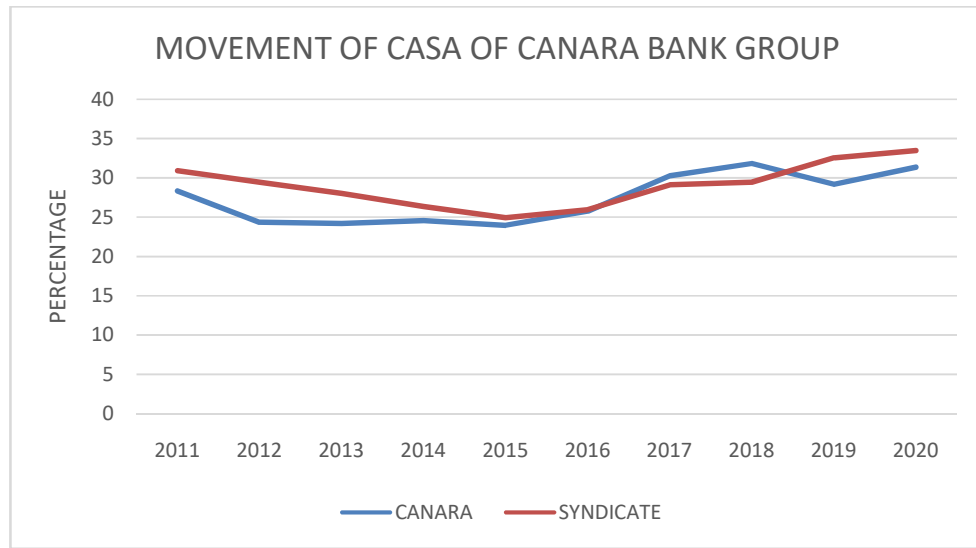
Figure 5.3.2 : Movement of CASA Ratio of PNB Group

Table 5.3.2 and Figure 5.3.2 describes movement of CASA which denotes low cost savings and current account deposits for the second group of three merged banks. All banks exhibit high improvement in CASA deposits. PNB has been maintaining a healthy CASA above 36 percent from 2011 to 2016 touching a high of 39.16 percent in 2013. The ratio witnessed an increasing trend after 2016, touching a high of 41.82, 40.99, 42.16 and 42.97 percent in 2017, 2018, 2019 and 2020 respectively. United Bank of India also consistently maintained a very high CASA ratio in all the years remaining above 37 percent. In 2011 the ratio was 40.78 percent which started rising in 2015 and reached a high of 51.45 percent in 2019. However in OBC, CASA deposits are much lower than that of other two banks over the ten year period having a low of 24.13 in 2012 and a high of 31.68 percent in 2018.

Table 5.3.3: CASA Ratio for the period 2011-2020

CASA Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	28.33	30.93
2012	24.34	29.45
2013	24.18	28.03
2014	24.55	26.37
2015	23.96	24.95
2016	25.75	25.97
2017	30.24	29.12
2018	31.83	29.48
2019	29.18	32.58
2020	31.38	33.48

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

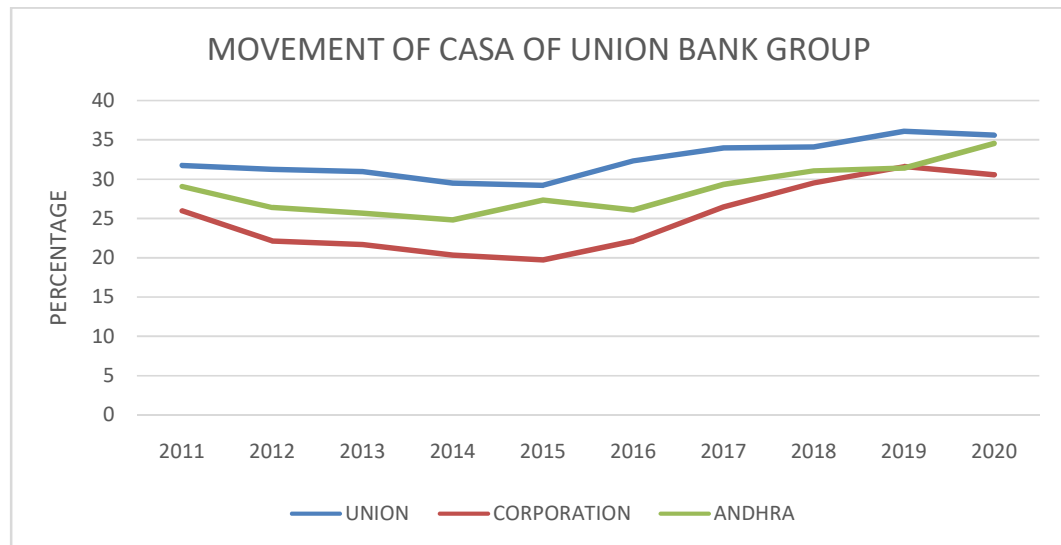
Figure 5.3.3: Movement of CASA of Canara Bank Group

From **Table 5.3.3** and **Figure 5.3.3** it can be observed that Canara Bank CASA was below 30 percent from 2011 to 2017 touching a high of 28.33 percent in 2011 and a low of 23.96 in 2015. Similarly Syndicate Bank too exhibited a declining CASA ratio from 2011 to 2015. Whereas the ratio was 30.93 percent in 2011 it continuously came down in subsequent years to touch a low of 24.95 percent in 2015. The CASA for the bank started increasing in 2016 and touched a high of 33.48 percent in 2020. Therefore the performance of Syndicate Bank can be considered to be better than Canara Bank towards the merger year. It is significant to note that both banks witnessed increase in their CASA ratio after 2015 when GNPA's of the PSBs were growing.

Table 5.3.4: CASA Ratio for the period 2011-2020

CASA Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	31.76	25.95	29.06
2012	31.28	22.12	26.40
2013	30.95	21.68	25.65
2014	29.50	20.33	24.81
2015	29.24	19.72	27.35
2016	32.35	22.14	26.08
2017	34.00	26.47	29.33
2018	34.09	29.52	31.05
2019	36.10	31.59	31.39
2020	35.59	30.57	34.55

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.3.4 : Movement of CASA of Union Bank Group

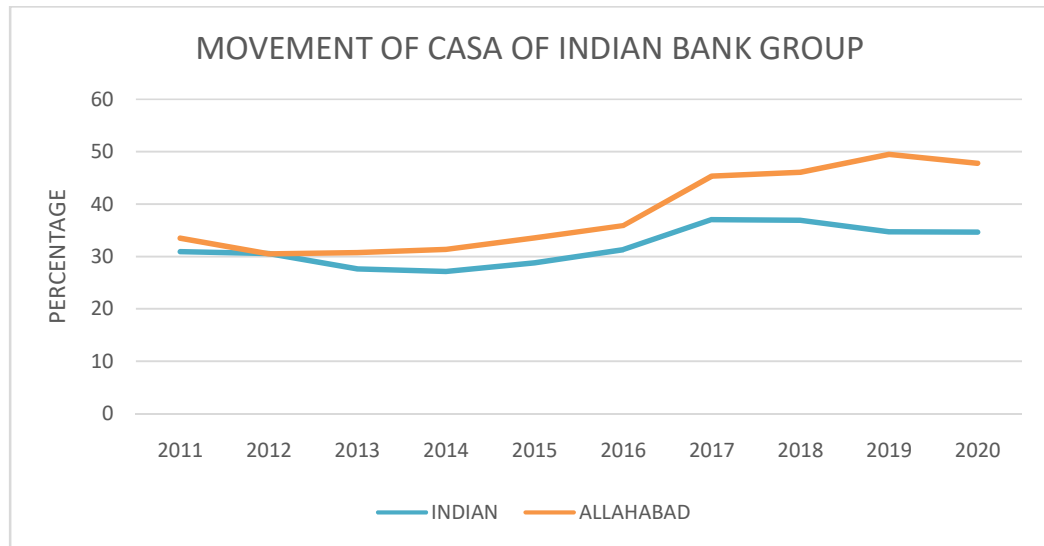
Table 5.3.4 and figure 5.3.4 explain a consistent performance of Union Bank of India in the ten year period as CASA ratio for the bank remained above 29 percent. Though

the ratio declined from 2011 to 2015 it recouped thereafter to touch a high of 36.10 percent in 2019. Corporation Bank exhibited weaker performance in CASA as the ratio for the bank continuously declined from a high of 25.95 percent in 2011 to a low of 19.72 in 2015. However there was a steady increase in CASA ratio from 2016 to 2019 when it reached its high of 31.59 percent. Andhra Bank performance was better as it could maintain CASA ratio above 25 percent in the period of study. Though it touched a low of 24.81 percent in 2014 it witnessed a rising trend thereafter and reached a high of 34.55 percent in 2020. The Corporation Bank performance can be considered as the weakest in the group. Also none of the banks touched the 40 percent ideal mark in any of the years.

Table 5.3.5: CASA Ratio for the period 2011-2020

CASA Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	30.92	33.48
2012	30.55	30.49
2013	27.60	30.73
2014	27.15	31.35
2015	28.77	33.56
2016	31.28	35.90
2017	37.08	45.37
2018	36.95	46.08
2019	34.71	49.49
2020	34.65	47.82

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.3.5: Movement of CASA of Indian Bank Group

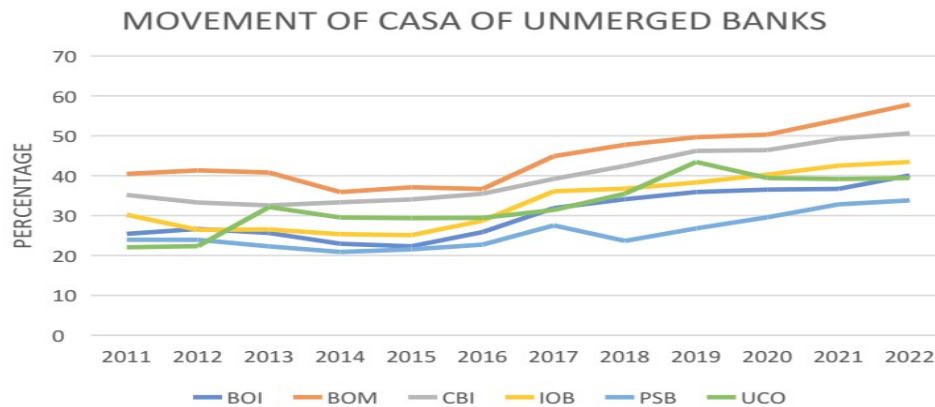
From **Table 5.3.5** and **figure 5.3.5** it can be observed that Indian Bank CASA ratio declined regularly from a high of 30.92 percent to 28.77 percent in 2015 but witnessed significant increase in the ratio thereafter. It touched a high of 37.08 percent in 2017. The ratio declined lower to 36.95 percent, 34.71 percent and 34.65 percent in 2018, 2019 and 2020 respectively. Allahabad Bank exhibited a significant and much higher growth in its CASA deposits. It could maintain CASA ratio above 30 percent in all years. Though the ratio declined a little in 2012 and 2013 it exhibited a continuous rise thereafter to reach one of the highest in the industry at 49.49 percent in 2019. However the ratio declined to 47.82 percent in 2020.

BANKS NOT CONSIDERED FOR MERGER

Table 5.3.6: CASA Ratio for the period 2011-2021

CASA Percentage (2011-2021)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	25.42	40.44	35.17	30.20	23.95	22.05
2012	26.65	41.33	33.27	26.42	23.93	22.34
2013	25.64	40.79	32.55	26.51	22.28	32.14
2014	22.94	35.89	33.33	25.34	20.88	29.52
2015	22.30	37.09	34.05	25.09	21.53	29.35
2016	25.87	36.67	35.48	28.72	22.72	29.42
2017	31.89	44.89	39.20	36.09	27.54	31.40
2018	34.11	47.74	42.46	36.75	23.65	35.48
2019	35.90	49.65	46.21	38.30	26.79	43.45
2020	36.51	50.29	46.41	40.26	29.57	39.41
2021	36.69	53.99	49.27	42.52	32.81	39.16
2022	40.08	57.85	49.07	43.44	33.81	39.42

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.3.6 :Movement of CASA of Unmerged Banks

It can be observed from **Table 5.3.6 and Figure 5.3.6** that Bank of India has been consistently reaching a higher CASA figure after 2015 to touch a high of 40.08 percent in 2022. Bank of Maharashtra too exhibits the same trend as its CASA started rising from 2016 onwards to reach a very high ratio of 57.85 percent in 2022. Central Bank of India also witnessed a similar trend as its CASA ratio started rising from 33.33 percent in 2014 to above 40 percent from 2018 to 2022. Indian Overseas bank witnessed a regular decline in CASA ratio from 2011 to 2015 but recovered thereafter to reach 43.44 percent in 2022. It also maintained its CASA above 40 percent from 2020 to 2022.

CASA ratio for Punjab and Sind Bank is lowest amongst all banks. Whereas it was 20.88 in 2014 it touched a high of 33.81 percent after a consistent rise from 2018 to 2022. For UCO Bank CASA declined between 2013 to 2016 but the ratio witnessed improvement thereafter and peaked to 43.45 percent in 2019. Contrary to other banks the ratio declined between 2020 to 2022. It can be stated that all unmerged banks have high CASA ratios over the years and the ratio has further improved in recent years with the exception of UCO Bank.

5.4 NET-INTEREST MARGIN (NIM)

Net Interest Margin = Net Interest Income as percentage of Average Interest Earning Assets*

(Where net interest income is interest income minus interest expense)

*Interest Earning assets = Advances + Investments + Interest earning portion of CRR + RIDF + Money at call & Short Notice

Net interest margin is the most appropriate criterion for evaluating the effectiveness and stability of banks' operations. It is superior to the return on assets in illustrating how successfully a bank manages its interest bearing assets. A bank's ability at managing interest rates is revealed by looking at the Net Interest Margin. Ratio is higher than interest spread as only interest earning assets are taken in the denominator and not the total assets. This indicator is frequently discussed in investor meet of banks and internal appraisal of banks' performance even though more often discussed ratios in literature are returns on assets (ROA) or returns on equity (ROE). However,

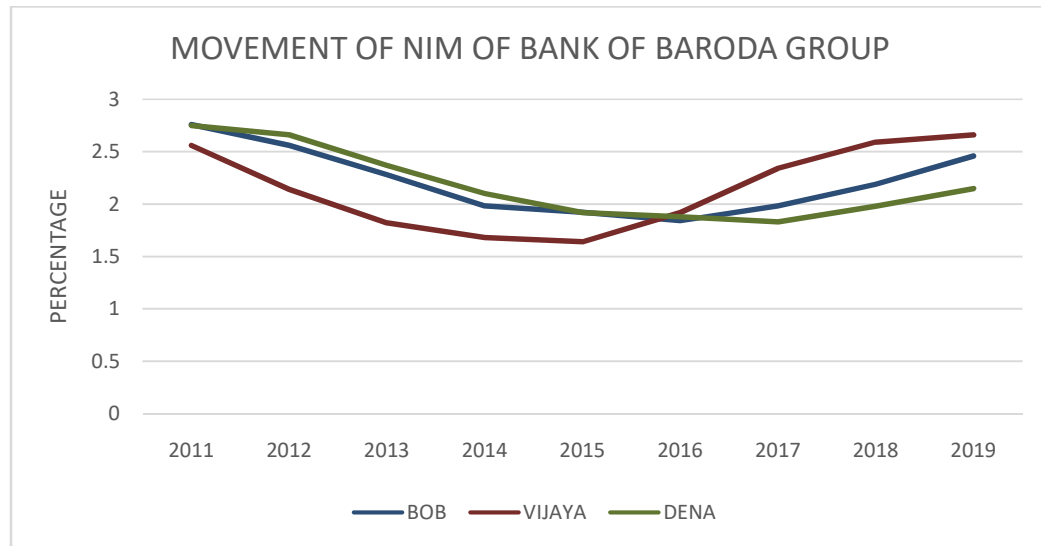
it indicates the effectiveness of banks' interest bearing assets. The larger the net interest margin, the more successfully does the bank manage its' interest bearing assets. When a bank is successful in interest rate risk management it can be found the Net Interest Margin would be steady whether the interest rates are going up or down. If Net Interest Margin is shrinking this could be an indication of poor interest rate risk management. Also if the deposits of a bank increase relative to the credit off-take, the net interest margin is likely to decrease. Similarly if the credit disbursements are higher than deposit accretion net interest margin will go up. A simple examination of the dynamics of net interest margin and the return on assets shows that net interest margin had a tendency to decline prior to the difficulties in the banking sector, while return on assets remained more stable during that time. This suggests that net interest margin can serve as an important indicator of growing tensions or vulnerabilities in the banking sector (Saksonova 2014).

NIM is one indicator of a bank's profitability and growth. The average NIM for U.S. banks was 3.3% and 3.5 percent in 2018 and 2019 respectively. The long-term trend has been downward since 1996 when the average was 4.3%.The ideal NIM ratio for banks in India is considered to be around 3 percent. NIM is considered to be a double edged sword. Some of the bank managements finance low rated customers to garner higher interest rate and improve NIM but in the process end up generating new NPAs. Bank-wise NIM details are discussed below:

Table 5.4.1: Net Interest Margin Ratio for the period 2011-2019

NIM Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	2.76	2.56	2.75
2012	2.56	2.14	2.66
2013	2.28	1.82	2.37
2014	1.98	1.68	2.10
2015	1.92	1.64	1.92
2016	1.84	1.92	1.88
2017	1.98	2.34	1.83
2018	2.19	2.59	1.98
2019	2.46	2.66	2.15

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

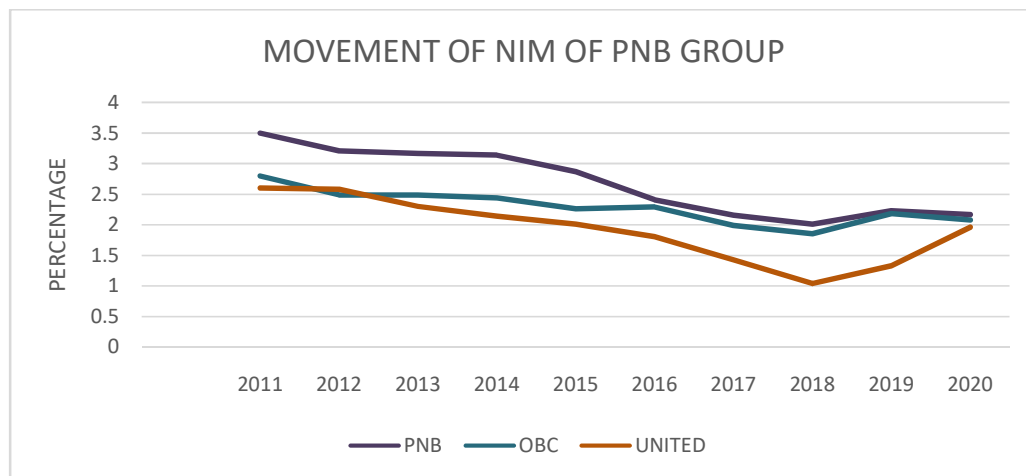
Figure 5.4.1: Movement of NIM of Bank of Baroda Group

It can be observed from **Table 5.4.1** and **Figure 5.4.1** that NIM of all the three banks started declining after 2011. In Bank of Baroda it reached a low of 1.84 percent in 2016 to recover regularly to 1.98, 2.19 and 2.46 percent in 2017, 2018 and 2019 respectively. Vijaya Bank too exhibited a similar trend of declining NIM since 2011 to reach a low of 1.64 percent in 2015. However the decline was reversed and the NIM improved regularly in all subsequent years to reach 2.66 percent in 2022. Dena Bank saw a consistent decline in NIM from 2011 to 2017 but improved in 2018 and 2019 to reach 2.15 percent.

Table 5.4.2: Net Interest Margin Ratio for the period 2011-2020

NIM Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	3.50	2.80	2.60
2012	3.21	2.49	2.58
2013	3.17	2.49	2.30
2014	3.14	2.44	2.14
2015	2.87	2.26	2.01
2016	2.41	2.29	1.81
2017	2.16	1.99	1.43
2018	2.01	1.85	1.04
2019	2.23	2.18	1.33
2020	2.17	2.08	1.96

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.4.2 :Movement of NIM of PNB Group

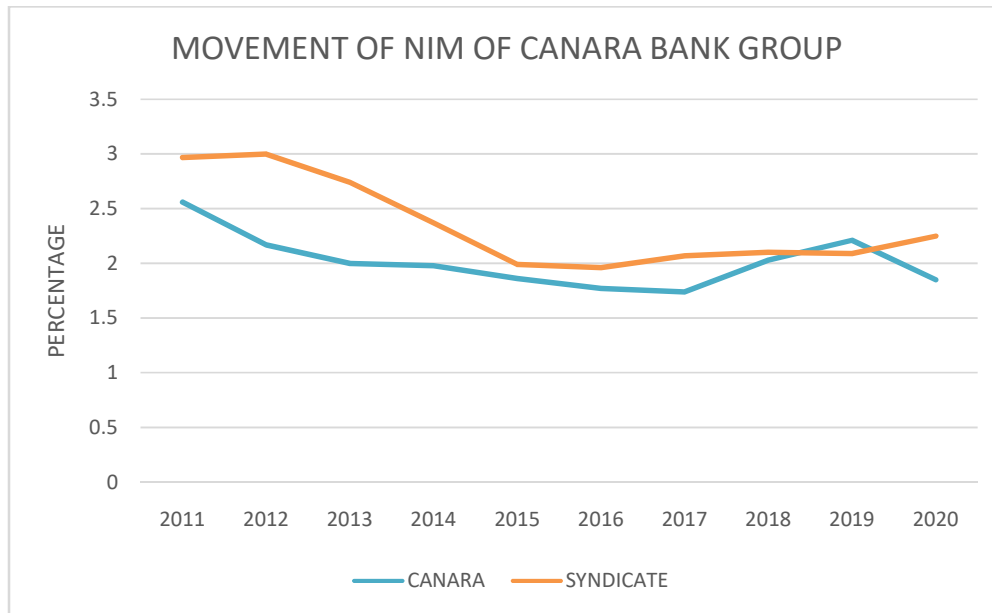
It can be observed from Table 5.4.2 and Figure 5.4.2 that PNB had NIM above the benchmark of 3.0 percent from 2011 to 2014 but thereafter it slid back regularly and touched 2.17 in 2020. Similarly OBC and United Bank of India had reasonably good NIM ratio till 2014 but thereafter it started coming down.

The ratio witnessed good improvement in 2019 for all banks but slipped back for PNB and Oriental Bank of India in the year 2020. For United Bank of India the ratio improved significantly in the year of merger. Bank managements generally target to achieve NIM of 3 percent and above. OBC and United Bank of India though in the vicinity of such benchmark in the initial years of study showed weakness in this crucial profitability ratio. It may also take time for PNB to reach a NIM ratio of 3 percent and above.

Table 5.4.3: Net Interest Margin Ratio for the period 2011-2020

NIM Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	2.56	2.97
2012	2.17	3.00
2013	2.00	2.74
2014	1.98	2.37
2015	1.86	1.99
2016	1.77	1.96
2017	1.74	2.07
2018	2.03	2.10
2019	2.21	2.09
2020	1.85	2.25

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

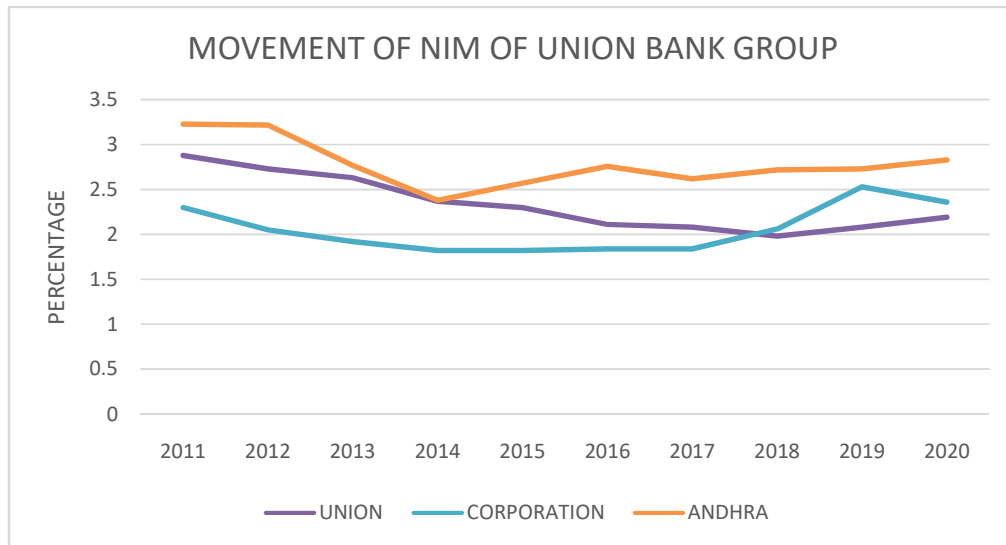
Figure 5.4.3: Movement of NIM of Canara Bank Group

Table 5.4.3 and Figure 5.4.3 indicate that Canara Bank could not achieve a NIM ratio of 3 percent. On the contrary the ratio slid down consistently from 2.56 percent in 2011 to 1.74 in 2017. Though the ratio improved a little in 2018 and 2019 upto 2.21 it reduced again in 2020 to 1.85 percent. Syndicate Bank NIM was near the benchmark of 3 percent in 2011 and 2012. It was better than Canara Bank in all the years except 2019 but improved further in 2020 to 2.25 percent which was the year of merger.

Table 5.4.4: Net Interest Margin Ratio for the period 2011-2020

NIM Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	2.88	2.30	3.23
2012	2.73	2.05	3.22
2013	2.63	1.92	2.77
2014	2.37	1.82	2.38
2015	2.30	1.82	2.57
2016	2.11	1.84	2.76
2017	2.08	1.84	2.62
2018	1.98	2.06	2.72
2019	2.08	2.53	2.73
2020	2.19	2.36	2.83

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.4.4: Movement of NIM of Union Bank Group

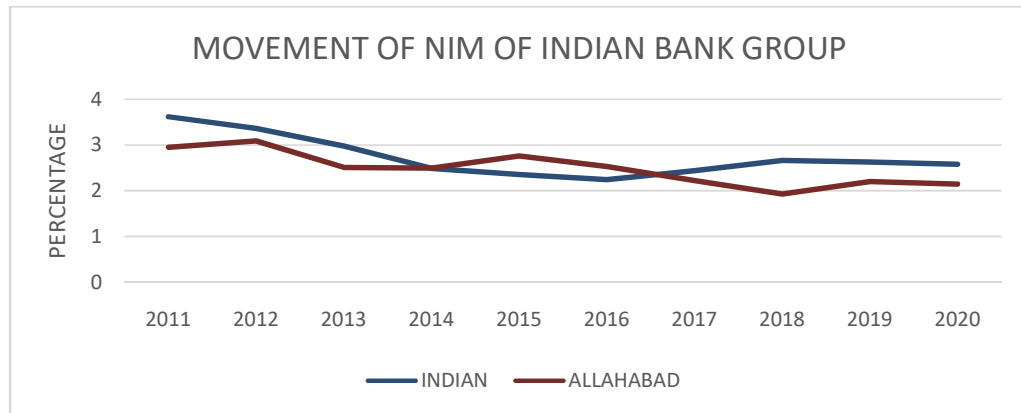
Table 5.4.4 and Figure 5.4.4 indicate Union Bank of India exhibited a continuous slide of NIM in all the years of study to only recover a little in 2019 n 2020 to 2.08

and 2.19 respectively. Corporation Bank also witnessed a regular decline in its NIM till 2017. The ratio improved in subsequent years to above two percent having peaked to 2.53 percent in 2019. Andhra Bank was better than the other banks in the group and had touched the benchmark in 2011 and 2012. The bank was able to maintain a high NIM ratio above 2.50 percent in most of the years to reach 2.83 percent in 2020. Whereas the ratio exhibited a declining trend for Union Bank of India since 2014 (with some improvement in 2019 and 2020), Corporation bank and Andhra bank NIM Ratio witnessed an upward trend .

Table 5.4.5: Net Interest Margin Ratio for the period 2011-2020

NIM Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	3.62	2.95
2012	3.36	3.09
2013	2.98	2.51
2014	2.49	2.50
2015	2.35	2.76
2016	2.24	2.53
2017	2.44	2.22
2018	2.66	1.93
2019	2.63	2.20
2020	2.58	2.15

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.4.5: Movement of NIM of Indian Bank Group

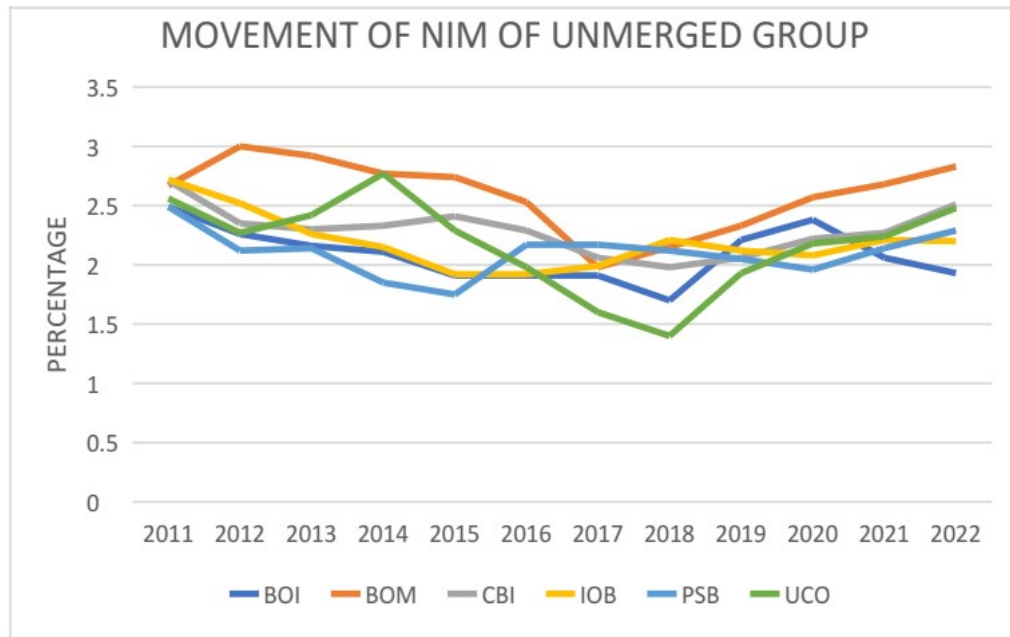
Table 5.4.5 and Figure 5.4.5 depict that Indian Bank was maintaining a robust figure of NIM in initial three years. It touched a high of 3.62 in 2011. Having witnessed a low of 2.24 in 2016 it recovered to a high of 2.66 percent in 2018. The ratio again declined to 2.58 percent in 2020. Allahabad Bank was also able to maintain NIM ratio above 2.50 percent upto 2016 having touched a high of 3.09 in 2012. The ratio touched a low of 1.93 percent in 2018 to recover in 2019 and 2020 to above 2.15 percent. Overall the ratio for both the banks has been healthy for most of the years being in a strong range above 2.5 percent.

BANKS NOT CONSIDERED FOR MERGER

Table 5.4.6: Net Interest Margin Ratio for the period 2011-2022

NIM Percentage (2011-2022)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	2.49	2.67	2.71	2.72	2.49	2.56
2012	2.26	3.00	2.35	2.52	2.12	2.27
2013	2.16	2.92	2.30	2.26	2.14	2.42
2014	2.11	2.77	2.33	2.15	1.85	2.77
2015	1.91	2.74	2.41	1.92	1.75	2.29
2016	1.91	2.53	2.29	1.92	2.17	1.98
2017	1.91	1.98	2.06	1.99	2.17	1.60
2018	1.70	2.15	1.98	2.21	2.12	1.40
2019	2.21	2.33	2.06	2.12	2.05	1.93
2020	2.38	2.57	2.22	2.08	1.96	2.18
2021	2.06	2.68	2.27	2.21	2.14	2.24
2022	1.93	2.83	2.51	2.20	2.29	2.48

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.4.6: Movement of NIM of Unmerged Group

It can be observed from Table 5.4.6 and Figure 5.4.6 that out of the un-Merged banks, Bank of India witnessed a regular decline of NIM from 2011 to 2018. After improving to 2.38 percent in 2020 it again reduced to 1.93 percent in 2022. Similarly for Bank of Maharashtra NIM declined continuously from 3.00 percent in 2012 to 1.98 percent in 2017. However in subsequent years from 2018 to 2022 it has witnessed continuous increase to 2.83 percent in 2022. Central Bank of India exhibited a declining trend till 2018 but the bank was able to improve its NIM to 2.51 percent in 2022. IOB too saw a decline in NIM upto 2016 to 1.92 but improved thereafter to touch 2.21 percent in 2021. Punjab and Sind Bank touched a low of 1.75 percent in 2015 from a high of 2.49 percent in 2011 and recovered to 2.29 percent in 2022. UCO Bank was the worst performer having touched a low of 1.40 percent in 2018 from a high of 2.77 percent in 2014. However the bank could achieve a NIM of 2.48 percent in 2022. It establishes clearly that NIM of unmerged banks was not near the benchmark of 3 percent in any of the years with the exception of Bank of Maharashtra. The NIM for all banks which was declining in 2014-17 has started recovering thereafter and is indicating an upward trend.

5.5 NON-INTEREST INCOME TO TOTAL ASSETS

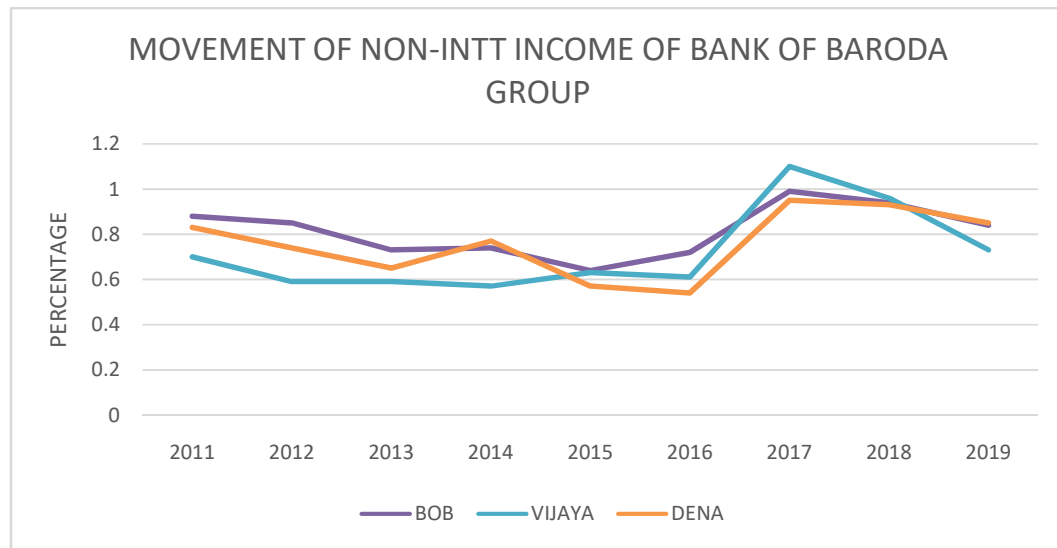
Non-interest income denotes the income of a bank from operations other than lending which signifies income other than on the advances granted by it. It is the income earned on money kept with Reserve Bank of India and other banking activities. It is primarily derived from fees including Cash deposit and transaction fees, annual charges , remittance charges, locker rent , ATM charges, commission charged on issuance of letters of credit, letters of comfort , letters of guarantees and drafts / pay orders. The income as above divided by total assets of a bank gives the said ratio. Normally it is understood by the bankers that Non-Interest income should cover a banks' operating expenditure like salaries/wages and rentals paid on buildings etc.

From a banks' perspective the Non-interest Income ratio indicates its ability to show its diversification of business and operational capability. It is observed that there is a negative relation between non-interest income and NPAs (Salas and Saurina 2002., Rajan and Dhal 2003).The non-interest income is earned from the non- core business of banks and helps to boost/ supplement the total income. From a banks' perspective the Non-interest Income ratio indicates its ability to show its diversification of business and operational capability. In a downward interest rate scenario the banks try to offset the same by slight increase in transaction costs which generate non-interest income like loan processing charges, credit card and debit card fees, non-maintenance of minimum balances penalties, cheque book and others like locker charges. If the interest income of a bank slides down due to increase in its NPAs the bank gets insulated to some extent by the non-interest income. Increase in the Non-interest income of a bank points to the bank's diversification of products. Comparison of Non-Interest Income of different Bank groups is discussed below:

Table 5.5.1: Non –Interest Income Ratio for the period 2011-2019

NII Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	0.88	0.70	0.83
2012	0.85	0.59	0.74
2013	0.73	0.59	0.65
2014	0.74	0.57	0.77
2015	0.64	0.63	0.57
2016	0.72	0.61	0.54
2017	0.99	1.10	0.95
2018	0.94	0.96	0.93
2019	0.84	0.73	0.85

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

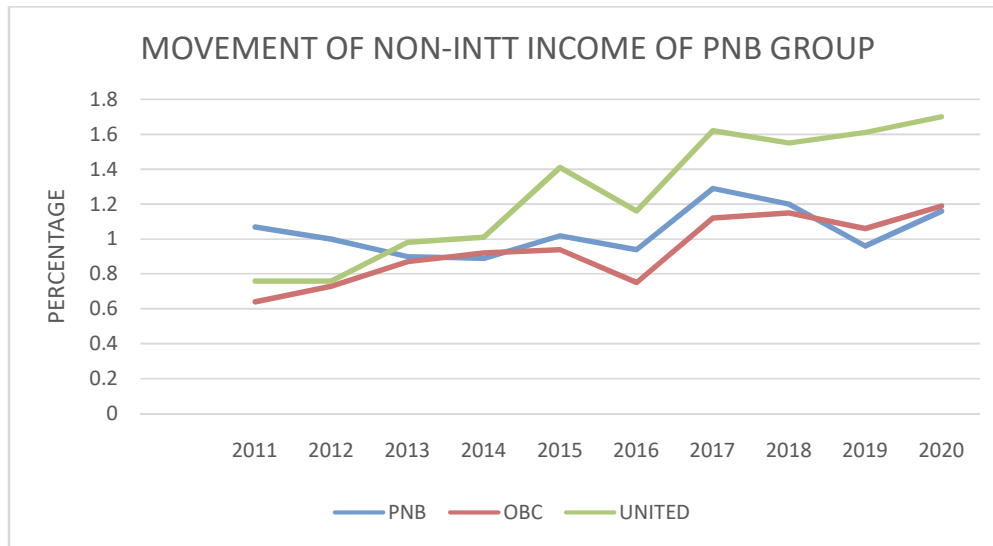
Figure 5.5.1: Movement of Non-Intt Income of Bank of Baroda Group

Table 5.5.1 and Figure 5.5.1 indicate Non-interest income Ratio for Bank of Baroda was above 85 percent in 2011 and 2012 but the ratio continued to decline upto 2016. There was substantial improvement in subsequent years and ratio touched the ideal level of 0.99 percent in 2017. For Vijaya Bank the ratio continued to slide to 0.61 percent upto 2016. It recovered to an ideal ratio above 1 percent in 2017 but declined to 0.73 percent in 2019. Dena Bank non-interest income also exhibited a declining trend from 2011 to 2016 but touched a high level of 0.95 percent in 2017 to maintain it around the same level till merger year. It can be stated that non-interest income for all the three banks improved in later years of the study even though the ratio had declined during the year 2014-16.

Table 5.5.2: Non-Interest Income Ratio for the period 2011-2020

NII Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	1.07	0.64	0.76
2012	1.00	0.73	0.76
2013	0.90	0.87	0.98
2014	0.89	0.92	1.01
2015	1.02	0.94	1.41
2016	0.94	0.75	1.16
2017	1.29	1.12	1.62
2018	1.20	1.15	1.55
2019	0.96	1.06	1.61
2020	1.16	1.19	1.70

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

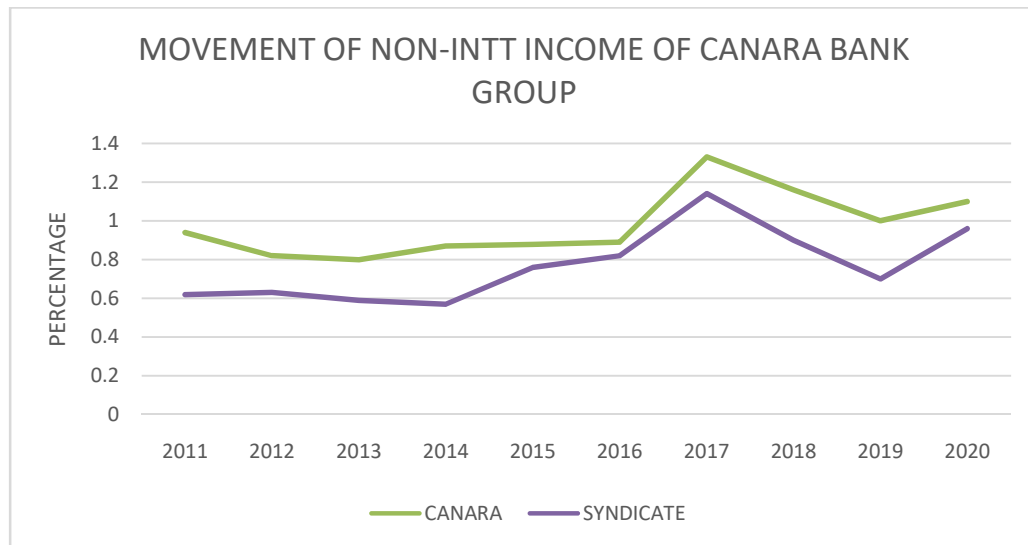
Figure 5.5.2: Movement of Non-Intelligence Income of PNB Group

From Table 5.5.2 and Figure 5.5.2 it can be observed that Non- interest income for this group is above the benchmark of 1 percent towards the later years of study. United Bank of India has displayed better performance under this head of income and the same has improved from year to year. PNB and OBC had lower ratio in the initial years from 2011-2014. However the performance for both banks has improved in the years before merger. It is significant to observe that all the three banks in the group had a good performance exhibiting a non-interest income above 1 percent from 2017 to 2020.

Table 5.5.3: Non-Interest Income Ratio for the period 2011-2020

NII Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	0.94	0.62
2012	0.82	0.63
2013	0.80	0.59
2014	0.87	0.57
2015	0.88	0.76
2016	0.89	0.82
2017	1.33	1.14
2018	1.16	0.90
2019	1.00	0.70
2020	1.10	0.96

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

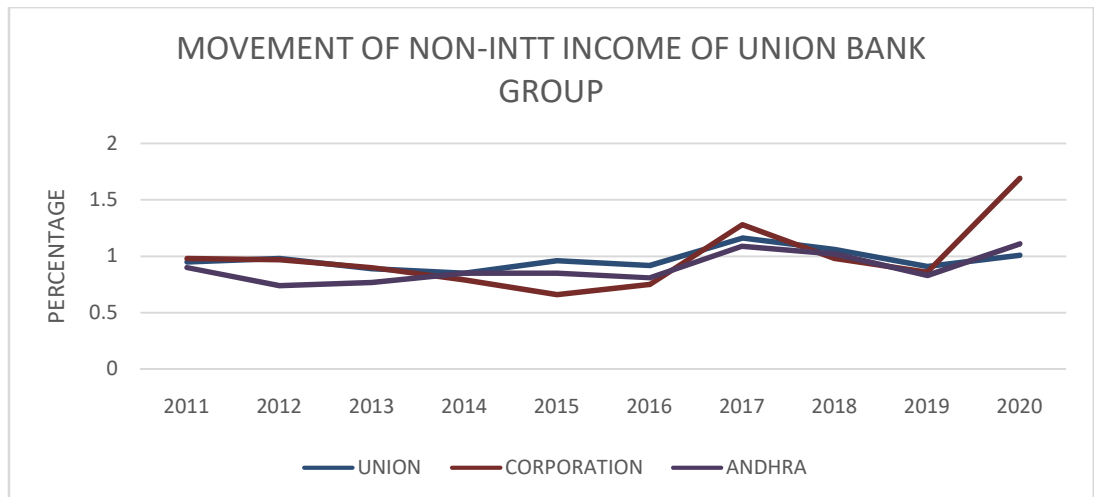
Figure 5.5.3: Movement of Non-Intt Income of Canara Bank

Table 5.5.3 and Figure 5.5.3 depict that Canara Bank has consistently better non-interest income over the years than Syndicate Bank. The ratio has been above one percent since 2017 and has improved for both the banks in the merger year.

Table 5.5.4 : Non-Interest Income Ratio for the period 2011-2020

NII Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	0.95	0.98	0.90
2012	0.98	0.97	0.74
2013	0.89	0.90	0.77
2014	0.85	0.79	0.85
2015	0.96	0.66	0.85
2016	0.92	0.75	0.81
2017	1.16	1.28	1.09
2018	1.06	0.98	1.02
2019	0.91	0.86	0.83
2020	1.01	1.69	1.11

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

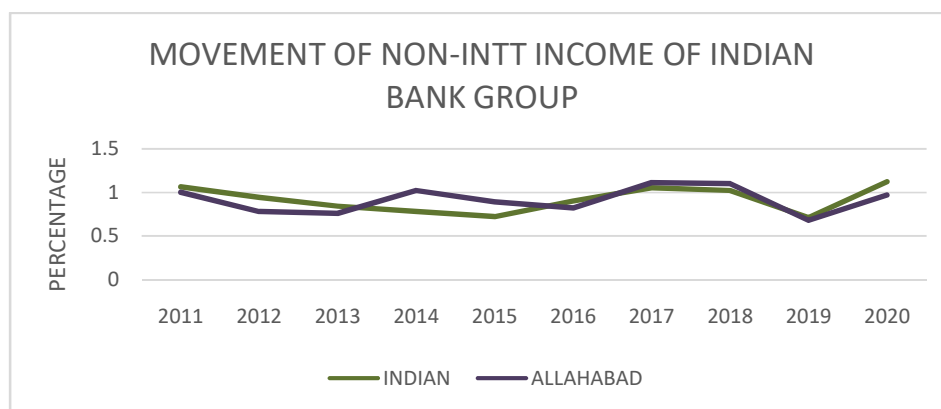
Figure 5.5.4 : Movement of Non-Intt Income of Union Bank Group

It can be observed from Table 5.5.4 and Figure 5.5.4 that non- interest income of Union Bank has been near the 1 percent mark throughout. Corporation Bank too maintained high ratio till 2013 after which it touched a low of 0.66 percent in 2015 but recovered substantially in 2017 and 2020 to touch levels of 1.28 percent and 1.69 percent respectively. Corporation Bank is performance is better than Andhra Bank. The ratio for all the three banks has improved much in the year of merger and almost doubled for Corporation Bank.

Table 5.5.5: Non-Interest Income for the period 2011-2020

NII Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	1.06	1.00
2012	0.94	0.78
2013	0.84	0.76
2014	0.78	1.02
2015	0.72	0.89
2016	0.90	0.82
2017	1.05	1.11
2018	1.02	1.10
2019	0.71	0.68
2020	1.12	0.97

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.5.5 :Movement of Non-Inttt Income of Indian Bank Group

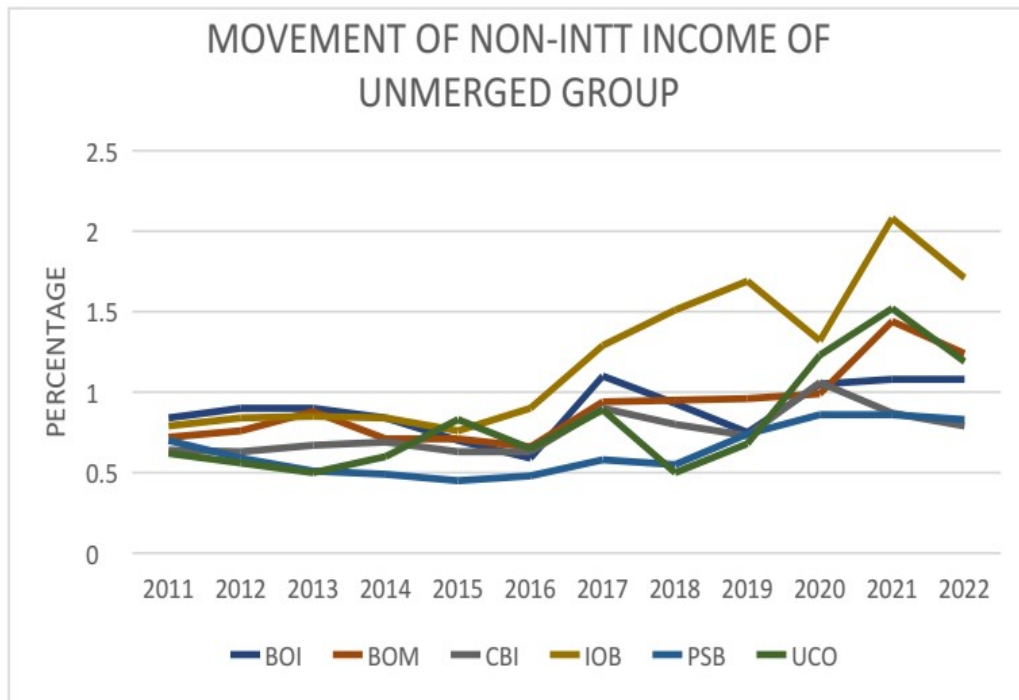
Table 5.5.5 and Figure 5.5.5 as above exhibit that Indian Bank and Allahabad Bank have been maintaining good ratios for all the years except for the year before merger when the ratio slipped to 0.71 and 0.68 percent for the year 2019 respectively.

BANKS NOT CONSIDERED FOR MERGER

Table 5.5.6: Non-Interest Income Ratio for the period 2011-2022

NII Percentage (2011-2022)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	0.84	0.72	0.64	0.79	0.70	0.62
2012	0.90	0.76	0.63	0.84	0.59	0.56
2013	0.90	0.88	0.67	0.85	0.51	0.50
2014	0.84	0.71	0.69	0.84	0.49	0.60
2015	0.70	0.71	0.63	0.76	0.45	0.83
2016	0.59	0.66	0.63	0.90	0.48	0.65
2017	1.10	0.94	0.90	1.29	0.58	0.89
2018	0.93	0.95	0.80	1.51	0.55	0.50
2019	0.75	0.96	0.73	1.69	0.74	0.68
2020	1.05	0.99	1.06	1.32	0.86	1.23
2021	1.08	1.44	0.87	2.08	0.86	1.52
2022	1.08	1.24	0.79	1.71	0.83	1.19

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.5.6 :Movement of Non-Intt Income of Unmerged Banks

It can be observed from Table 5.5.6 and Figure 5.5.6 that Bank of India, Bank of Maharashtra and Indian Overseas Bank have been consistently maintaining better Non-Interest Income ratios than other banks. There is much improvement in ratio of UCO Bank in the last 2-3 years and it touched the highest level of 1.52 percent in 2021. Punjab and Sind Bank touched a low level of 0.45 percent in 2015 but recovered thereafter and Central Bank of India has one of the lowest Net Interest Income.

5.6 RETURN ON ASSETS (ROA)

This ratio is defined as : $\text{Net Profit} / \text{Average Assets}$

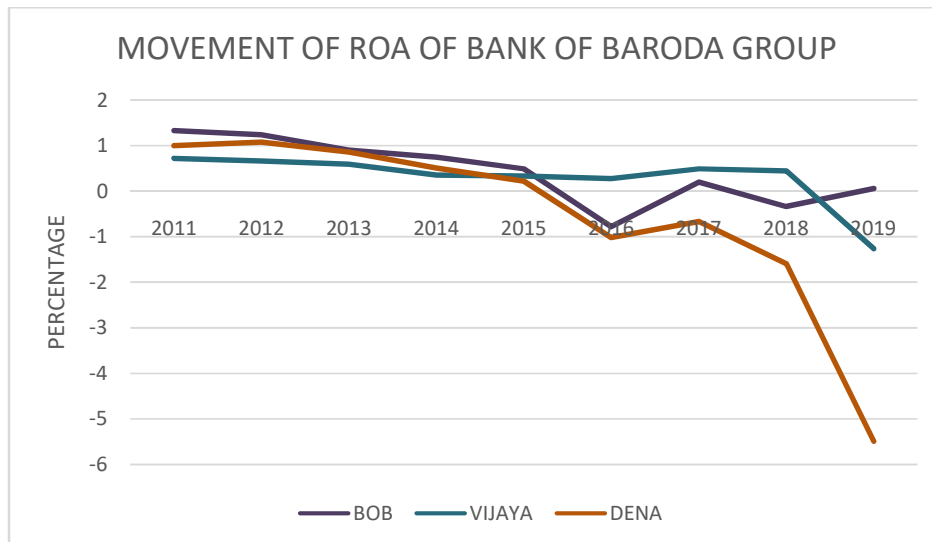
It shows the earnings by deploying the average assets. It is indicative of bank management's ability to manage the assets of the bank judiciously and profitably. All assets of the bank other than fixed and cash earn interest. An ROA of above one percent means that the bank is generating reasonably good return from the deployment of its assets. However as NPAs rise there is cessation of income from

interest on such assets and ROA will decline for a bank. Therefore it is assumed that there will be a negative relation between NPAs and ROA.

Table 5.6.1: Return on Assets Ratio for the period 2011-2019

ROA Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	1.33	0.72	1.00
2012	1.24	0.66	1.08
2013	0.90	0.59	0.86
2014	0.75	0.35	0.51
2015	0.49	0.33	0.22
2016	-0.78	0.28	-1.02
2017	0.20	0.49	-0.67
2018	-0.34	0.44	-1.59
2019	0.06	-1.26	-5.49

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

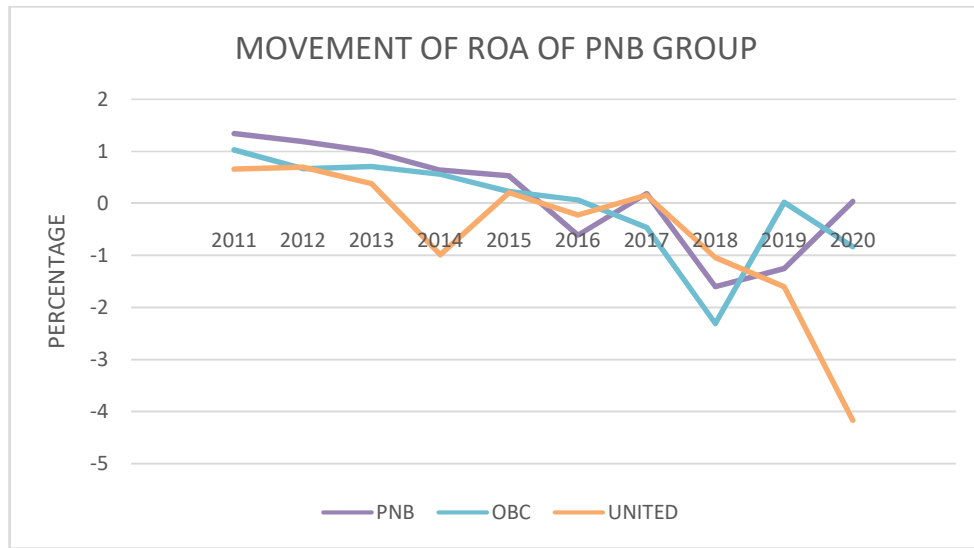
Figure 5.6.1: Movement of ROA of Bank of Baroda Group

It can be observed from Table 5.6.1 and Figure 5.6.1 that Bank of Baroda had high ROA in 2011 and 2012 but it had a declining trend in subsequent years to touch a low of -0.78 percent in 2016. ROA of Bank of Baroda recovered to a positive terrain in 2019. Dena Bank too had high ROA in initial two years but continued to reduce consistently in subsequent years with a high negative level of -5.49 percent in 2019. ROA started declining for all banks from 2013 and became negative for Bank of Baroda and Dena Bank from 2016 onwards. The ROA of Vijaya Bank remained positive upto 2018 but turned negative in 2019.

Table 5.6.2: Return on Assets Ratio for the period 2011-2020

ROA Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	1.34	1.03	0.66
2012	1.19	0.67	0.70
2013	1.00	0.71	0.38
2014	0.64	0.56	-0.99
2015	0.53	0.23	0.21
2016	-0.61	0.07	-0.22
2017	0.19	-0.46	0.16
2018	-1.60	-2.31	-1.04
2019	-1.25	0.02	-1.60
2020	0.04	-0.83	-4.17

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

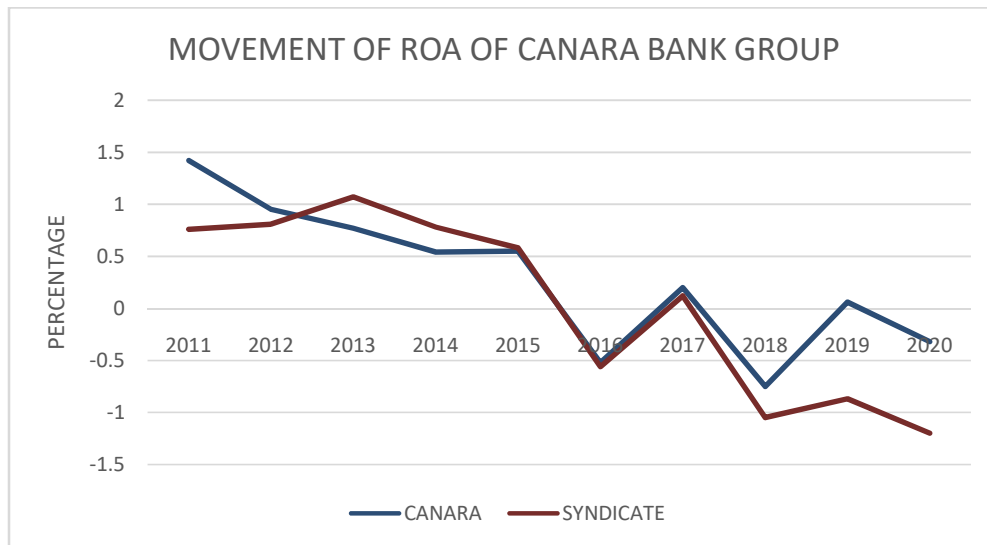
Figure 5.6.2 :Movement of ROA of PNB Group

Table 5.6.2 and Figure 5.6.2 depict that ROA of PNB was above the benchmark of 1 percent till 2013 but moved quite low in subsequent years. It touched a low of -1.60 percent in 2018 but again moved in positive territory of 0.04 percent in 2020. OBC was better in the initial years of study but gradually slipped below 1 percent and subsequently moved in negative terrain from 2016 onwards. In 2018 it also touched the lowest of -2.31 percent. United Bank of India performance has been weak from 2011 onwards. It was below the benchmark of 1 percent during the 10 year period and was near negative from 2014 onwards to touch lowest figure of -4.17 percent in 2020.

Table 5.6.3: Return on Assets Ratio for the period 2011-2020

ROA Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	1.42	0.76
2012	0.95	0.81
2013	0.77	1.07
2014	0.54	0.78
2015	0.55	0.58
2016	-0.52	-0.56
2017	0.20	0.12
2018	-0.75	-1.05
2019	0.06	-0.87
2020	-0.32	-1.20

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.6.3: Movement of ROA of Canara Bank Group

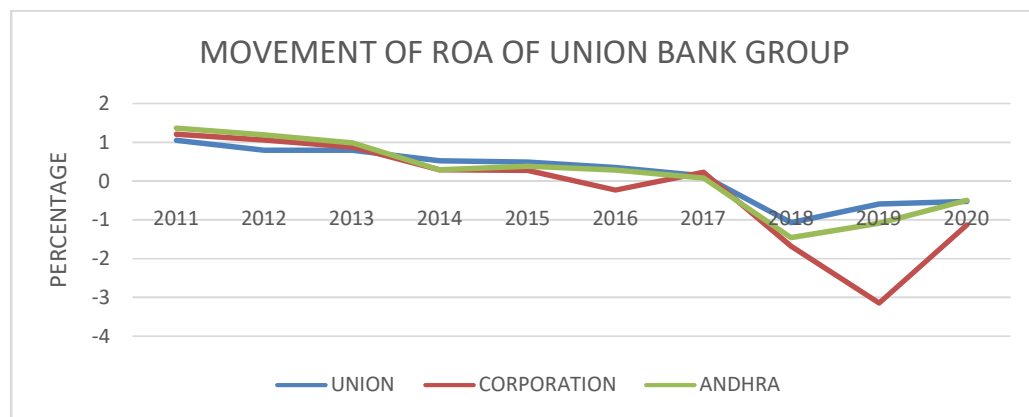
Table 5.6.3 and Figure 5.6.3 depict that trend of ROA for both banks is in the negative. The ratios have been declining regularly. For Canara Bank it has declined

from 1.42 in 2011 to -0.75 in 2018. For Syndicate Bank ROA remained above 0.75 upto 2014 but declined to a negative of -1.20 percent in 2020.

Table 5. 6. 4: Return on Assets Ratio for the period 2011-2020

ROA Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	1.05	1.21	1.36
2012	0.79	1.06	1.19
2013	0.79	0.88	0.99
2014	0.52	0.29	0.29
2015	0.49	0.28	0.38
2016	0.35	-0.23	0.28
2017	0.13	0.23	0.08
2018	-1.07	-1.67	-1.46
2019	-0.59	-3.14	-1.09
2020	-0.53	-1.13	-0.50

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.6.4 :Movement of ROA of Union Bank Group

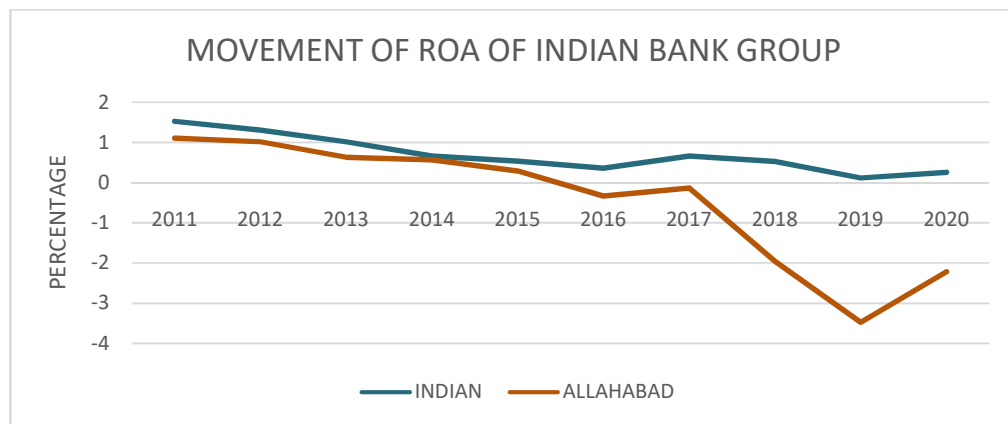
It can be observed from Table 5.6.4 and Figure 5.6.4 that ROA of all the three banks in the group have been maintaining a healthy ROA upto 2013 but the decline started

from 2014 onwards. Union Bank and Andhra Bank could maintain it in positive domain till 2017. For the two banks it touched a high negative of -1.07 and -1.46 percent respectively in the year 2018 and continued to be negative till 2020. For Corporation Bank ROA witnessed a negative trend and it touched a high negative of -3.14 percent in 2019 and -1.13 in 2020. Union Bank can be considered to be better in ROA than other banks in the group.

Table 5.6.5: Return on Assets Ratio for the period 2011-2020

ROA Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	1.53	1.11
2012	1.31	1.02
2013	1.02	0.64
2014	0.67	0.57
2015	0.54	0.29
2016	0.36	-0.33
2017	0.67	-0.13
2018	0.53	-1.96
2019	0.12	-3.48
2020	0.26	-2.22

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.6.5: Movement of ROA of Indian Bank Group

Table 5.6.5 and Figure 5.6.5 depict that Indian Bank has been maintaining ROA above the benchmark of one percent from 2011 to 2013 and Allahabad Bank has also good ROA in the years 2011 and 2012. Indian Bank ROA has been in the positive territory during the ten year period whereas the ratio has become highly

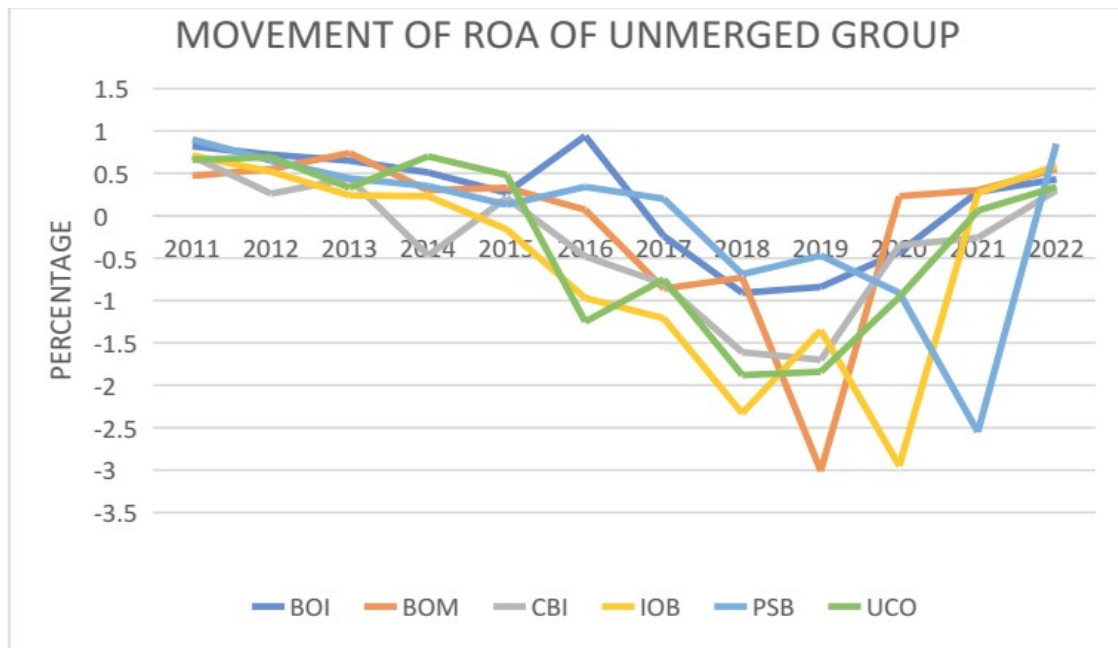
negative for Allahabad Bank in the three years before merger. Indian Bank can be observed to be a stronger bank in ROA.

BANKS NOT CONSIDERED FOR MERGER

Table 5.6.6: Return on Assets Ratio for the period 2011-2022

Return on Assets Percentage (2011-2022)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	0.82	0.47	0.70	0.71	0.90	0.66
2012	0.72	0.55	0.26	0.52	0.65	0.69
2013	0.65	0.74	0.44	0.24	0.44	0.33
2014	0.51	0.30	-0.47	0.23	0.35	0.70
2015	0.27	0.33	0.21	-0.16	0.13	0.48
2016	0.94	0.07	-0.48	-0.97	0.34	-1.25
2017	-0.24	-0.86	-0.80	-1.21	0.20	-0.75
2018	-0.91	-0.73	-1.61	-2.33	-0.69	-1.88
2019	-0.84	-3.01	-1.70	-1.35	-0.47	-1.84
2020	-0.43	0.23	-0.35	-2.95	-0.91	-0.96
2021	0.28	0.30	-0.26	0.27	-2.55	0.06
2022	0.43	0.55	0.30	0.59	0.85	0.34

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.6.6: Movement of ROA of Unmerged Group

From Table 5.6.6 and Figure 5.6.6 it is significant to note that none of the six banks achieved the benchmark ratio of 1 percent in the twelve year period signifying their weak financial position. In Un-merged Banks' group, Bank of India, Bank of Maharashtra and Punjab n Sind Bank have been able to maintain a positive ROA upto 2016 but moved lower and in negative territory thereafter. The ratio is observed to have improved a little for BOI, BOM and IOB. Bank of India has better ROA than other banks. Overall all the banks in the group have been witnessing a declining trend over the years. All the banks achieved positive ROA in 2022.

5.7 RETURN ON EQUITY (ROE)

The ratio is defined as : $\text{Net Profit} / \text{Net worth (Capital+ Reserves + Revaluation Reserves)}$.

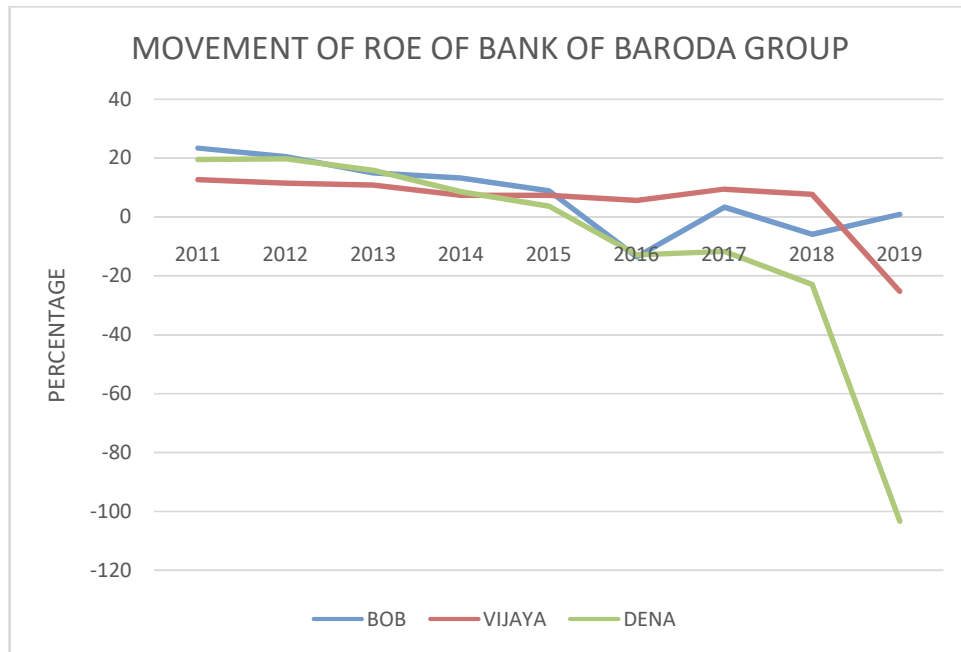
It shows the earnings ratio from the Net Worth. Return on Equity is essentially Profit after Tax divided by Shareholders equity. From the investor's point of view Return on Equity on a Post-Tax basis is a better measure of profitability. While ROE (post tax) itself is not an indicator of investors return on investment (investors' return on

investment is calculated on dividend declared plus capital appreciation of equity which might also include bonus shares if any) it can be considered that a higher ROE leads to better return to the shareholders. Ideally the ratio should be above 15-20 percent indicating reasonable return to investors. Besides ROA and NIM , ROE is an important indicator of a bank’s profitability and its being negative rings distress bells for all the stakeholders.

Table 5.7.1: Return on Equity Ratio for the period 2011-2019

Return on Equity Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	23.47	12.63	19.55
2012	20.64	11.54	19.75
2013	15.07	10.83	15.83
2014	13.36	7.27	8.55
2015	8.96	7.29	3.64
2016	-13.48	5.54	-12.83
2017	3.44	9.51	-11.65
2018	-5.81	7.74	-22.78
2019	0.97	-25.16	-103.27

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

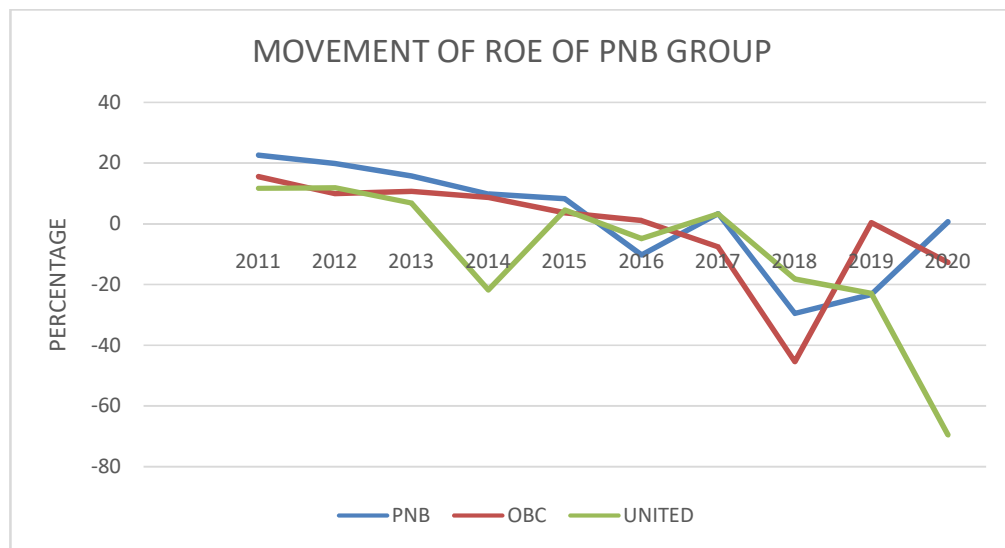
Figure 5.7.1: Movement of ROE of Bank of Baroda Group

Table 5.7.1 and Figure 5.7.1 explains that Vijaya Bank is having better ROE than Bank of Baroda and Dena Bank. It maintained positive ROE from 2011 to 2018 but turned negative in 2019. Bank of Baroda though maintaining positive ROE from 2011 to 2015 had a declining trend in subsequent years. The ratio started falling regularly for all the three banks after 2012. Dena Bank has displayed negative ROE from 2016 onwards to touch a very high negative level of **-103.27** percent.

Table 5.7.2: Return on Equity Ratio for the period 2011-2020

Return on Equity Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	22.60	15.55	11.74
2012	19.80	9.91	11.93
2013	15.70	10.74	6.84
2014	9.75	8.70	-21.73
2015	8.17	3.65	4.61
2016	-10.27	1.09	-4.83
2017	3.30	-7.53	3.33
2018	-29.54	-45.33	-18.19
2019	-23.24	0.36	-22.97
2020	0.63	-12.71	-69.49

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.7.2: Movement of ROE of PNB Group

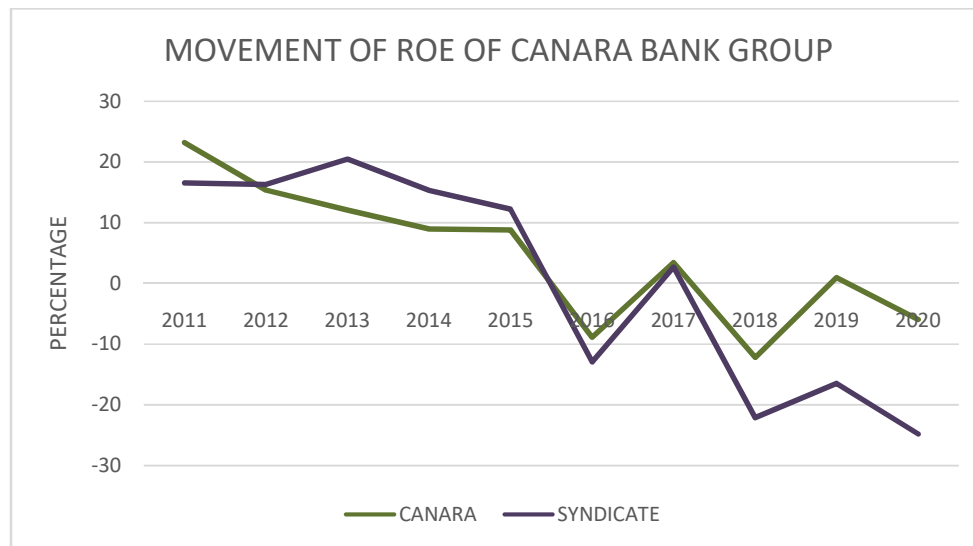
Table 5.7.2 and Figure 5.7.2 indicate ROE for PNB has been robust till 2013 but moved lower/ negative from 2014 onwards. During 2018 and 2019 it touched a high negative of -29.54 and -23.24 respectively. OBC too had positive ROE till 2016 but moved in negative terrain thereafter touching a low of -45.33 percent in 2018. United Bank of India was the worst hit with a negative ROE of -21.73 percent in 2014. After chartering negative terrain from 2016 onwards it touched a high negative of -69.49 percent in 2020. PNB is observed to have better ROE than other two banks in the group.

Table 5.7.3: Return on Equity Ratio for the period 2011-2020

Table 5.7.3 and Figure 5.7.3 below depict comparison of two banks and it can be determined that Syndicate Bank has better ROE than Canara Bank till 2015 but from 2016 to 2020 the bank had a highly negative ratio. Canara Bank's ROE though also in negative terrain from 2016 onwards can be considered to be better than of Syndicate Bank:

Return on Equity Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	23.20	16.53
2012	15.36	16.32
2013	12.08	20.47
2014	8.95	15.29
2015	8.79	12.23
2016	-8.86	-12.94
2017	3.44	2.71
2018	-12.19	-22.13
2019	0.97	-16.43
2020	-5.92	-24.79

(Source: RBI Data)



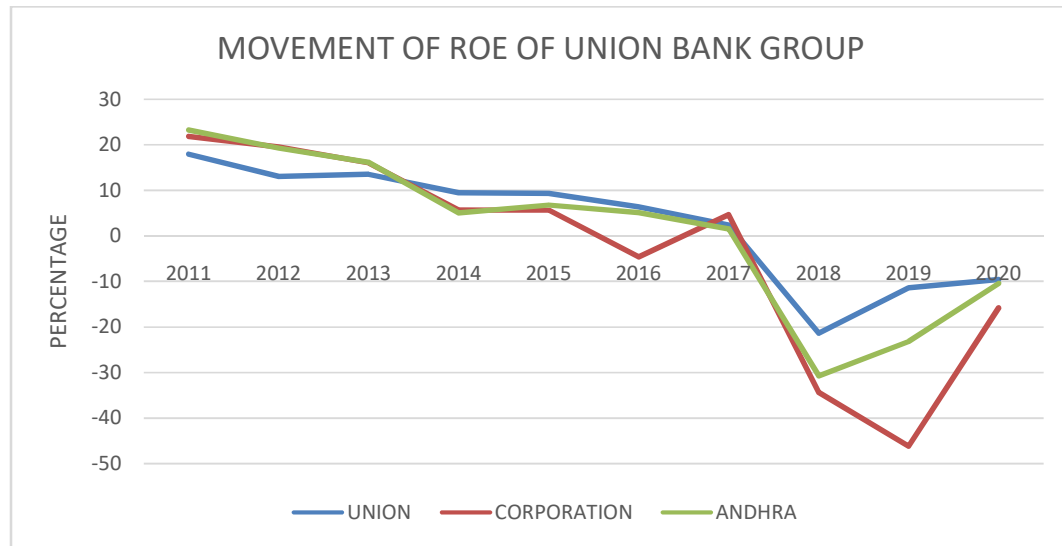
(Source: Author's Construct from RBI Data)

Figure 5.7.3: Movement of ROE of Canara Bank Group

Table 5.7.4: Return on Equity Ratio for the period 2011-2020

Return on Equity Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	17.96	21.89	23.24
2012	13.05	19.54	19.25
2013	13.52	16.08	16.19
2014	9.48	5.72	5.07
2015	9.32	5.68	6.79
2016	6.34	-4.64	5.13
2017	2.37	4.66	1.56
2018	-21.39	-34.42	-30.76
2019	-11.43	-46.21	-23.23
2020	-9.62	-15.78	-10.43

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

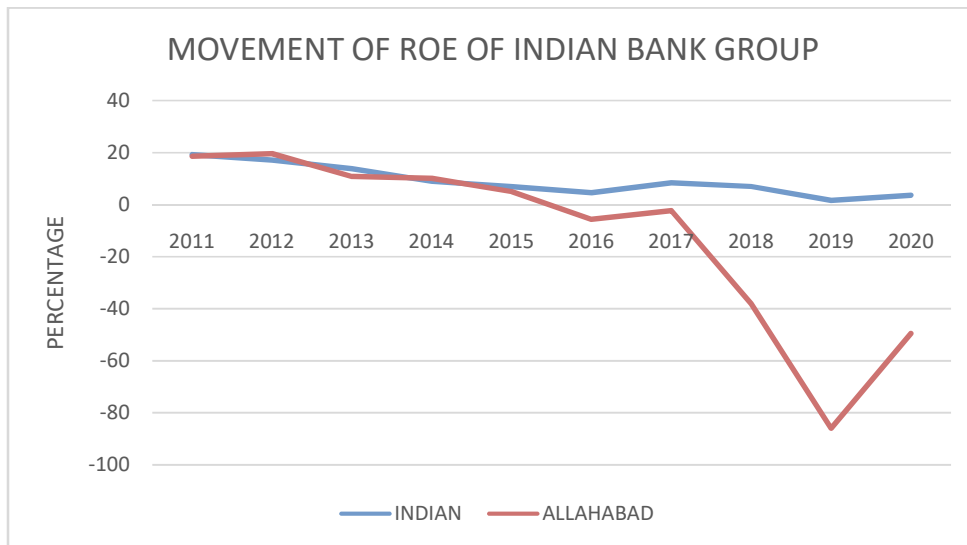
Figure 5.7.4: Movement of ROE of Union Bank Group

Table 5.7.4 and Figure 5.7.4 exhibit that Corporation Bank and Andhra Bank were maintaining higher ROE than Union Bank of India in the initial years of study. Andhra Bank had highest ROE ratio of 23.24 percent in 2011. The ratio for all banks came down after 2013. The ratio for Union Bank of India which was lower in the initial years was better than the two banks in the group upto 2020. It can be concluded that ROE of Union Bank of India is the strongest at the time of merger.

Table 5.7.5 : Return on Equity Ratio for the period 2011-2020

Return on Equity Percentage (2011-20)		
Year	Indian Bank	Allahabad Bank
2011	19.27	18.65
2012	17.19	19.64
2013	13.89	10.84
2014	8.97	10.12
2015	6.94	5.08
2016	4.54	-5.57
2017	8.41	-2.21
2018	7.07	-38.06
2019	1.70	-85.92
2020	3.63	-49.52

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.7.5: Movement of ROE of Indian Bank Group

Table 5.7.5 and Figure 5.7.5 explain the financial strength of Indian Bank as it has a positive ROE throughout the study period whereas all Public Sector Banks

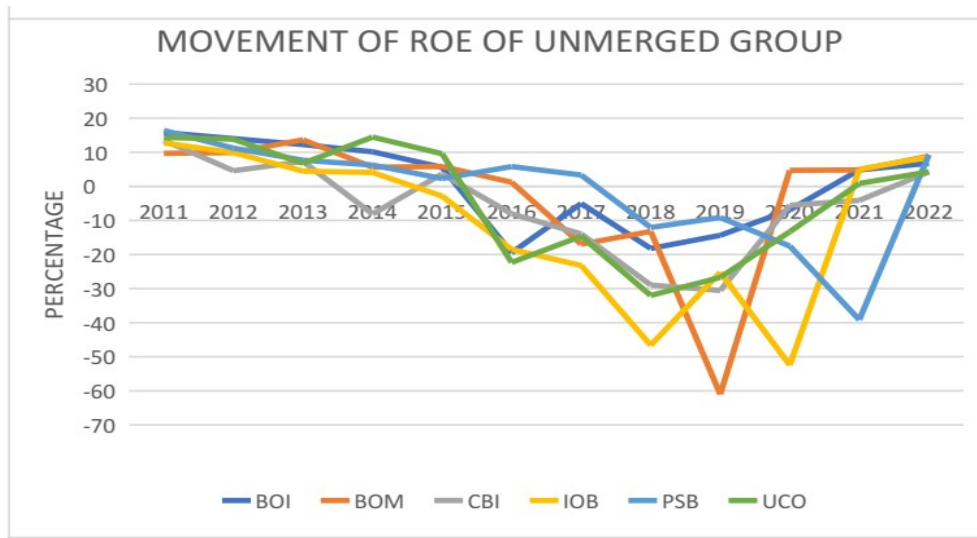
touched negative ROEs during the period from 2011 to 2020. Allahabad Bank has a negative ROE beginning 2016 and has remained so till the time of merger. It touched a high of -85.92 percent in the year 2019.

BANKS NOT CONSIDERED FOR MERGER

Table 5.7.6: Return on Equity Ratio for the period 2011-2022

Return on Equity Percentage (2011-2022)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	15.79	9.68	13.49	12.73	16.39	14.36
2012	14.00	9.91	4.57	9.88	11.21	13.83
2013	12.25	13.66	7.31	4.47	7.66	6.76
2014	10.14	5.61	-8.12	4.06	6.25	14.45
2015	5.57	5.84	3.65	-2.86	2.29	9.57
2016	-19.50	1.19	-8.07	-18.51	5.81	-22.33
2017	-5.04	-16.98	-13.96	-23.23	3.32	-14.64
2018	-18.23	-13.23	-28.96	-46.63	-12.07	-32.02
2019	-14.37	-61.01	-30.56	-25.23	-9.15	-26.72
2020	-6.92	4.71	-5.56	-52.45	-17.54	-13.32
2021	4.83	4.81	-4.12	5.02	-39.15	0.85
2022	6.75	8.85	4.25	8.56	9.29	4.27

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.7.6: Movement of ROE of Un-Merged Bank Group

From Table 5.7.6 and Figure 5.7.6 it can be observed that with the exception of Central Bank of India all five banks had positive ROEs upto 2014. It can also be derived that all unmerged banks exhibit highly negative ROE from 2016 to 2020. Though BOI, BOM, IOB and UCO Bank regained positive terrain in 2021, CBI and PSB continued to have negative ROE in 2021. However all un-merged banks have positive though low ROE in 2022 which is expected to improve further.

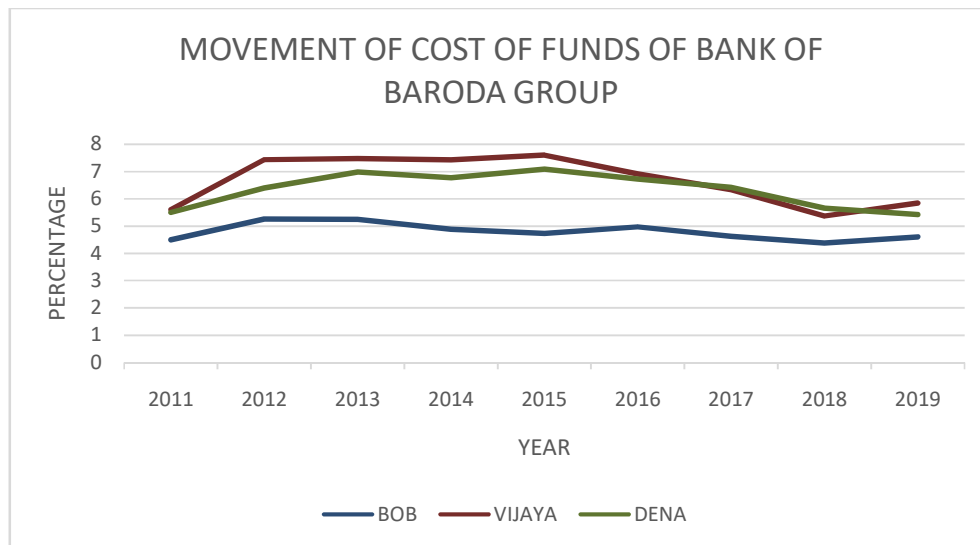
5.8 COST OF FUNDS

The ratio is calculated as : $\text{Total Interest Cost} / \text{Average total funds (Interest bearing deposits and borrowings plus non-interest bearing like capital, reserves and inter branch balances etc.)}$ The ratio reflects the cost of funding the total assets. Lower the ratio better is the profitability of the bank. There is no ideal ratio of Cost of Funds for banks as raising of funds depends upon their further deployment to earn the intermediation margin and thus improve profitability.

Table 5.8.1: Cost of Funds Ratio for the period 2011-2019

Cost of Funds Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	4.49	5.60	5.50
2012	5.26	7.43	6.39
2013	5.25	7.48	6.98
2014	4.88	7.42	6.77
2015	4.73	7.60	7.09
2016	4.97	6.92	6.72
2017	4.63	6.34	6.41
2018	4.37	5.37	5.65
2019	4.60	5.85	5.42

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.8.1: Movement of Cost of Funds of Bank of Baroda Group

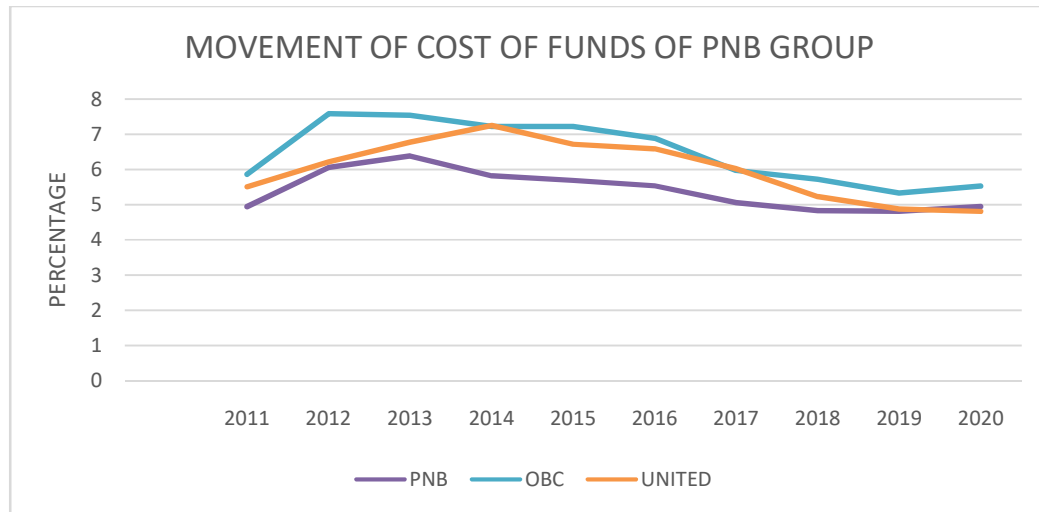
It can be observed from Table 5.8.1 and Figure 5.8.1 that Bank of Baroda has lower Cost of Funds (around 5 percent). Vijaya Bank has the highest cost of funds near 7 percent for most of the years and touching 7.60 percent in 2015. Dena Bank too has a

high cost of funds which is near or above 6.50 percent for six out of nine years of study.

Table 5.8.2: Cost of Funds Ratio for the period 2011-2020

Cost of Funds Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	4.95	5.86	5.51
2012	6.06	7.58	6.22
2013	6.38	7.54	6.78
2014	5.82	7.22	7.25
2015	5.69	7.22	6.72
2016	5.54	6.89	6.59
2017	5.06	5.97	6.03
2018	4.84	5.72	5.23
2019	4.82	5.33	4.88
2020	4.95	5.53	4.81

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

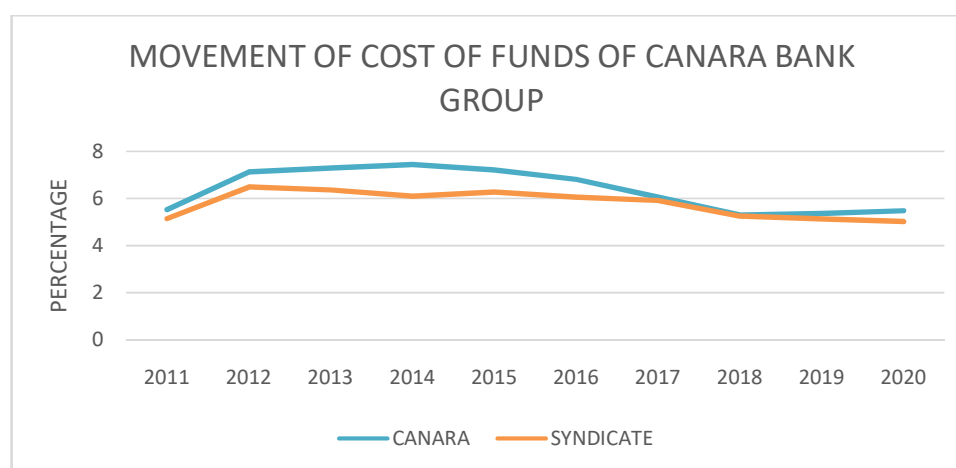
Figure 5.8.2: Movement of Cost of Funds of PNB Group

Table 5.8.2 and Figure 5.8.2 indicate strength of PNB as it has lowest cost of funds in the group since 2011. The cost remained in the range of 5 percent for most of the years. The Cost of Funds for OBC remained above 7 percent from 2012 to 2015 indicating operational inefficiencies. Similarly for United Bank of India cost of funds was high from 2012 to 2017 and touching a high of 7.25 percent in 2014.

Table 5.8.3 : Cost of Funds Ratio for the period 2011-20

Cost of Funds Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	5.53	5.15
2012	7.12	6.49
2013	7.29	6.36
2014	7.43	6.09
2015	7.20	6.27
2016	6.81	6.05
2017	6.05	5.92
2018	5.30	5.25
2019	5.37	5.13
2020	5.48	5.02

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.8.3 :Movement of Cost of Funds of Canara Bank Group

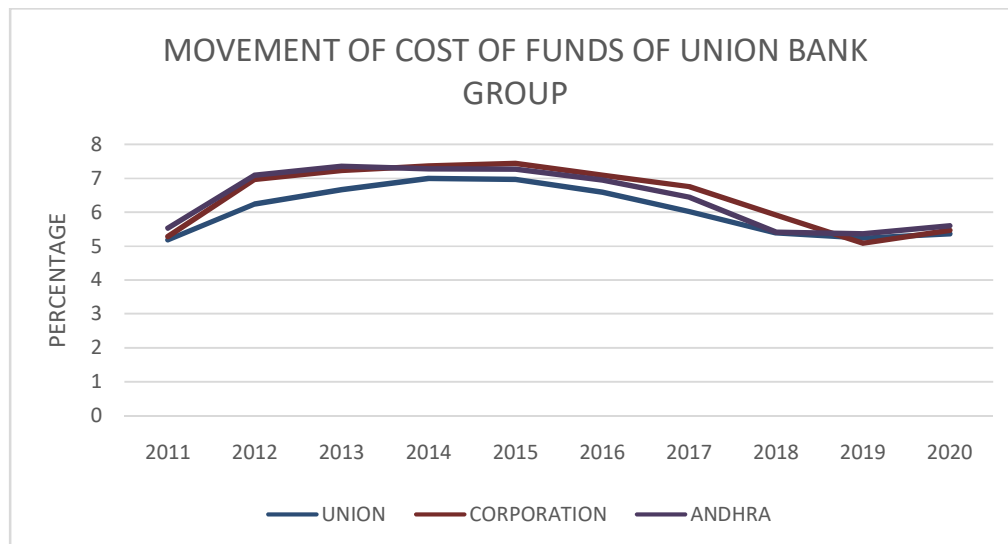
From Table 5.8.3 and Figure 5.8.3 it can be observed that Canara Bank has higher cost of funds. It remained much above 7 percent from 2012 to 2015 and above 6 percent from 2016-17 indicating weak operational performance. Syndicate Bank however could maintain a lower cost of funds which was less than 6 percent for most of the years and can be considered as efficient in its operations.

From Table 5.8.4 and Figure 5.8.4 as below it can be established that Union Bank of India has the lower cost of funds than Corporation Bank and Andhra Bank. The cost had increased very high during 2012 to 2017 but reduced in subsequent years. The performance of Andhra Bank and Corporation Bank can be considered similar in Cost of Funds and is very high for both the banks. This indicates failure to mobilise funds at a lower rate of interest by the respective banks.

Table 5. 8. 4: Cost of Funds Ratio for the period 2011-2020

Cost of Funds Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	5.18	5.28	5.53
2012	6.24	6.97	7.09
2013	6.66	7.23	7.35
2014	6.99	7.36	7.28
2015	6.96	7.44	7.27
2016	6.58	7.09	6.95
2017	6.01	6.75	6.44
2018	5.38	5.91	5.41
2019	5.23	5.08	5.36
2020	5.36	5.46	5.60

(Source: RBI Data)



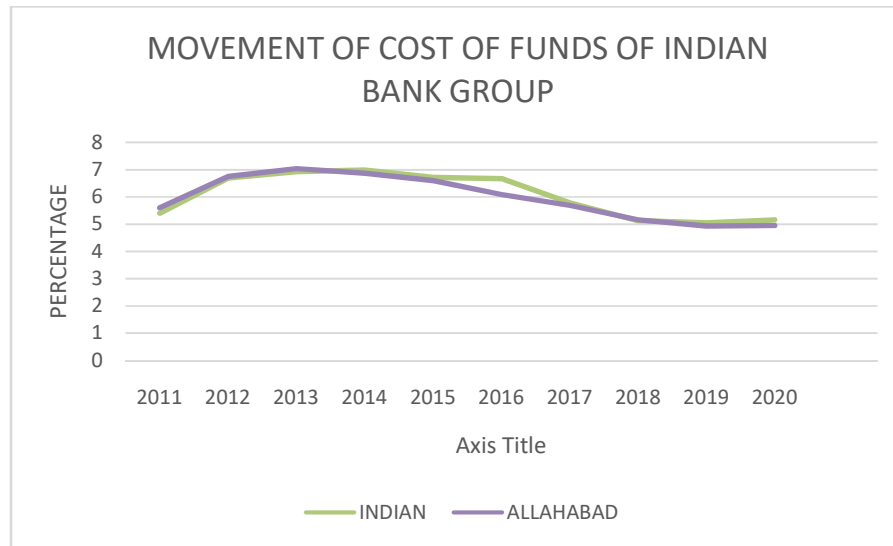
(Source: Author's Construct from RBI Data)

Figure 5.8.4 :Movement of Cost of Funds of Union Bank of Group

Table 5.8.5: Cost of Funds Ratio for the period 2011-2020

Cost of Funds Percentage (2011-2020)		
Year	Indian Bank	Allahabad Bank
2011	5.40	5.59
2012	6.69	6.74
2013	6.93	7.03
2014	6.98	6.86
2015	6.72	6.59
2016	6.67	6.08
2017	5.78	5.68
2018	5.13	5.15
2019	5.05	4.92
2020	5.16	4.94

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.8.5 :Movement of Cost of Funds of Indian Bank Group

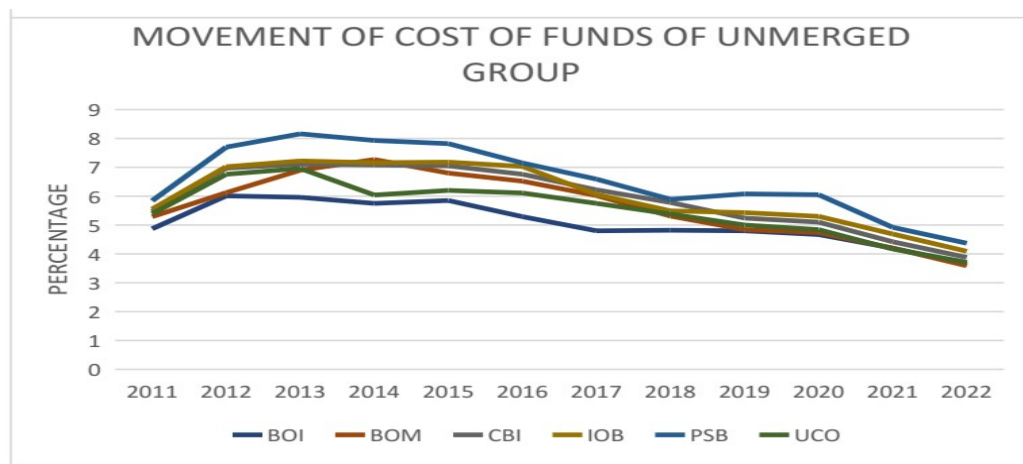
Table 5.8.5 and Fig 5.8.5 it can be observed that Cost of Funds for Indian Bank and Allahabad Bank though low in 2011 started looking up from 2012 onwards. For Allahabad Bank it moved to a high of 7.03 percent in 2013 and for Indian Bank it touched 6.98 percent in 2014. The ratio remained high till 2016 and moved lower in subsequent years. Allahabad Bank could bring its Cost of Funds below 5 percent in 2019 and 2020.

BANKS NOT CONSIDERED FOR MERGER

Table 5.8.6 Cost of Funds Percentage (2011-2022)

Cost of Funds Percentage (2011-2022)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	4.87	5.29	5.47	5.55	5.84	5.39
2012	6.01	6.12	6.97	7.02	7.70	6.76
2013	5.96	6.90	7.11	7.22	8.16	6.96
2014	5.75	7.27	7.08	7.16	7.93	6.04
2015	5.85	6.80	7.05	7.18	7.82	6.20
2016	5.29	6.52	6.76	7.03	7.15	6.11
2017	4.80	6.02	6.22	6.06	6.59	5.75
2018	4.82	5.31	5.78	5.49	5.89	5.38
2019	4.80	4.84	5.24	5.43	6.08	5.00
2020	4.67	4.74	5.10	5.30	6.05	4.84
2021	4.20	4.20	4.42	4.69	4.92	4.17
2022	3.65	3.59	3.88	4.09	4.37	3.71

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.8.6 Movement of Cost of Funds of Unmerged Bank Group

It can be observed from Table 5.8.6 and Figure 5.8.6 that Bank of India and Bank of Maharashtra have the lowest Cost of funds. Central Bank of India, Indian Overseas Bank and Punjab n Sind Bank touched a very high Cost of Funds ratio of more than 7 percent during 2012 to 2016 indicating weak operational capability. The ratio which remained below 6 percent for all banks in 2011 moved higher from 2012 and continued till 2017. The high cost of funds indicates desperateness of these banks to raise resources. Punjab and Sind Bank touched the highest Cost of 8.16 percent in 2013.

5.9 CRAR (Capital to Risk Weighted Assets Ratio)

The capital adequacy ratio is derived by adding tier 1 capital and tier 2 capital and dividing by risk-weighted assets. Tier 1 capital is the core capital of a bank, which includes equity capital and disclosed reserves. This Tier 1 capital absorbs losses without requiring the bank to cease its operations whereas Tier 2 capital is used to absorb losses in the event of liquidation. Under Basel III which is an international regulatory accord that sets out reforms meant to improve the regulation, supervision, and risk management in the banking sector , a bank's capital adequacy ratio should be at least 10.5 percent which includes a capital conservation buffer(CCB) of 2.5 percent besides the total capital requirement of 8 percent. RBI norms are however stringent than Basel norms. RBI has prescribed a CRAR of nine percent for Indian Banks. Accordingly minimum CRAR is 9 percent plus CCB of 2.5 Percent totaling 11.5 percent. The capital conservation buffer recommendation is designed to build up banks' capital, which can be used in times of stress. This ratio is very important to evaluate the strength of a bank as to its financial condition. It is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.

Capital Adequacy Ratio = Total Capital Base as a percentage of Risk weighted assets.

$$\text{CAR} = \frac{\text{Tier I capital} + \text{Tier II capital}}{\text{Risk Weighted Assets}} \times 100$$

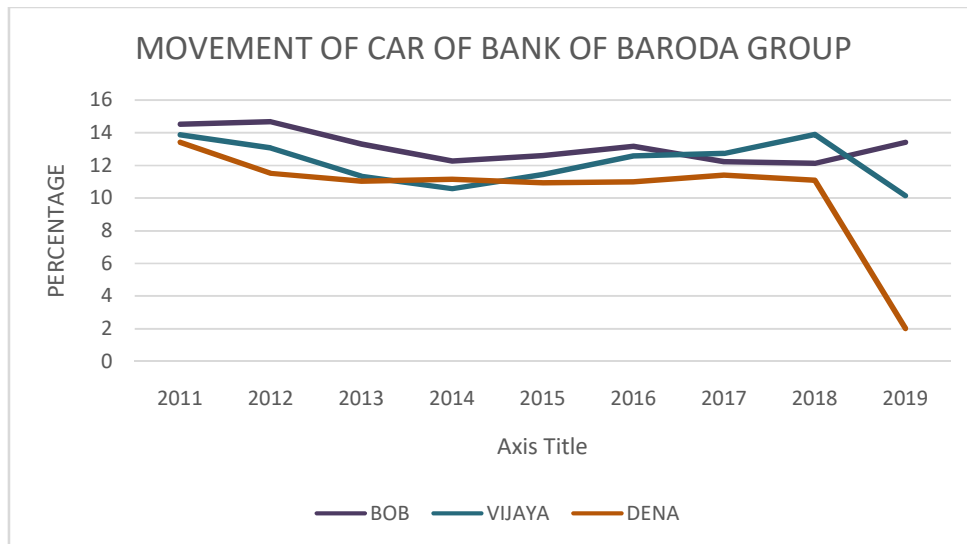
Capital is helpful to a bank to counter the bad effect of Non-Performing assets. This is a measure of a bank's ability to meet its obligations. A high CAR means the bank can absorb losses without diluting capital. RBI has been prescribing this ratio from time to

time as per recommendations of Basle Committee. When owned capital in a financial institution is high there is a likelihood of low risk taking by the management. Thus there will be lower level of NPA (Altunbas, Evans, & Molyneux, 2001).

Table 5.9.1: Capital Adequacy Ratio for the period 2011-2019

Capital Adequacy Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	14.52	13.88	13.41
2012	14.67	13.06	11.51
2013	13.30	11.32	11.03
2014	12.28	10.56	11.14
2015	12.61	11.43	10.93
2016	13.18	12.58	11.00
2017	12.24	12.73	11.39
2018	12.13	13.90	11.09
2019	13.42	10.14	2.00

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

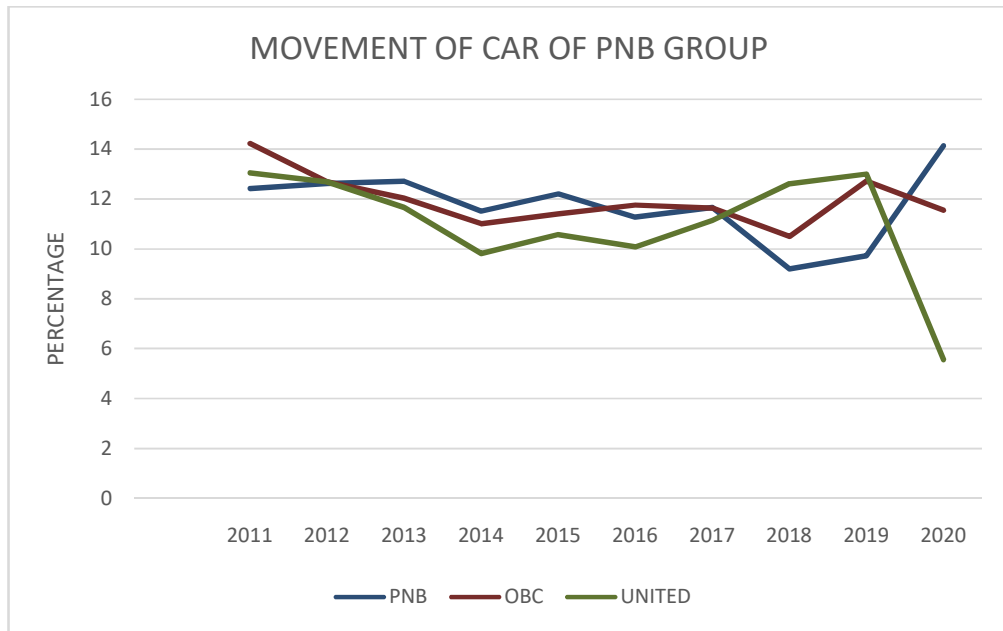
Figure 5.9.1: Movement of CAR of Bank of Baroda Group

Table 5.9.1 and Figure 5.9.1 exhibit better performance of Bank of Baroda for maintaining the important Capital Adequacy Ratio steady and remaining always above the prescribed ratio of 12 percent by the regulator. Vijaya Bank too was able to maintain a good CAR during 2011-2012 but slipped on it during 2013 to 2015 and again in the year of merger 2019. Dena Bank is the worst performer in the group having wiped off almost its entire capital in 2019. Barring the year 2011 CAR of this bank was always below the regulatory requirement.

Table 5.9.2: Capital Adequacy Ratio for the period 2011-2020

Capital Adequacy Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	12.42	14.23	13.05
2012	12.63	12.69	12.69
2013	12.72	12.04	11.66
2014	11.52	11.01	9.81
2015	12.21	11.41	10.57
2016	11.28	11.76	10.08
2017	11.66	11.64	11.14
2018	9.20	10.50	12.62
2019	9.73	12.73	13.00
2020	14.15	11.55	5.56

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

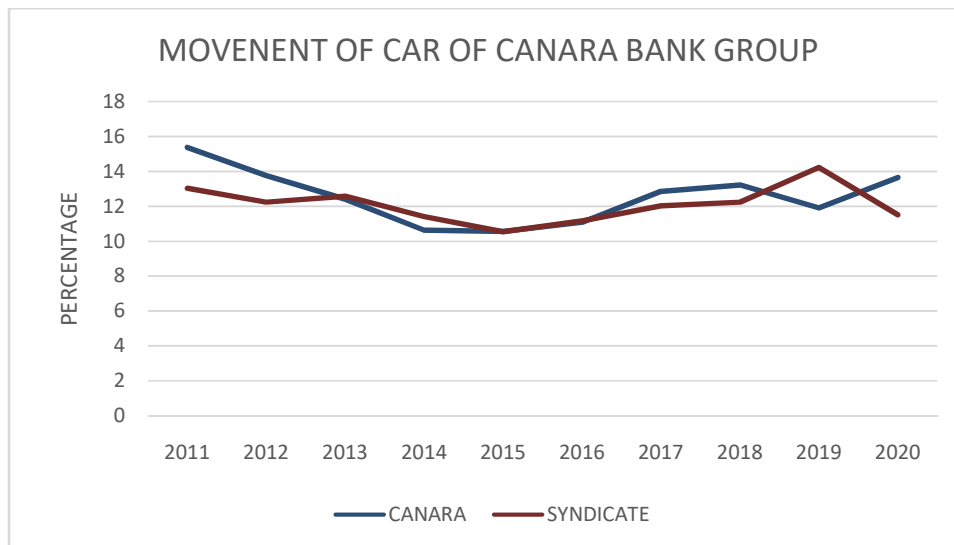
Figure 5.9.2: Movement of CAR of PNB Group

The Table 5.9.2 and Figure 5.9.2 explain the inability of all banks to maintain a robust CAR. Many of the years the ratio was below the regulatory rate of 11.5 percent. However it indicates better performance of Punjab National Bank almost at par with OBC. United Bank of India can be observed to be the worst performer in the group having wiped off more than half of its requisite capital.

Table 5.9.3: Capital Adequacy Ratio for the period 2011-2020

Capital adequacy Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	15.38	13.04
2012	13.76	12.24
2013	12.40	12.59
2014	10.63	11.41
2015	10.56	10.54
2016	11.08	11.16
2017	12.86	12.03
2018	13.22	12.24
2019	11.90	14.23
2020	13.65	11.51

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.9.3: Movement of CAR of Canara Bank Group

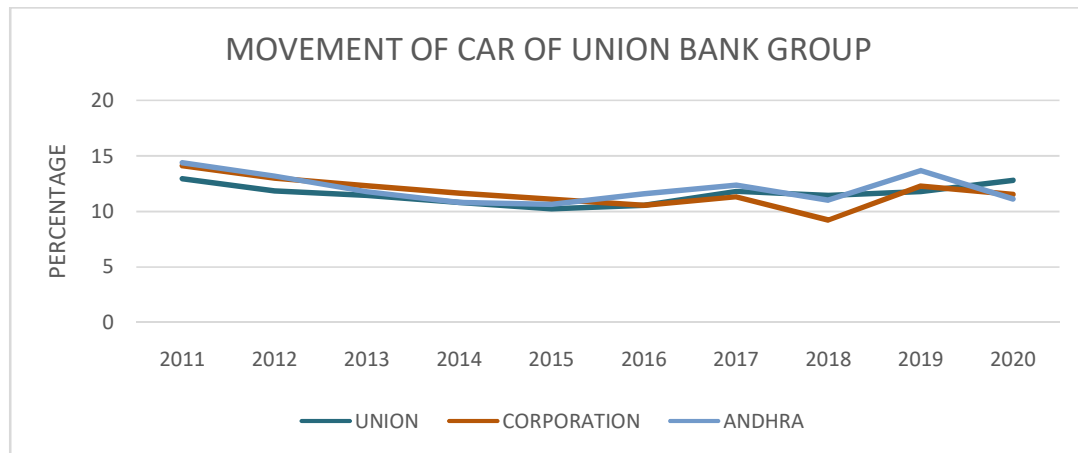
It can be observed from Table 5.9.3 and Figure 5.9.3 that Canara Bank has better CAR than Syndicate Bank for most of the years. Whereas Canara Bank improved its CAR

before merger, Syndicate Bank has witnessed a decline in its CAR towards the merger year.

Table 5.9.4: Capital Adequacy Ratio for the period 2011-2020

Capital Adequacy Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	12.95	14.11	14.38
2012	11.85	13.00	13.18
2013	11.45	12.33	11.76
2014	10.80	11.65	10.78
2015	10.22	11.09	10.63
2016	10.56	10.56	11.58
2017	11.79	11.32	12.38
2018	11.46	9.23	11.00
2019	11.78	12.30	13.68
2020	12.81	11.53	11.12

(Source: RBI Data)



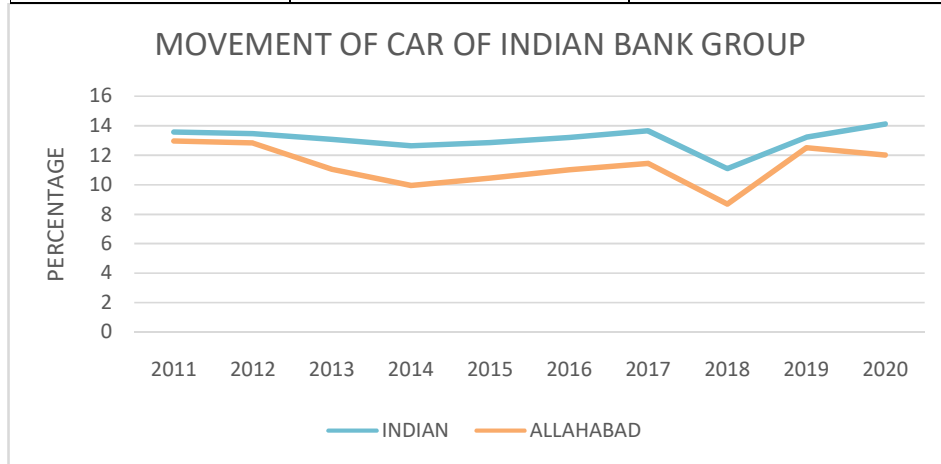
(Source: Author's Construct from RBI Data)

Figure 5.9.4 : Movement of CAR of Union Bank Group

Table 5.9.4 and Figure 5.9.4 indicate slippage in CAR of all banks from the year 2012 which continued upto 2015. It can also be observed that the performance of Andhra Bank is better than other two banks. Corporation Bank witnessed huge decline in CAR in 2018.

Table 5.9.5: Capital Adequacy Ratio for the period 2011-2020

Capital Adequacy Percentage (2011-20)		
Year	Indian Bank	Allahabad bank
2011	13.56	12.96
2012	13.47	12.83
2013	13.08	11.03
2014	12.64	9.96
2015	12.86	10.45
2016	13.20	11.02
2017	13.64	11.45
2018	12.55	8.69
2019	13.21	12.51
2020	14.12	12.01



(Source: Author's Construct from RBI Data)

Figure 5.9.5: Movement of CAR of Indian Bank Group

It can be observed from Table 5.9.5 and Figure 5.9.5 that Indian Bank has performed well in maintaining its Capital Adequacy Ratio which is always above the required

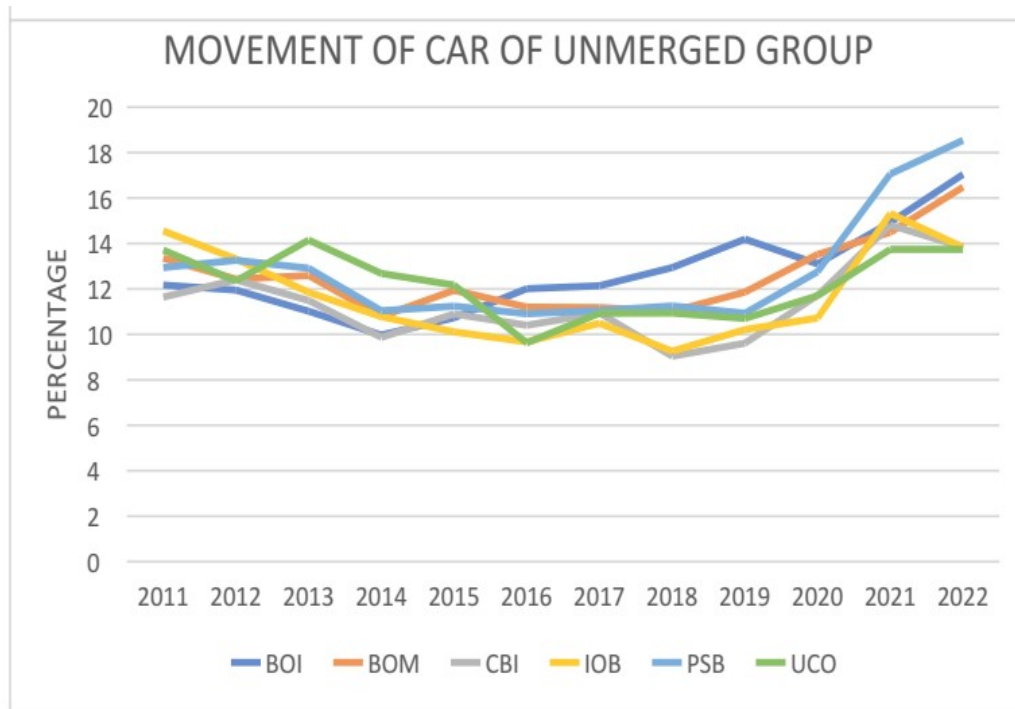
ratio of 11.5 percent. Allahabad Bank however has a weak CAR ratio in many of the years touching a low of 8.69 percent in 2018.

BANKS NOT CONSIDERED FOR MERGER

Table 5.9.6: Capital Adequacy Ratio for the period 2011-2021

Capital Adequacy Percentage (2011-2021)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	Indian Overseas Bank	Punjab and Sind Bank	UCO Bank
2011	12.17	13.35	11.64	14.55	12.94	13.71
2012	11.95	12.43	12.40	13.32	13.26	12.35
2013	11.02	12.59	11.49	11.85	12.91	14.15
2014	9.97	10.79	9.87	10.78	11.04	12.68
2015	10.73	11.94	10.90	10.11	11.24	12.17
2016	12.01	11.20	10.40	9.67	10.91	9.63
2017	12.14	11.18	10.94	10.49	11.05	10.93
2018	12.94	11.01	9.04	9.26	11.25	10.94
2019	14.19	11.86	9.61	10.21	10.93	10.70
2020	13.10	13.52	11.72	10.72	12.76	11.70
2021	14.93	14.49	14.81	15.32	17.06	13.74
2022	17.04	16.48	13.84	13.83	18.54	13.74

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.9.6: Movement of CAR of Un-Merged Bank Group

From Table 5.9.6 and Figure 5.9.6 it can be observed that Bank of India and Bank of Maharashtra have a very high Capital Adequacy Ratio than the other banks in the group. Central Bank of India and Indian Overseas Bank are having lower CAR in number of years after 2012. CAR for these banks has improved in the year 2021 which could be because of recapitalization by Government of India. Punjab and Sind Bank and UCO Bank have also improved CAR from 2019 onwards.

5.10 Cost to Income Ratio

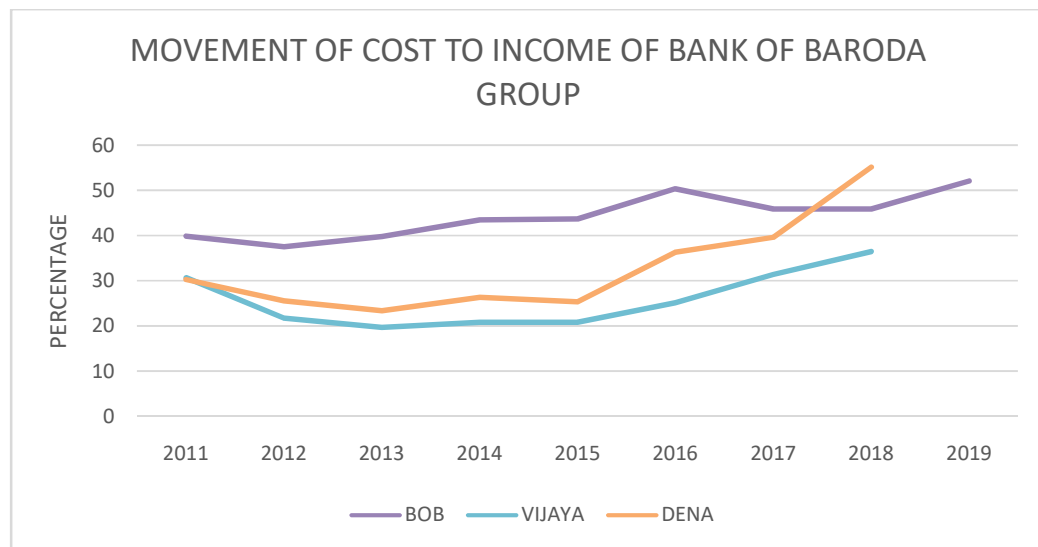
Cost to Income ratio is important for determining the profitability of a bank. The ratio is used to find how efficiently a bank is being managed. If the ratio is low bank is more profitable. If the ratio moves higher over a time spectrum it is construed that costs of running the bank are moving higher than its income and therefore highlight the potential difficulties for the bank to keep itself profitable. This ratio is calculated by dividing the operating expenses by the operating income generated which is net interest income plus the other income. The ratio is important for determining the

profitability of a bank. The ratio beyond 50 percent can be termed disastrous for a bank and therefore should draw serious concern from management. The Cost to Income for different group of banks is as under:

Table 5.10.1 : Cost to Income Ratio for the period 2011-2019

Cost to Income Percentage (2011-2019)			
Year	Bank of Baroda	Vijaya Bank	Dena Bank
2011	39.87	30.67	30.27
2012	37.55	21.72	25.48
2013	39.79	19.66	23.31
2014	43.44	20.82	26.34
2015	43.63	20.77	25.28
2016	50.30	25.10	36.33
2017	45.86	31.41	39.56
2018	45.87	36.47	55.09
2019	52.01	N.A	N.A

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

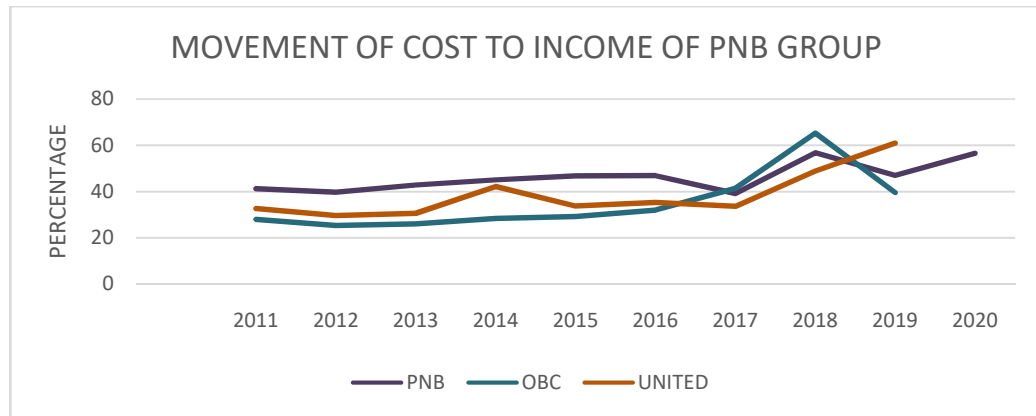
Figure 5.10.1: Movement of Cost to Income of Bank of Baroda Group

Table 5.10.1 and Figure 5.10.1 indicate that Bank of Baroda has the highest Cost to Income in the group and Vijaya Bank has the lowest Cost to Income ratio. It can also be observed that Vijaya Bank and Dena Bank have better Cost to Income Ratio than the Bank of Baroda. Vijaya Bank and Dena Bank have been able to control the costs in the initial years (2011-2015) which has increased later.

Table 5.10.2: Cost to Income Ratio for the period 2011-2020

Cost to Income Percentage (2011-2020)			
Year	Punjab National Bank	Oriental Bank of Commerce	United Bank of India
2011	41.27	27.85	32.70
2012	39.75	25.29	29.67
2013	42.81	25.97	30.64
2014	45.06	28.30	42.20
2015	46.74	29.10	33.71
2016	46.79	32.00	35.33
2017	39.17	41.38	33.53
2018	56.75	65.23	48.89
2019	47.03	39.50	60.99
2020	56.47	N.A	N.A

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.10.2: Movement of Cost to Income of PNB Group

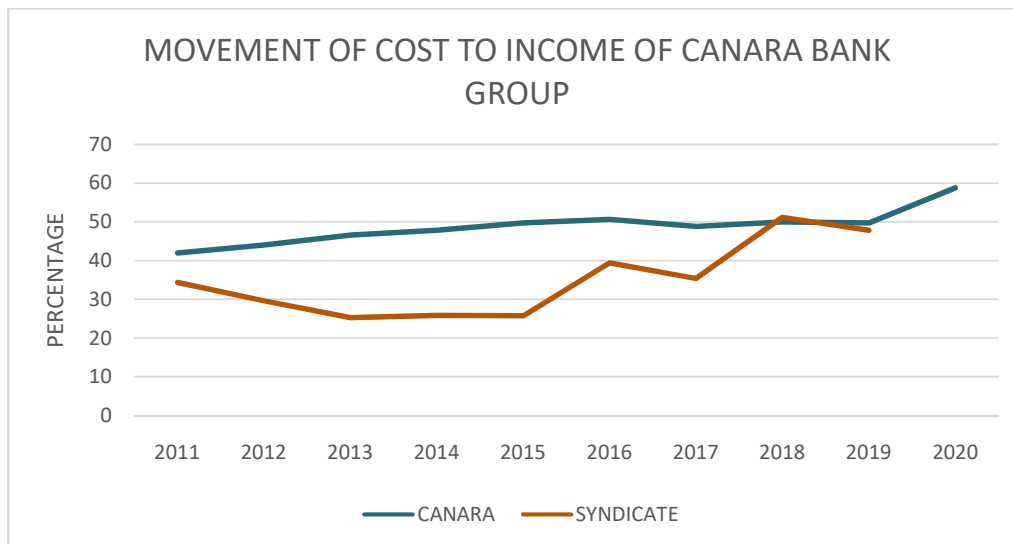
It can be observed from Table 5.10.2 and Figure 5.10.2 that PNB has the highest cost of income which is indicating an increasing trend over the years. OBC which exhibited low Cost to Income Ratio in initial years touched a high of 65.23 in the year 2018. Similarly United Bank of India witnessed a high of 60.99 percent Cost to Income ratio in the year 2019.

Table 5.10.3: Cost to Income Ratio for the period 2011-2020

Table 5.10.3 and Figure 5.10.3 as below indicate a very high (weak) Cost to Income ratio for Canara Bank in comparison to Syndicate Bank. Cost to income ratio for Syndicate Bank is much lower and indicates better operational efficiency (It was below 35 percent for most of the years).

Cost to Income Percentage (2011-20)		
Year	Canara Bank	Syndicate Bank
2011	41.98	34.36
2012	44.02	29.65
2013	46.61	25.27
2014	47.80	25.83
2015	49.67	25.74
2016	50.65	39.43
2017	48.85	35.42
2018	50.03	51.17
2019	49.69	47.85
2020	58.81	N.A

(Source: RBI Data)



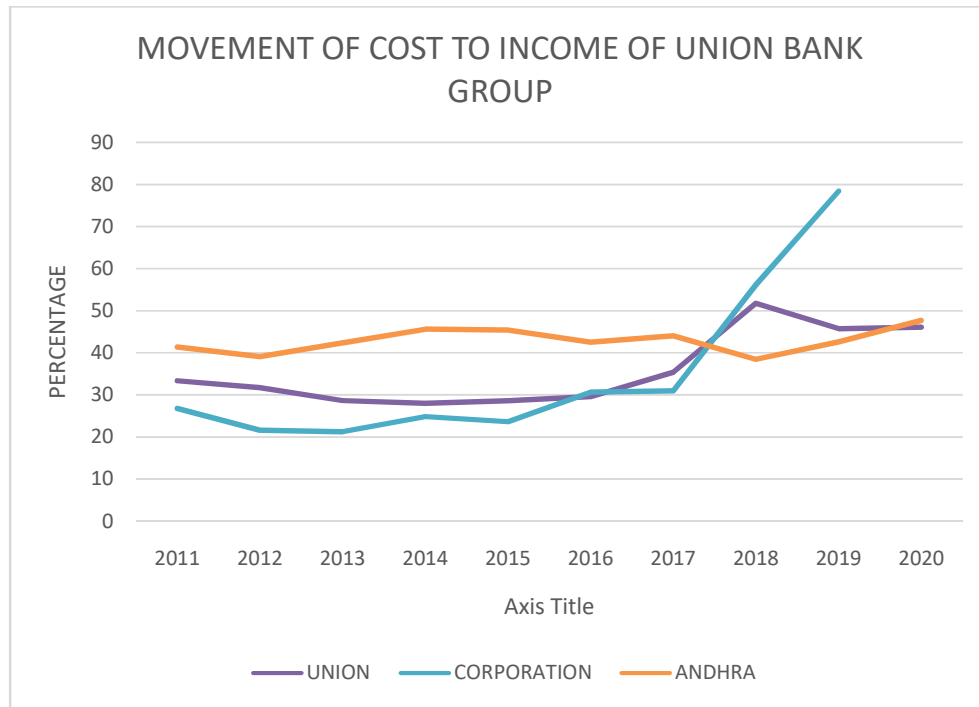
(Source: Author's Construct from RBI Data)

Figure 5.10.3: Movement of Cost to Income of Canara Bank Group

Table 5.10.4: Cost to Income Ratio for the period 2011-2020

Cost to Income Percentage (2011-2020)			
Year	Union Bank of India	Corporation Bank	Andhra Bank
2011	33.38	26.77	41.40
2012	31.75	21.59	39.06
2013	28.67	21.24	42.40
2014	27.99	24.83	45.56
2015	28.60	23.61	45.37
2016	29.56	30.64	42.49
2017	35.38	30.93	44.03
2018	51.78	56.19	38.43
2019	45.76	78.38	42.61
2020	46.11	NA	47.67

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

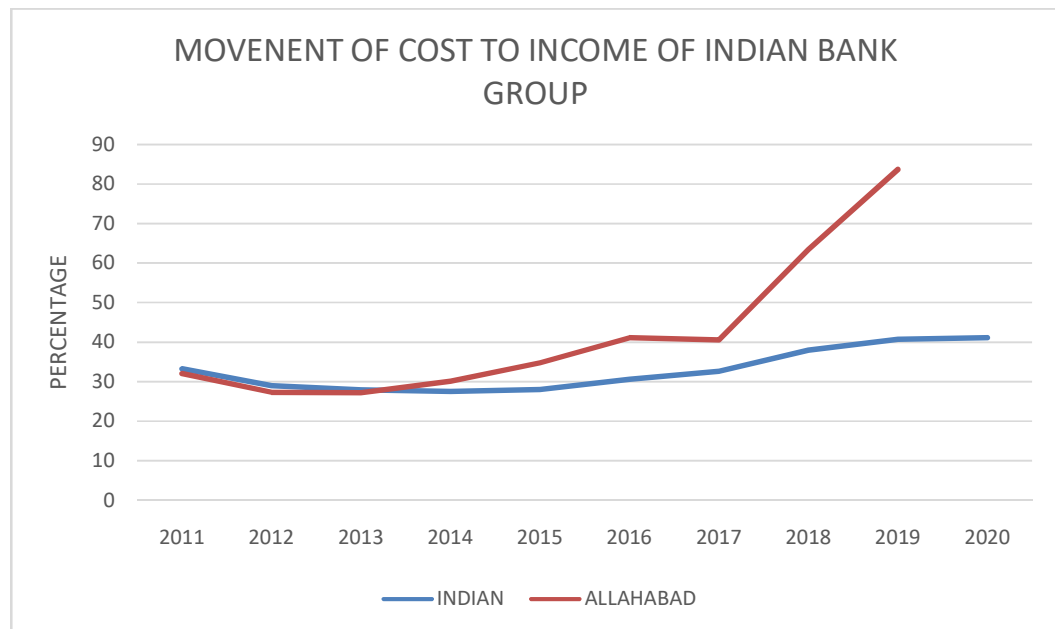
Figure 5.10.4 :Movement of Cost to Income of Bank of Union Bank Group

Table 5.10.4 and Figure 5.10.4 indicate Corporation Bank to be the best performer in the group as it has been able to maintain a very low cost to income ratio from 2011 to 2017. The ratio witnessed a steep incline thereafter in the subsequent years of study. Union bank too had low cost to income ratios which increased in subsequent years. However Andhra Bank had consistently a high Cost to Income ratio.

Table 5.10 .5: Cost to Income Ratio for the period 2011-2020

Cost to Income Percentage (2011-2020)		
Year	Indian Bank	Allahabad Bank
2011	33.23	32.05
2012	28.99	27.31
2013	27.87	27.27
2014	27.51	30.14
2015	27.99	34.78
2016	30.60	41.12
2017	32.61	40.60
2018	37.96	63.50
2019	40.72	83.73
2020	41.12	N.A

(Source: RBI Data)



Source: Author's Construct from RBI Data)

Figure 5.10.5: Movement of Cost to Income of Indian Bank Group

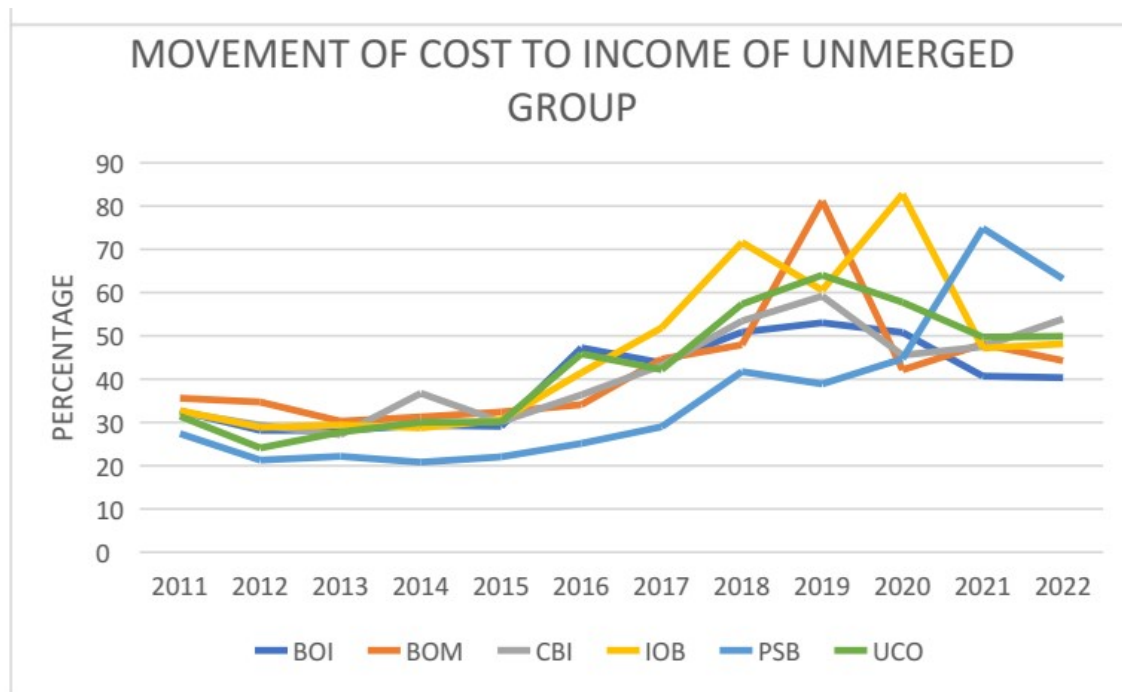
It can be observed from Table 5.10.5 and Figure 5.10.5 that Indian Bank performance is much better than that of Allahabad Bank. The Bank witnessed a high of 41.12 percent Cost to Income ratio in 2020. Allahabad Bank touched a high of 83.73 in 2019 percent which is double than that of Indian Bank.

BANKS NOT CONSIDERED FOR MERGER

Table 5.10.6: Cost to Income Ratio for the period 2011-2021

Cost to Income Percentage (2011-2021)						
Year	Bank of India	Bank of Maharashtra	Central Bank of India	IOB	Punjab and Sind Bank	UCO Bank
2011	32.64	35.59	32.37	32.72	27.40	31.42
2012	28.16	34.71	29.35	28.85	21.28	24.09
2013	28.14	30.26	27.15	29.39	22.15	27.76
2014	29.36	31.25	36.73	28.74	20.80	30.02
2015	29.09	32.40	30.15	30.58	22.03	30.09
2016	47.23	34.09	36.37	41.49	25.13	45.85
2017	43.75	44.62	43.17	51.87	28.98	42.20
2018	50.87	47.93	53.43	71.61	41.73	57.34
2019	53.02	81.18	59.18	60.55	38.89	64.03
2020	50.80	42.14	45.54	82.77	44.70	57.76
2021	40.69	48.10	47.49	47.17	74.87	49.72
2022	40.33	44.26	53.90	48.15	63.16	49.89

(Source: RBI Data)



(Source: Author's Construct from RBI Data)

Figure 5.10.6: Movement of Cost to Income of Unmerged Bank Group

It can be observed from Table 5.10.6 and Figure 5.10.6 that most of the unmerged banks had a significantly high Cost to Income ratio of more than 50 percent. Bank of Maharashtra Cost to Income ratio was quite high for 2019 (one year only) at 81.18 percent whereas Bank of India, Central Bank of India, IOB, Punjab & Sind Bank and UCO Bank touched high Cost to Income ratio (more than 50 percent) for a number of years reflecting unsatisfactory operational efficiency.

Summary

Though an attempt is made to analyse different financial ratios for different groups of banks in this chapter, significant inferences can further be drawn from a Descriptive Analysis of mean values of financial indicators of study for the period 2011 until the year of merger for amalgamated entities and for Un-Merged Banks upto 2022. The same is discussed in Chapter 7 of the study.

Chapter 6

Objective 3- To study the relationship between Non-Performing Assets and financial performance of Public Sector Banks

From a discerning eye it can be ascertained through Financial Ratio Analysis that NPAs are impacting the performance of various banks. The performance has deteriorated over the years when PSBs saw a surge in their non-performing assets due to a variety of reasons which could be External Reasons caused by macro-economic factors, Internal Reasons mostly concerning the governance issues of banks and the Borrowal Related issues dominated by diversion of funds, fraud and inefficient managements. To establish firmly the impact of GNPA on different financial parameters of PSBs use of Correlation (Direction of Impact) and Regression analysis (Quantum of Impact) has been made as under:

6.1 CORRELATION ANALYSIS

Correlation refers to the statistical relationship between two entities. It explains how two variables move in relation to one another. This means the two variables moved either up or down in the same direction together. The Pearson coefficient is a type of correlation coefficient that represents the relationship between two variables that are measured on the same nominal scale. The Pearson coefficient is a measure of the strength of the association between two continuous variables. Karl Pearson's coefficient of correlation is defined as a linear correlation coefficient that falls in the value range of -1 to +1. Value of -1 signifies strong negative correlation while +1 indicates strong positive correlation. If strength and direction of a linear relationship are presented, then r is the correct statistic. If the proportion of explained variance has to be exhibited, then r^2 is the correct statistic. The Pearson correlation coefficient (r) is used to identify patterns in things whereas the coefficient of determination (r^2) is used to identify the strength of a model. In general, if the r-square value is higher it denotes the the model fits the data better. In our financial data analysis of bivariate correlation and linear regression between independent variable Gross Non-Performing Assets (GNPA) and nine different dependent variables is made. Impact of GNPA on financials of nineteen public sector banks has been studied. Use of

ANOVA has been made to find out F-values to determine whether the test is statistically significant. If we get a large F value (one that is bigger than the F critical value found in a table), it means something is significant. Similarly a small p- value means all the results are significant. As we have chosen 95 percent confidence interval or 5 % level of the significance for our study the p-value should be less than 0.05.

SAMPLE SIZE: 19 Public Sector Banks

PERIOD:

2011-2019 for Group 1 (Bank of Baroda, Dena Bank & Vijaya Bank)

2011-2020 for Group 2 (PNB, OBC & United Bank of India),

2011-2020 for Group 3 (Canara Bank & Syndicate Bank) ,

2011-2020 for Group 4 (Union Bank, Corporation Bank & Andhra Bank)

2011-2020 for Group 5 (Indian Bank & Allahabad Bank)

2011-2022 for Group 6 (BOI, BOM, CBI, IOB, PSB & UCO Bank)

Gross NPAs as percentage of Gross Advances of PSBs are taken as Independent variable which impacts various Dependent variables CD RATIO, CASA, NIM, NII, ROA, ROE, COST OF FUNDS, CAR, COST TO INCOME.

Also in order to predict the comparative impact of GNPA's on various financial ratios, the regression equation is formulated. :

$$Y_i = a + b X$$

Where Y_i represents various dependent variables of our study

- a is the constant
- b is the regression coefficient or slope of the regression line.
- X is the independent variable which is GNPA (Gross NPA to Gross advances Ratio).

The regression output values of all PSBs are described and analysed at 95 percent significance

The group wise correlation values of dependent variables of Merged PSBs are analysed as under:

Group 1

Table 6.1.1: Correlation Values of Dependent Variables (2011-2019)

Independent Variable : Gross NPA as percentage of Gross advances of merged PSBs									
Dependent Variables									
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOB	-.387	.748	-.401	.447	-.893	-.894	-.519	-.552	.809
VIJAYA	.695	.709	.534	.648	-.481	-.481	-.562	.126	.668
DENA	-.836	.758	-.585	.552	-.830	-.800	-.530	-.572	.946

It can be observed that from Table 6.1.1 that GNPA the independent variable of our study has negative correlation with CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR of Bank of Baroda. Vijaya Bank is negatively affected by GNPA in respect of ROA, ROE and Cost of Funds. In respect of Dena Bank there is negative correlation of GNPA with CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR.

Group 2

Table 6.1.2: Correlation Values of Dependent Variables (2011-2020)

Independent Variable : Gross NPA as percentage of Gross advances of merged PSBs									
Dependent Variables									
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
PNB	-.900	.691	-.977	.473	-.939	-.930	-.658	-.540	.693
OBC	-.632	.942	-.928	.810	-.905	-.873	-.705	-.510	.905
UNITED	-.923	.694	-.965	.812	-.487	-.483	-.426	-.115	.685

From Table 6.1.2 it can be observed that all the three banks in the group, PNB, OBC and United Bank of India have negative correlation between GNPA and CD Ratio, NIM, ROA, ROE , Cost of Funds and CAR.

Group 3

Table6.1.3 : Correlation Values of Dependent Variables (2011-2020)

Independent Variable : Gross NPA as percentage of Gross advances of merged PSBs									
	Dependent Variables								
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
CANARA	-.080	.725	-.478	.734	-.911	-.905	-.591	-.111	.612
SYNDICATE	-.792	.599	-.601	.687	-.956	-.948	-.713	.229	.924

For Canara Bank GNPA has negative impact on CD ratio, NIM, ROA , ROE, Cost of Funds and CAR.

In respect of Syndicate Bank it is negative with CD Ratio, NIM, ROA, ROE, NIM and Cost of Funds.

Group 4

Table6.1.4: Correlation Values of Dependent Variables (2011-2020)

Independent Variable : Gross NPA as percentage of Gross advances of merged PSBs									
	Dependent Variables								
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
UNION	-.796	.869	-.854	.470	-.963	-.956	-.580	.159	.878
CORP BANK	-.897	.776	.345	.373	-.872	-.904	-.493	-.668	.820
ANDHRA	-.802	.773	-.350	.659	-.948	-.941	-.651	-.222	-.151

Table 6.1.4 depicts that for Union Bank of India there is negative correlation with CD Ratio, NIM, ROA, ROE and Cost of Funds. For Corporation Bank the negative correlation of GNPA is with CD ratio, ROA, ROE, Cost of Funds and CAR. For Andhra Bank the correlation of GNPA is negative in respect of CD ratio, NIM, ROA, ROE, Cost of Funds, CAR and also Cost to Income.

Group 5

Table 6.1.5: Correlation Values of Dependent Variables (2011-2020)

Independent Variable : Gross NPA as percentage of Gross advances of merged PSBs									
Dependent Variables									
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
INDIAN	.053	.727	-.772	.084	-.875	-.880	-.452	.016	.592
ALLAHABAD	-.454	.959	-.901	.158	-.932	-.897	-.811	-.204	.892

In respect of Indian Bank the correlation of GNPA is negative for NIM, ROA, ROE and Cost of Funds. For Allahabad Bank there is negative correlation with CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR.

Group 6

Table 6.1.6 : Correlation Values of Dependent Variables of Un-merged PSBs (2011-2022)

Independent Variable : Gross NPA as percentage of Gross advances of unmerged PSBs									
Dependent Variables									
Name of Bank	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOI	-.831	.739	-.402	.212	-.735	-.867	-.617	.536	.955
BOM	-.575	.310	-.921	.172	-.742	-.723	-.241	-.380	.630
CBI	-.921	.782	-.752	.736	-.779	-.782	-.561	-.093	.877
IOB	-.580	.525	-.555	.531	-.784	-.807	-.321	-.598	.754
PSB	-.803	.762	-.090	.644	-.676	-.750	-.697	.310	.785
UCO	-.725	.620	-.845	.005	-.985	-.978	-.276	-.752	.856

It can be observed from Table 6.1.6 that there is a negative correlation between GNPA and CD Ratio, NIM, ROA, ROE and Cost of Funds for Bank of India. For Bank of Maharashtra the correlation is negative in respect of CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR. In respect of Central Bank of India, Indian Overseas Bank and UCO Bank the correlation is negative in respect of CD Ratio, NIM, ROA,

ROE, Cost of Funds and CAR. For Punjab and Sind Bank the correlation is negative for CD Ratio, NIM, ROA, ROE and Cost of Funds.

Summary:

As the NPAs increased for PSBs, it impacted adversely their CD Ratio implying the advances decreased thereby hitting the profitability of banks. It can also be construed that banks went slow on lending when their NPAs tended to rise. For most of the banks, the correlation between GNPA and NIM is highly negative. The same indicates that banks' interest earnings are going down with increase in NPAs with no corresponding decrease in interest outgo on deposits.

For all banks, the correlation between GNPA and ROA is highly negative. As NPAs increase, the return on assets which is an important indicator of profitability goes down. Similarly there is a high negative correlation between GNPA and ROE for all the banks indicating that non-performing assets have harmed the equity investors as the return on their investment has turned negative. In respect of Cost of Funds the correlation is found to be negative for most of the banks signifying banks were able to raise resources at a higher cost due to their burgeoning NPAs. Increase in GNPA does not seem to impact capital adequacy of Bank of India and PSB which can be attributed to capital infusion of Rs.31399 crore and Rs.7172 crore from 2015-16 to 2020-21 in these two banks respectively by the government (Other banks also got capital infusion during this period to enable them to maintain capital as per Basel requirements which could have diluted the impact of GNPA on their CAR).

6.2 REGRESSION ANALYSIS

Table 6.2.1: BANK OF BARODA REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Intercept	IND	
CD RATIO	.387	.149	1.230	72.478	-.331	.304
CASA	.748	.560	8.905	24.849	.706	.020
NIM	.401	.161	1.341	2.399	-.029	.285
NII	.447	.200	1.746	.743	.012	.228
ROA	.893	.797	27.457	1.317	-.146	.001
ROE	.894	.800	28.013	22.739	-2.515	.001
COF	.519	.269	2.581	5.028	-.038	.152
CAR	.552	.305	3.072	13.884	-.120	.123
CTI	.809	.654	13.223	38.779	.898	.008

It can be observed from Table 6.2.1 that GNPA has regression values ($r^2= 0.560$) for CASA ratio, ($r^2=0.797$) for ROA, ($r^2 = 0.800$) for ROE and ($r^2=0.654$) for Cost to Income. As per r square value GNPA has 56 percent impact on CASA, 79.7 percent impact on ROA, 80 percent impact on ROE and 65.4 percent on Cost to Income ratio and the relationship is significant ($p<0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CASA, ROA, ROE and Cost to Income. The purpose of this test is to take the mean as a best guess (Morgan et al; 2012) and then to check the prediction extent of the model. The value of F depicts the ratio of improvement in prediction specifically by considering regression and residual value in the table. It can be inferred from the above table that F Value is greater than F Critical Value in case of CASA ($8.905>5.59$), ROA ($27.457>5.59$), ROE ($28.013>5.59$) and Cost to Income ($13.223>5.59$) at 5 % level of significance with degrees of freedom ($V_1=1$ and $V_2=7$). Hence it can be established that GNPA impacts these financial ratios (Dependent Variables).

The equation of line for prediction of financial ratios of Bank of Baroda on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 72.478 - .331 * \text{GNPA} & \text{CASA} &= 24.849 + .706 * \text{GNPA} \\ \text{NIM} &= 2.399 - .029 * \text{GNPA} & \text{NII} &= .743 + .012 * \text{GNPA} \\ \text{ROA} &= 1.317 - .146 * \text{GNPA} & \text{ROE} &= 22.739 - 2.515 * \text{GNPA} \\ \text{Cost of Funds} &= 5.028 - .038 * \text{GNPA} & \text{CAR} &= 13.884 - .120 * \text{GNPA} \\ \text{Cost to Income} &= 38.779 + .898 * \text{GNPA} \end{aligned}$$

Table 6.2.2: VIJAYA BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.695	.483	6.536	65.977	.992	.038
CASA	.709	.503	7.084	18.751	1.029	.032
NIM	.534	.285	2.786	1.706	.102	.139
NII	.648	.419	5.058	.471	.058	.059
ROA	.481	.232	2.113	.885	-.137	.189
ROE	.481	.231	2.104	16.773	-2.660	.190
COF	.562	.316	3.235	7.700	-.238	.115
CAR	.126	.016	.113	11.820	.082	.747
CTI	.668	.446	4.830	17.604	2.029	.070

It can be observed from Table 6.2.2 that GNPA has regression values ($r^2 = 0.483$) for CD Ratio, ($r^2 = 0.503$) for CASA ratio. As per r square value GNPA has 48.3 percent impact on CD Ratio and 50.3 percent impact on CASA and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CD Ratio and CASA. The value of F depicts the ratio of improvement in prediction specifically by considering regression and residual value in the table. F- Values (1,7) for dependent variables CD ratio & CASA is more than the table value 5.59 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Vijaya Bank on the basis of GNPA is formulated as below:

$$\text{CD Ratio} = 65.977 + .992 * \text{GNPA} \qquad \text{CASA} = 18.751 + 1.029 * \text{GNPA}$$

$$\text{NIM} = 1.706 + .102 * \text{GNPA}$$

$$\text{NII} = .471 + .058 * \text{GNPA}$$

$$\text{ROA} = .885 - .137 * \text{GNPA}$$

$$\text{ROE} = 16.773 - 2.660 * \text{GNPA}$$

$$\text{Cost of Funds} = 7.700 - .238 * \text{GNPA}$$

$$\text{CAR} = 11.820 + .082 * \text{GNPA}$$

$$\text{Cost to Income} = 17.604 + 2.029 * \text{GNPA}$$

Table 6.2.3: DENA BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.836	.700	16.303	72.385	-.653	.005
CASA	.758	.574	9.450	29.199	.513	.018
NIM	.585	.342	3.641	2.402	-.024	.098
NII	.552	.304	3.064	.668	.010	.123
ROA	.830	.689	15.533	1.345	-.205	.006
ROE	.800	.641	12.483	24.890	-3.663	.010
COF	.530	.281	2.738	6.705	-.041	.142
CAR	.572	.328	3.412	12.445	-.221	.107
CTI	.946	.894	50.742	22.307	1.325	.000

It can be observed from Table 6.2.3 that GNPA has regression values ($r^2 = 0.700$) for CD ratio, ($r^2 = 0.574$) for CASA ratio, ($r^2 = 0.689$) for ROA, ($r^2 = 0.641$) for ROE and ($r^2 = 0.894$) for Cost to Income. As per r square value GNPA has 70 percent impact on CD Ratio, 57.4 percent on CASA, 68.9 percent impact on ROA, 64.1 percent impact on ROE and 89.4 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CD Ratio, CASA, ROA, ROE and Cost to Income. F- Values (1,7) for dependent variables CD ratio, CASA, ROA, ROE and Cost to Income is more than the table value 5.59 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Dena Bank on the basis of GNPA is formulated as below:

$$\text{CD Ratio} = 72.385 - .653 * \text{GNPA}$$

$$\text{CASA} = 29.199 + .513 * \text{GNPA}$$

$$\text{NIM} = 2.402 - .024 * \text{GNPA}$$

$$\text{NII} = .668 + .010 * \text{GNPA}$$

$$\text{ROA} = 1.345 - .205 * \text{GNPA}$$

$$\text{ROE} = 24.890 - 3.663 * \text{GNPA}$$

$$\text{Cost of Funds} = 6.705 - .041 * \text{GNPA}$$

$$\text{CAR} = 12.445 - .221 * \text{GNPA}$$

$$\text{Cost to Income} = 22.307 + .1.325 * \text{GNPA}$$

Table 6.2.4: PNB REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.900	.810	34.141	80.371	-.766	.000
CASA	.691	.477	7.310	36.441	.303	.027
NIM	.977	.954	165.803	3.546	-.091	.000
NII	.473	.223	2.300	.941	.011	.168
ROA	.939	.882	60.057	1.674	-.162	.000
ROE	.930	.865	51.349	28.045	-2.785	.000
COF	.658	.434	6.124	6.006	-.063	.038
CAR	.540	.291	3.289	13.012	-.133	.107
CTI	.693	.480	7.398	39.278	.731	.026

Using linear regression it can be observed from Table 6.2.4 that GNPA has regression values ($r^2 = 0.810$) for CD ratio, ($r^2 = 0.477$) for CASA ratio, ($r^2 = 0.954$) for NIM, ($r^2 = 0.882$) for ROA, ($r^2 = 0.865$) for ROE, ($r^2 = 0.434$) for Cost of Funds and ($r^2 = 0.480$) for Cost to Income. As per r square value GNPA has a significant 81 percent impact on CD Ratio, 47.7 percent on CASA, 95.4 percent on NIM, 88.2 percent impact on ROA, 86.5 percent impact on ROE, 43.4 percent on Cost of Funds and 48 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CD Ratio, CASA, NIM, ROA, ROE, Cost of Funds and Cost to Income. F- Values(1,8) for dependent variables CD ratio, CASA, NIM, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Punjab National Bank on the basis of GNPA is formulated as below:

$$\text{CD Ratio} = 80.371 - .766 * \text{GNPA}$$

$$\text{CASA} = 36.441 + .303 * \text{GNPA}$$

$$\text{NIM}=3.546-.091 * \text{GNPA}$$

$$\text{NII}=.941+.011 * \text{GNPA}$$

$$\text{ROA}=1.674-.162 * \text{GNPA}$$

$$\text{ROE}=28.045-2.785 * \text{GNPA}$$

$$\text{Cost of Funds}=6.006-.063 * \text{GNPA}$$

$$\text{CAR}=13.012-.133 * \text{GNPA}$$

$$\text{Cost to Income}=39.278+.731 * \text{GNPA}$$

Table 6.2.5: OBC REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.632	.400	5.334	72.493	-.259	.050
CASA	.942	.887	62.539	22.384	.541	0.000
NIM	.928	.862	49.917	2.679	-.047	0.000
NII	.810	.657	15.304	.703	.028	.004
ROA	.905	.819	36.126	1.307	-.160	0.000
ROE	.873	.763	25.694	21.697	-2.775	0.001
COF	.705	.497	7.911	7.429	-.113	.023
CAR	.510	.260	2.812	12.766	-.097	.132
CTI	.905	.820	31.830	18.901	2.032	0.001

It can be observed from Table 6.2.5 that GNPA has regression values ($r^2= 0.400$) for CD ratio, ($r^2= 0.887$) for CASA ratio, ($r^2=0.862$) for NIM, ($r^2=0.657$) for Non-Intt Income, ($r^2=0.819$) for ROA, ($r^2 = 0.763$) for ROE, ($r^2=0.497$) for Cost of Funds and ($r^2=0.820$) for Cost to Income. As per r square value GNPA has 40 percent impact on CD Ratio, 88.7 percent on CASA, 86.2 percent on NIM, 65.7 percent impact on Non-Intt Income, 81.9 percent on ROA, 76.3 percent impact on ROE, 49.7 percent on Cost of Funds and 82 percent on Cost to Income ratio and the relationship is significant ($p<0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CD Ratio, CASA, NIM, Non-Intt Income, ROA, ROE, Cost of Funds and Cost to Income.

F- Values(1,8) for dependent variables CD ratio, CASA, NIM, Non-Intt Income, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p<0.05$).

The equation of line for prediction of financial ratios of Oriental Bank of Commerce on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 72.493 - .259 * \text{GNPA} & \text{CASA} &= 22.384 + .541 * \text{GNPA} \\ \text{NIM} &= 2.679 - .047 * \text{GNPA} & \text{NII} &= .703 + .028 * \text{GNPA} \\ \text{ROA} &= 1.307 - .160 * \text{GNPA} & \text{ROE} &= 21.697 - 2.775 * \text{GNPA} \\ \text{Cost of Funds} &= 7.429 - .113 * \text{GNPA} & \text{CAR} &= 12.766 - .097 * \text{GNPA} \\ \text{Cost to Income} &= 18.901 + 2.032 * \text{GNPA} \end{aligned}$$

Table 6.2.6 : UNITED BANK OF INDIA REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.923	.852	46.224	71.954	-1.184	0.000
CASA	.694	.482	7.441	38.142	.521	0.026
NIM	.965	.931	107.524	2.766	-.075	0.000
NII	.812	.659	15.442	.760	.044	0.004
ROA	.487	.237	2.481	.613	-.107	0.154
ROE	.483	.233	2.437	10.225	-1.780	0.157
COF	.426	.181	1.773	6.612	-.054	0.220
CAR	.115	.013	.107	11.452	-.038	0.752
CTI	.685	.470	6.205	27.597	.998	.042

It can be observed from Table 6.2.6 that GNPA has regression values ($r^2 = 0.852$) for CD ratio, ($r^2 = 0.482$) for CASA ratio, ($r^2 = 0.931$) for NIM, ($r^2 = 0.659$) for Non-Intt Income and ($r^2 = 0.470$) for Cost to Income. As per r square value GNPA has 85.2 percent impact on CD Ratio, 48.2 percent on CASA, 93.1 percent on NIM, 65.9 percent impact on Non-Intt Income and 47 percent on Cost to Income and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CD Ratio, CASA, NIM, Non-Intt Income and Cost to Income.

F- Values (1,8) for dependent variables CD ratio, CASA, NIM, Non-Intt Income and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of United Bank of India on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 71.954 - 1.184 * \text{GNPA} & \text{CASA} &= 38.142 + .521 * \text{GNPA} \\ \text{NIM} &= 2.766 - .075 * \text{GNPA} & \text{NII} &= .760 + .044 * \text{GNPA} \\ \text{ROA} &= .613 - .107 * \text{GNPA} & \text{ROE} &= 10.225 - 1.780 * \text{GNPA} \\ \text{Cost of Funds} &= 6.612 - .054 * \text{GNPA} & \text{CAR} &= 11.452 - .038 * \text{GNPA} \\ \text{Cost to Income} &= 27.597 + .998 * \text{GNPA} \end{aligned}$$

Table: 6.2.7 CANARA BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.080	.006	.051	70.446	-.036	.827
CASA	.725	.526	8.865	23.869	.585	.018
NIM	.478	.228	2.365	2.197	-.030	.163
NII	.734	.538	9.328	.788	.032	.016
ROA	.911	.829	38.812	1.246	-.160	.000
ROE	.905	.819	36.212	20.175	-2.603	.000
COF	.591	.349	4.285	7.163	-.134	.072
CAR	.111	.012	.100	12.807	-.044	.759
CTI	.612	.375	4.790	44.604	.702	.060

It can be observed from Table 6.2.7 that GNPA has regression values ($r^2 = 0.526$) for CASA ratio, ($r^2 = 0.538$) for Non-Intt Income, ($r^2 = 0.829$) for ROA and ($r^2 = 0.819$) for ROE. As per r square value GNPA has 52.6 percent impact on CASA, 53.8 percent on Non-Intt Income, 82.9 percent on ROA and 81.9 percent on ROE and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CASA, Non-Intt Income, ROA and ROE.

F- Values (1,8) for dependent variables CASA, Non-Intt Income , ROA and ROE is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Canara Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 70.446 - .036 * \text{GNPA} & \text{CASA} &= 23.869 + .585 * \text{GNPA} \\ \text{NIM} &= 2.197 - .030 * \text{GNPA} & \text{NII} &= .788 + .032 * \text{GNPA} \\ \text{ROA} &= 1.246 - .160 * \text{GNPA} & \text{ROE} &= 20.175 - 2.603 * \text{GNPA} \\ \text{Cost of Funds} &= 7.163 - .134 * \text{GNPA} & \text{CAR} &= 12.807 - .044 * \text{GNPA} \\ \text{Cost to Income} &= 44.604 + .702 * \text{GNPA} \end{aligned}$$

Table 6.2.8 :SYNDICATE BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.792	.628	13.502	82.739	-1.062	.006
CASA	.599	.359	4.486	26.511	.399	.067
NIM	.601	.361	4.522	2.718	-.058	.066
NII	.687	.472	7.143	.577	.030	.028
ROA	.956	.913	84.139	1.306	-.199	.000
ROE	.948	.899	70.885	26.274	-4.037	.000
COF	.713	.508	8.249	6.387	-.097	.021
CAR	.229	.052	.442	11.739	.057	.525
CTI	.924	.854	40.954	22.056	2.268	.000

It can be observed from Table 6.2.8 that GNPA has regression values ($r^2 = 0.628$) for CD ratio, ($r^2 = 0.472$) for Non-Intt Income, ($r^2 = 0.913$) for ROA, ($r^2 = 0.899$) for ROE, ($r^2 = 0.508$) for Cost of Funds and ($r^2 = 0.854$) for Cost to Income. As per adjusted r square value GNPA has 62.8 percent impact on CD Ratio, 47.2 percent on Non-Intt Income, 91.3 percent on ROA, 89.9 percent on ROE, 50.8 percent on Cost of Funds and 85.4 percent on Cost to Income and the relationship is significant ($p < 0.05$). The

p-values of ANOVA are below the tolerable significance level in respect of CD Ratio, Non-Intt Income, ROA, ROE, Cost of Funds and Cost to Income.

F- Values(1,8) for dependent variables CD ratio, Non-Intt Income, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Syndicate Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 82.739 - 1.062 * \text{GNPA} & \text{CASA} &= 26.511 + .399 * \text{GNPA} \\ \text{NIM} &= 2.718 - .058 * \text{GNPA} & \text{NII} &= .577 + .030 * \text{GNPA} \\ \text{ROA} &= 1.306 - .199 * \text{GNPA} & \text{ROE} &= 26.274 - 4.037 * \text{GNPA} \\ \text{Cost of Funds} &= 6.387 - .097 * \text{GNPA} & \text{CAR} &= 11.739 + .057 * \text{GNPA} \\ \text{Cost to Income} &= 22.056 + 2.268 * \text{GNPA} \end{aligned}$$

Table 6.2.9 :UNION BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.796	.634	13.868	80.469	-.578	.006
CASA	.869	.754	24.575	29.317	.385	.001
NIM	.854	.729	21.502	2.740	-.049	.002
NII	.470	.221	2.271	.904	.008	.170
ROA	.963	.928	102.724	1.222	-.125	.000
ROE	.956	.914	85.208	21.756	-2.285	.000
COF	.580	.337	4.064	6.703	-.078	.079
CAR	.159	.025	.208	11.352	.026	.661
CTI	.878	.771	26.919	23.933	1.489	.001

It can be observed from Table 6.2.9 that GNPA has regression values ($r^2 = 0.634$) for CD ratio, ($r^2 = 0.754$) for CASA, ($r^2 = 0.729$) for NIM, ($r^2 = 0.928$) for ROA, ($r^2 = 0.914$) for ROE and ($r^2 = 0.771$) for Cost to Income. As per r square value GNPA has 63.4 percent impact on CD Ratio, 75.4 percent on CASA, 72.9 percent on NIM, 92.8 percent on ROA, 91.4 percent on ROE and 77.1 percent on Cost to Income and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable

significance level in respect of CD Ratio, CASA, NIM , ROA, ROE and Cost to Income.F- Values(1,8) for dependent variables CD ratio, CASA, NIM, ROA, ROE and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Union Bank of India on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 80.469 - .578 * \text{GNPA} & \text{CASA} &= 29.317 + .385 * \text{GNPA} \\ \text{NIM} &= 2.740 - .049 * \text{GNPA} & \text{NII} &= .904 + .008 * \text{GNPA} \\ \text{ROA} &= 1.222 - .125 * \text{GNPA} & \text{ROE} &= 21.756 - 2.285 * \text{GNPA} \\ \text{COF} &= 6.703 - .078 * \text{GNPA} & \text{CAR} &= 11.352 - .026 * \text{GNPA} \\ \text{Cost to Income} &= 23.933 + 1.489 * \text{GNPA} \end{aligned}$$

Table 6.2.10: CORPORATION BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.897	.805	32.976	73.915	-.631	.000
CASA	.776	.602	12.099	20.657	.542	.008
NIM	.345	.119	1.078	1.941	.014	.330
NII	.373	.139	1.295	.844	.018	.288
ROA	.872	.761	25.420	1.305	-.190	.001
ROE	.904	.816	35.579	23.565	-3.277	.000
COF	.493	.243	2.567	7.037	-.072	.148
CAR	.668	.447	6.457	12.852	-.142	.035
CTI	.820	.672	14.373	16.302	2.518	.007

It can be observed from Table 6.2.10 that GNPA has regression values ($r^2 = 0.805$) for CD ratio, ($r^2 = 0.602$) for CASA, ($r^2 = 0.761$) for ROA, ($r^2 = 0.816$) for ROE, ($r^2 = 0.447$) for Capital Adequacy and ($r^2 = 0.672$) for Cost to Income. As per r square value GNPA has 80.5 percent impact on CD Ratio, 60.2 percent on CASA, 76.1 percent on ROA, 81.6 percent on ROE, 44.7 percent on Capital Adequacy and 67.2 percent on Cost to Income and the relationship is significant ($p < 0.05$). The p-values of ANOVA

are below the tolerable significance level in respect of CD Ratio, CASA, ROA, ROE, Capital Adequacy and Cost to Income.

F- Values (1,8) for dependent variables CD ratio, CASA, ROA, ROE, Capital Adequacy and Cost to Income is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Corporation Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 73.915 - .631 * \text{GNPA} & \text{CASA} &= 20.657 + .542 * \text{GNPA} \\ \text{NIM} &= 1.941 + .014 * \text{GNPA} & \text{NII} &= .844 + .018 * \text{GNPA} \\ \text{ROA} &= 1.305 - .190 * \text{GNPA} & \text{ROE} &= 23.565 - 3.277 * \text{GNPA} \\ \text{COF} &= 7.037 - .072 * \text{GNPA} & \text{CAR} &= 12.852 - .142 * \text{GNPA} \\ \text{Cost to Income} &= 16.302 + 2.518 * \text{GNPA} \end{aligned}$$

Table 6.2.11: ANDHRA BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.802	.643	14.433	79.782	-.478	.005
CASA	.773	.598	11.892	25.150	.389	.009
NIM	.350	.123	1.120	2.916	-.015	.321
NII	.659	.434	6.144	.773	.014	.038
ROA	.948	.900	71.670	1.424	-.145	.000
ROE	.941	.885	61.498	25.253	-2.730	.000
COF	.651	.424	5.883	7.230	-.091	.041
CAR	.222	.049	.414	12.464	-.047	.538
CTI	.151	.023	.162	42.877	-.063	.699

It can be observed from Table 6.2.11 that GNPA has regression values ($r^2 = 0.643$) for CD ratio, ($r^2 = 0.598$) for CASA, ($r^2 = 0.434$) for Non-Intt Income, ($r^2 = 0.900$) for ROA, ($r^2 = 0.885$) for ROE and ($r^2 = 0.424$) for Cost of Funds. As per r square value GNPA has 64.3 percent impact on CD Ratio, 59.8 percent on CASA, 43.4 percent on Non-Intt Income, 90.0 percent on ROA, 88.5 percent on ROE and 42.4 percent on Cost of Funds and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below

the tolerable significance level in respect of CD Ratio, CASA, Non-Intt Income, ROA, ROE and Cost of Funds. F- Values (1,8) for dependent variables CD ratio, CASA, Non-Intt Income ,ROA, ROE, and Cost to Funds is more than the table value 5.32 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Andhra Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 79.782 - .478 * \text{GNPA} & \text{CASA} &= 25.150 + .389 * \text{GNPA} \\ \text{NIM} &= 2.916 - .015 * \text{GNPA} & \text{NII} &= .773 + .014 * \text{GNPA} \\ \text{ROA} &= 1.424 - .145 * \text{GNPA} & \text{ROE} &= 25.253 - 2.730 * \text{GNPA} \\ \text{COF} &= 7.230 - .091 * \text{GNPA} & \text{CAR} &= 12.464 - .047 * \text{GNPA} \\ \text{Cost to Income} &= 42.877 - .063 * \text{GNPA} \end{aligned}$$

Table 6.2.12: INDIAN BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.053	.003	.023	73.625	.044	.884
CASA	.727	.528	8.951	26.468	1.104	.017
NIM	.772	.596	11.782	3.448	-.143	.009
NII	.084	.007	.057	.888	.005	.817
ROA	.875	.765	26.114	1.520	-.164	.001
ROE	.880	.775	27.570	19.729	-2.122	.001
COF	.452	.204	2.053	6.811	-.153	.190
CAR	.016	.000	.002	13.217	.003	.964
CTI	.592	.350	4.316	26.398	1.297	.071

It can be observed from Table 6.2.12 that GNPA has regression values ($r^2 = 0.528$) for CASA, ($r^2 = 0.596$) for NIM, ($r^2 = 0.765$) for ROA and ($r^2 = 0.775$) for ROE. As per r square value GNPA has 52.8 percent impact on CASA, 59.6 percent on NIM, 76.5 percent on ROA and 77.5 percent on ROE and the relationship is significant ($p < 0.05$). The p-values of ANOVA are below the tolerable significance level in respect of CASA, NIM, ROA and ROE. F- Values (1,8) for dependent variables CASA, NIM, ROA and ROE is more than the table value 5.32 and is therefore significant. We can

say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Indian Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 73.625 + .044 * \text{GNPA} & \text{CASA} &= 26.468 + 1.104 * \text{GNPA} \\ \text{NIM} &= 3.448 - .143 * \text{GNPA} & \text{NII} &= .888 + .005 * \text{GNPA} \\ \text{ROA} &= 1.520 - .164 * \text{GNPA} & \text{ROE} &= 19.729 - 2.122 * \text{GNPA} \\ \text{COF} &= 6.811 - .153 * \text{GNPA} & \text{CAR} &= 13.217 + .003 * \text{GNPA} \\ \text{Cost to Income} &= 26.398 + 1.297 * \text{GNPA} \end{aligned}$$

Table 6.2.13: ALLAHABAD BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.454	.206	2.073	74.319	-.321	.188
CASA	.959	.921	92.653	27.467	1.188	.000
NIM	.901	.812	34.476	2.974	-.053	.000
NII	.158	.025	.204	.878	.004	.663
ROA	.932	.868	52.654	1.695	-.232	.000
ROE	.897	.804	32.893	34.219	-4.975	.000
COF	.811	.657	15.336	6.928	-.105	.004
CAR	.204	.042	.349	11.698	-.044	.571
CTI	.892	.795	27.163	18.445	2.853	.001

It can be observed from Table 6.2.13 that GNPA has regression values ($r^2 = 0.921$) for CASA ratio, ($r^2 = 0.812$) for NIM, ($r^2 = 0.868$) for ROA, ($r^2 = 0.804$) for ROE and ($r^2 = 0.657$) for Cost of Funds and ($r^2 = 0.795$) for Cost to Income. As per r square value GNPA has 92.1 percent impact on CASA, 81.2 percent on NIM, 86.8 percent impact on ROA, 80.4 percent impact on ROE, 65.7 percent impact on Cost of Funds and 79.5 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$).

F- Values(1,8) for dependent variables CASA, NIM, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 5.32 and is therefore significant.

We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Allahabad Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 74.319 - .321 * \text{GNPA} & \text{CASA} &= 27.467 + 1.188 * \text{GNPA} \\ \text{NIM} &= 2.974 - .053 * \text{GNPA} & \text{NII} &= .878 + .004 * \text{GNPA} \\ \text{ROA} &= 1.695 - .232 * \text{GNPA} & \text{ROE} &= 34.219 - 4.975 * \text{GNPA} \\ \text{Cost of Funds} &= 6.928 - .105 * \text{GNPA} & \text{CAR} &= 11.698 - .044 * \text{GNPA} \\ \text{Cost to Income} &= 18.445 + 2.853 * \text{GNPA} \end{aligned}$$

Table 6.2.14: BANK OF INDIA REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.831	.691	22.317	78.322	-.880	.001
CASA	.739	.547	12.053	22.654	.806	.006
NIM	.402	.161	1.924	2.239	-.016	.196
NII	.212	.045	.471	.838	.006	.508
ROA	.735	.540	11.724	.970	-.083	.007
ROE	.867	.751	30.209	19.016	-1.950	.000
COF	.617	.381	6.146	5.820	-.080	.033
CAR	.536	.287	4.023	10.923	.185	.073
CTI	.955	.912	103.729	23.931	1.635	.000

It can be observed from Table 6.2.14 that GNPA has regression values ($r^2 = 0.691$) for CD ratio, ($r^2 = 0.547$) for CASA, ($r^2 = 0.540$) for ROA, ($r^2 = 0.751$) for ROE, ($r^2 = 0.381$) for Cost of Funds and ($r^2 = 0.912$) for Cost to Income. As per r square value GNPA has 69.10 percent impact on CD ratio, 54.70 percent impact on CASA, 54 percent impact on ROA, 75.10 percent impact on ROE, 38.10 percent impact on Cost of Funds and 91.2 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$).

F- Values(1,10) for dependent variables CD ratio, CASA, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 4.96 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Bank of India on the basis of GNPA is formulated as below:

$$\begin{aligned}
 \text{CD Ratio} &= 78.322 - .880 * \text{GNPA} & \text{CASA} &= 22.654 + .806 * \text{GNPA} \\
 \text{NIM} &= 2.239 - .016 * \text{GNPA} & \text{NII} &= .838 + .006 * \text{GNPA} \\
 \text{ROA} &= .970 - .083 * \text{GNPA} & \text{ROE} &= 19.016 - 1.950 * \text{GNPA} \\
 \text{Cost of Funds} &= 5.820 - .080 * \text{GNPA} & \text{CAR} &= 10.923 + .185 * \text{GNPA} \\
 \text{Cost to Income} &= 23.931 + 1.635 * \text{GNPA} & &
 \end{aligned}$$

Table 6.2.15: BANK OF MAHARASHTRA REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.575	.330	4.930	75.518	-.764	.051
CASA	.310	.096	1.061	41.772	.347	.327
NIM	.921	.849	56.070	2.972	-.044	.000
NII	.172	.029	.303	.860	.006	.594
ROA	.742	.551	12.284	.936	-.121	.006
ROE	.723	.523	10.944	17.502	-2.327	.008
COF	.241	.058	.614	6.001	-.043	.451
CAR	.380	.144	1.686	13.411	-.099	.223
CTI	.630	.396	6.564	30.649	1.362	.028

It can be observed from Table 6.2.15 that GNPA has regression values ($r^2 = 0.849$) for NIM, ($r^2 = 0.551$) for ROA, ($r^2 = 0.523$) for ROE and ($r^2 = 0.396$) for Cost to Income. As per r square value GNPA has 84.9 percent impact on NIM, 55.1 percent impact on ROA, 52.3 percent impact on ROE and 39.6 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$). F- Values(1,10) for dependent variables NIM, ROA, ROE and Cost to Income is more than the table value 4.96 and is therefore

significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Bank of Maharashtra on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 75.518 - .764 * \text{GNPA} & \text{ASA} &= 41.772 + .347 * \text{GNPA} \\ \text{NIM} &= 2.972 - .044 * \text{GNPA} & \text{NII} &= .860 + .006 * \text{GNPA} \\ \text{ROA} &= .936 - .121 * \text{GNPA} & \text{ROE} &= 17.502 - 2.327 * \text{GNPA} \\ \text{Cost of Funds} &= 6.001 - .043 * \text{GNPA} & \text{CAR} &= 13.411 - .099 * \text{GNPA} \\ \text{Cost To Income} &= 30.649 + 1.362 * \text{GNPA} \end{aligned}$$

Table 6.2.16: CENTRAL BANK OF INDIA REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.921	.848	55.855	81.679	-1.712	.000
CASA	.782	.611	15.717	30.580	.768	.003
NIM	.752	.566	13.043	2.556	-.022	.005
NII	.736	.542	11.845	.579	.014	.006
ROA	.779	.607	15.436	.726	-.086	.003
ROE	.782	.611	15.718	13.153	-1.548	.003
COF	.561	.315	4.591	7.013	-.090	.058
CAR	.093	.009	.087	11.660	-.023	.775
CTI	.877	.769	33.315	24.792	1.364	.000

It can be observed from Table 6.2.16 that GNPA has regression values ($r^2 = 0.848$) for CD ratio, ($r^2 = 0.611$) for CASA, ($r^2 = 0.566$) for NIM, ($r^2 = 0.542$) for Non-Intt Income, ($r^2 = 0.607$) for ROA, ($r^2 = 0.611$) for ROE and ($r^2 = 0.769$) for Cost to Income. As per r square value GNPA has 84.8 percent impact on CD ratio, 61.1 percent impact on CASA, 56.6 percent on NIM, 54.2 percent impact on Non-Intt Income, 60.7 percent impact on ROA, 61.1 percent impact on ROE and 76.9 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$).

F- Values (1,10) for dependent variables CD ratio, CASA, NIM, Non-Intt Income, ROA, ROE and Cost to Income is more than the table value 4.96 and is therefore significant. We can say that the variation explained by the model is statistically significant($p < 0.05$).

The equation of line for prediction of financial ratios of Central Bank of India on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 81.679 - 1.712 * \text{GNPA} & \text{CASA} &= 30.580 + .768 * \text{GNPA} \\ \text{NIM} &= 2.556 - .022 * \text{GNPA} & \text{NII} &= .579 + .014 * \text{GNPA} \\ \text{ROA} &= .726 - .086 * \text{GNPA} & \text{ROE} &= 13.153 - 1.548 * \text{GNPA} \\ \text{Cost of Funds} &= 7.013 - .090 * \text{GNPA} & \text{CAR} &= 11.660 - .023 * \text{GNPA} \\ \text{Cost To Income} &= 24.792 + 1.364 * \text{GNPA} \end{aligned}$$

Table 6.2.17 : INDIAN OVERSEAS BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.580	.337	5.075	75.719	-.719	.048
CASA	.525	.276	3.805	27.797	.452	.080
NIM	.555	.308	4.451	2.386	-.016	.061
NII	.531	.282	3.930	.856	.029	.076
ROA	.784	.614	15.909	.898	-.118	.003
ROE	.807	.652	18.733	16.935	-2.240	.001
COF	.321	.103	1.152	6.543	-.043	.308
CAR	.598	.357	5.553	13.522	-.152	.040
CTI	.754	.569	13.203	25.758	1.675	.005

It can be observed from Table 6.2.17 that GNPA has regression values ($r^2 = 0.337$) for CD ratio, ($r^2 = 0.614$) for ROA, ($r^2 = 0.652$) for ROE, ($r^2 = 0.357$) for Capital Adequacy and ($r^2 = 0.569$) for Cost to Income. As per R^2 value GNPA has 33.7 percent impact on CD ratio, 61.4 percent on ROA, 65.2 percent impact on ROE, 35.7 percent impact on Capital Adequacy and 56.9 percent on Cost to Income ratio

and the relationship is significant ($p < 0.05$). F- Values (1,10) for dependent variables CD ratio, ROA, ROE, Capital Adequacy and Cost to Income is more than the table value 4.96 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$). The equation of line for prediction of financial ratios of Indian Overseas Bank on the basis of GNPA is formulated as below:

$$\text{CD Ratio} = 75.719 - .719 * \text{GNPA}$$

$$\text{CASA} = 27.797 + .452 * \text{GNPA}$$

$$\text{NIM} = 2.386 - .016 * \text{GNPA}$$

$$\text{NII} = .856 + .029 * \text{GNPA}$$

$$\text{ROA} = .898 - .118 * \text{GNPA}$$

$$\text{ROE} = 16.935 - 2.240 * \text{GNPA}$$

$$\text{Cost of Funds} = 6.543 - .043 * \text{GNPA}$$

$$\text{CAR} = 13.522 - .152 * \text{GNPA}$$

$$\text{Cost To Income} = 25.758 + 1.675 * \text{GNPA}$$

Table 6.2.18 : PUNJAB AND SIND BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.803	.644	18.126	73.672	-.641	.002
CASA	.762	.581	13.871	20.409	.681	.004
NIM	.090	.008	.082	2.132	-.004	.780
NII	.644	.415	7.091	.475	.020	.024
ROA	.676	.457	8.421	1.006	-.135	.016
ROE	.750	.562	12.823	17.700	-2.405	.005
COF	.697	.486	9.444	7.934	-.176	.012
CAR	.310	.096	1.063	11.559	.160	.327
CTI	.785	.617	16.087	13.352	2.857	.002

It can be observed from Table 6.2.18 that GNPA has regression values ($r^2 = 0.644$) for CD ratio, ($r^2 = 0.581$) for CASA, ($r^2 = 0.415$) for non-interest income, ($r^2 = 0.457$) for ROA, ($r^2 = 0.562$) for ROE, ($r^2 = 0.486$) for Cost of Funds and ($r^2 = 0.617$) for Cost to Income. As per adjusted r square value GNPA has 64.4 percent impact on CD ratio, 58.1 percent impact on CASA, 41.5 percent impact on non-interest income, 45.7 percent impact on ROA, 56.2 percent impact on ROE, 48.6 percent impact on Cost of Funds and 61.7 percent on Cost to Income ratio and the relationship is significant

($p < 0.05$). F- Values(1,10) for dependent variables CD ratio, CASA, Non-Intt Income, ROA, ROE, Cost of Funds and Cost to Income is more than the table value 4.96 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of Punjab and Sind Bank on the basis of GNPA is formulated as below:

$$\begin{aligned} \text{CD Ratio} &= 73.672 - .641 * \text{GNPA} & \text{CASA} &= 20.409 + .681 * \text{GNPA} \\ \text{NIM} &= 2.132 - .004 * \text{GNPA} & \text{NII} &= .475 + .020 * \text{GNPA} \\ \text{ROA} &= 1.006 - .135 * \text{GNPA} & \text{ROE} &= 17.700 - 2.405 * \text{GNPA} \\ \text{Cost of Funds} &= 7.934 - .176 * \text{GNPA} & \text{CAR} &= 11.559 + .160 * \text{GNPA} \\ \text{Cost To Income} &= 13.352 + 2.857 * \text{GNPA} \end{aligned}$$

Table 6.2.19: UCO BANK REGRESSION ANALYSIS

Dependent Variable	R Value	R Square	F Value	Coefficient		Sig
				Constant	IND	
CD RATIO	.725	.525	11.071	72.469	-.839	.008
CASA	.620	.384	6.243	26.514	.533	.032
NIM	.845	.713	24.891	2.670	-.042	.001
NII	.005	.000	.000	.811	.000	.987
ROA	.985	.970	323.785	1.163	-.124	.000
ROE	.978	.957	222.282	21.039	-2.115	.000
COF	.276	.076	.825	5.927	-.034	.385
CAR	.752	.566	13.055	13.827	-.139	.005
CTI	.856	.732	27.366	25.337	1.466	.000

It can be observed from Table 6.2.19 that GNPA has regression values ($R^2 = 0.525$) for CD ratio, ($r^2 = 0.384$) for CASA, ($r^2 = 0.713$) for NIM, ($r^2 = 0.970$) for ROA, ($r^2 = 0.957$) for ROE, ($r^2 = 0.566$) for Capital Adequacy and ($r^2 = 0.732$) for Cost to Income. As per adjusted r square value GNPA has 52.5 percent impact on CD ratio, 38.4 percent impact on CASA, 71.3 percent on NIM, 97 percent impact on ROA, 95.7 percent impact on ROE, 56.6 percent impact on Capital Adequacy and 73.2 percent on Cost to Income ratio and the relationship is significant ($p < 0.05$).

F- Values(1,10) for dependent variables CD ratio, CASA, NIM, ROA, ROE, Capital adequacy and Cost to Income is more than the table value 4.96 and is therefore significant. We can say that the variation explained by the model is statistically significant ($p < 0.05$).

The equation of line for prediction of financial ratios of United Commercial Bank on the basis of GNPA is formulated as below:

CD Ratio=72.469-.839 *GNPA	CASA= 26.514+.533 *GNPA
NIM=2.670-.042 *GNPA	NII=.811+.000 *GNPA
ROA=1.163-.124 *GNPA	ROE=21.039-2.115 *GNPA
Cost of Funds=5.927-.034 *GNPA	CAR=13.827-.139*GNPA
Cost To Income=25.337+1.466 *GNPA	

6.3 Summary of Correlation and Regression analysis

Majority of financial ratios of different merged and un-merged banks have negative correlation with GNPA. The table 6.3.1 and 6.3.2 below summarizes the impact of GNPA on such ratios (Dependent Variables):

**Table 6.3.1 Negative Correlation between GNPA & Dependent
Variables of Merged Banks**

BANK	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOB	√	-	√	-	√	√	√	√	-
VIJAYA	-	-	-	-	√	√	√	-	-
DENA	√	-	√	-	√	√	√	√	-
PNB	√	-	√	-	√	√	√	√	-
OBC	√	-	√	-	√	√	√	√	-
UNITED	√	-	√	-	√	√	√	√	-
CANARA	√	-	√	-	√	√	√	√	-
SYNDICATE	√	-	√	-	√	√	√	-	-
UNION	√	-	√	-	√	√	√	-	-
CORP	√	-	-	-	√	√	√	√	-
ANDHRA	√	-	√	-	√	√	√	√	√
INDIAN	-	-	√	-	√	√	√	-	-
ALLAHABAD	√	-	√	-	√	√	√	√	-

**Table 6.3.2 Negative Correlation between GNPA & Dependent
Variables of Un-Merged Banks**

BANK	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOI	√	-	√	-	√	√	√	-	-
BOM	√	-	√	-	√	√	√	√	-
CBI	√	-	√	-	√	√	√	√	-
IOB	√	-	√	-	√	√	√	√	-
PSB	√	-	√	-	√	√	√		-
UCO	√	-	√	-	√	√	√	√	-

It can be stated that GNPA negatively impacted all public sector banks with regard to their key financial ratios over the period of study.

Similarly the quantum of impact on different dependent variables by the independent variable (GNPA) analyzed through Regression Analysis is summarised below:

Table 6.3.3 Quantum of Impact (Percentage) of GNPA on Dependent Variables of Merged Banks

BANK	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOB	-	56	-	-	79.7	80	-	-	65.4
VIJAYA	48.3	50.3	-	-	-	-	-	-	-
DENA	70	57.4	-	-	68.9	64.1	-	-	89.4
PNB	81	47.7	95.4	-	88.2	86.5	43.4		48
OBC	40	88.7	86.2	65.7	81.9	76.3	49.7		82
UNITED	85.2	48.2	93.1	65.9	-	-	-	-	47
CANARA	-	52.6	-	53.8	82.9	81.9	-	-	-
SYNDICATE	62.8	-	-	47.2	91.3	89.9	50.8	-	85.4
UNION	63.4	75.4	72.9	-	92.8	91.4	-	-	77.1
ANDHRA	64.3	59.8	-	43.4	90	88.5	42.4	-	-
CORP	80.5	60.2	-	-	76.1	81.6		44.7	67.2
INDIAN	-	52.8	59.6	-	76.5	77.5	-	-	-
ALLAHABAD	-	92.1	81.2	-	86.8	80.4	65.7	-	79.5

Table 6.3.4 Quantum of Impact (Percentage) of GNPA on Dependent Variables of Un-Merged Banks

	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOI	69.10	54.70	-	-	54	75.10	38.10	-	91.2
BOM	-	-	84.9	-	55.1	52.3	-	-	39.6
CBI	84.8	61.1	56.6	54.2	60.7	61.1	-	-	76.9
IOB	33.7	-	-	-	61.4	65.2	-	35.7	56.9
PSB	64.4	58.1	-	41.5	45.7	56.2	48.6	-	61.7
UCO	52.5	38.4	71.3	-	97	95.7	-	56.6	73.2

It can be observed from Table 6.3.3 and 6.3.4 that Quantum of Impact of GNPA on dependent variables is highly significant.

Chapter 7

Objective4-To explore and compare the effect of financial performance on Restructuring of Public Sector Banks

Three of the public sector banks were merged with effect from 01-04-2019. It is therefore important to see the financial position of these banks amongst 19 PSBs on an average basis (Mean Values). In Statistics mean is considered significant for the reason that it gives the researcher an idea of where lies the ‘center’ of a dataset. Also it incorporates a piece of information from every observation in a dataset. Mean Values of different financial ratios of all the banks as per Descriptive Stat output from SPSS for the period 2011-2019 as derived as per Table 7.1.1:

Table 7.1.1: Mean Values as per Descriptive Statistics of all PSBs (2011-2019)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2019) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
ALL BANK	8.35	72.34	37.38	2.52	0.91	-0.25	-7.49	6.07	11.21	42.28
ANDHRA	7.97	75.74	27.90	2.78	0.87	0.22	2.58	6.52	12.15	42.37
BOB	6.10	70.46	29.16	2.22	0.81	0.43	7.40	4.80	13.15	44.26
BOI	8.42	71.94	27.86	2.07	0.84	0.21	0.07	5.35	11.90	38.03
BOM	8.65	71.87	41.61	2.57	0.81	-0.24	-5.04	6.12	11.82	41.34
CANARA	5.76	70.36	26.93	2.04	0.97	0.36	5.75	6.46	12.42	47.70
CBI	10.48	65.31	36.86	2.28	0.70	-0.38	-6.74	6.41	10.70	38.66
CORP	7.39	69.61	24.39	2.02	0.91	-0.12	-1.30	6.57	11.73	34.91
DENA	9.32	66.30	33.98	2.18	0.76	-0.57	-9.25	6.33	10.39	32.71
INDIAN	4.77	73.60	31.67	2.75	0.89	0.75	9.78	6.15	13.13	31.94
IOB	12.21	71.22	30.38	2.20	1.05	-0.48	-9.48	6.46	11.14	41.76
OBC	7.90	70.51	26.51	2.31	0.91	0.06	-0.32	6.59	12.00	34.96
PNB	8.92	73.81	38.89	2.74	1.03	0.16	1.84	5.46	11.49	45.04
PSB	6.08	70.27	23.70	2.10	0.57	0.21	3.52	7.02	11.73	27.60
SYNDIC	5.69	77.18	28.54	2.37	0.75	0.18	3.56	5.86	12.16	34.97

UCO	11.82	65.61	30.57	2.14	0.65	-0.32	-4.08	5.95	11.92	39.20
UNION	7.57	76.36	32.14	2.35	0.96	0.27	4.36	6.14	11.43	34.76
UNBI	11.06	59.64	43.26	1.92	1.21	-0.19	-3.25	6.13	11.62	38.63
VIJAYA	4.33	70.28	23.21	2.15	0.72	0.29	5.24	6.67	12.18	25.83

Table 7.1.2 :MEAN VALUES OF MERGED BANKS (GROUP 1) AS PER DESCRIPTIVE STATISTICS (2011-2019)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2019) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOB	6.10	70.46	29.16	2.22	0.81	0.43	7.40	4.80	13.15	44.26
VIJAYA	4.33	70.28	23.21	2.15	0.72	0.29	5.24	6.67	12.18	25.83
DENA	9.32	66.30	33.98	2.18	0.76	-0.57	-9.25	6.33	10.39	32.71

It can be made out that that Bank of Baroda is the strongest bank in the group followed by Vijaya Bank. BOB is better than Vijaya Bank in respect of CD Ratio, CASA, NIM, NII, ROA, ROE, Cost of Funds and CAR. Similarly BOB is better than Dena Bank in GNPA, CD Ratio, NIM, NII, ROA, ROE, Cost of Funds and CAR. Also Vijaya Bank is better than Dena Bank in GNPA, CD Ratio, ROA, ROE, CAR and Cost to Income. Therefore it can be concluded that Bank of Baroda and Vijaya Bank are stronger banks than Dena Bank which has the highest NPA, lowest CD Ratio, negative ROA and ROE and lowest CAR in the group. It is established that a weak bank like Dena bank has been amalgamated with two strong banks.

Further other ten public sector banks were merged with effect from 01-04-2020. The mean performance of these merged public sector banks (Group 2, 3, 4 and 5) for the period 2011-2020 is also derived from Descriptive Statistics as below:

**Table 7.1.3: MEAN VALUES AS PER DESCRIPTIVE STATISTICS OF PSBs
(2011-2020)**

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
ALLBANK	9.23	71.36	38.43	2.48	0.91	-0.45	-11.70	5.96	11.29	42.28
ANDHRA	8.78	75.59	28.57	2.78	0.90	0.15	1.28	6.43	12.05	42.37
BOI	9.06	71.39	28.72	2.10	0.86	0.15	-0.63	5.28	12.02	39.31
BOM	9.07	70.47	42.48	2.57	0.83	-0.19	-4.06	5.98	11.99	41.42
CANARA	5.99	70.23	27.37	2.02	0.98	0.29	4.58	6.36	12.54	48.81
CBI	11.33	63.59	37.81	2.27	0.74	-0.38	-6.62	6.28	10.80	39.34
CORP	8.03	68.85	25.00	2.05	0.99	-0.22	-2.75	6.46	11.71	34.91
INDIAN	4.98	73.84	31.97	2.74	0.91	0.70	9.16	6.05	13.23	32.86
IOB	12.47	69.54	31.37	2.19	1.08	-0.73	-13.78	6.34	11.10	45.86
OBC	8.38	70.33	26.92	2.29	0.94	-0.03	-1.56	6.49	11.96	34.96
PNB	9.45	73.13	39.30	2.69	1.04	0.15	1.72	5.41	11.75	46.18
PSB	6.89	69.75	24.28	2.08	0.60	0.09	1.42	6.92	11.83	29.31
SYNDIC	6.33	76.02	29.04	2.35	0.77	0.04	0.73	5.77	12.10	34.97
UCO	12.32	64.28	31.46	2.14	0.71	-0.38	-5.01	5.84	11.90	41.06
UNION	8.23	75.71	32.48	2.34	0.97	0.19	2.96	6.06	11.57	35.90
UNBI	11.29	58.58	44.03	1.92	1.26	-0.59	-9.88	6.00	11.02	38.63

Table 7.1.4 : MEAN VALUES OF MERGED BANKS (GROUP 2) AS PER DESCRIPTIVE STATISTICS (2011-2020)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
PNB	9.45	73.13	39.30	2.69	1.04	0.15	1.72	5.41	11.75	46.18
OBC	8.38	70.33	26.92	2.29	0.94	-0.03	-1.56	6.49	11.96	34.96
UNITED	11.29	58.58	44.03	1.92	1.26	-0.59	-9.88	6.00	11.02	38.63

It can be observed that most of the financial ratios for PNB and OBC are better than United Bank of India. Out of 10 ratios PNB is better in seven ratios than OBC which include CD Ratio, CASA, NIM, Non-Intt Income, ROA, ROE and Cost of Funds. Similarly PNB is better than United Bank of India in seven out of ten ratios which include GNPA, CD Ratio, NIM, ROA, ROE, Cost of Funds and CAR. OBC is better than United Bank of India in seven ratios of GNPA, CD Ratio, NIM, ROA, ROE, CAR and Cost to Income. Therefore it is established that financial health of OBC is better than United Bank of India which is having the weakest financial performance in the group.

Table 7.1.5 :MEAN VALUES OF MERGED BANKS (GROUP 3) AS PER DESCRIPTIVE STATISTICS (2011-2020)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
CANARA	5.99	70.23	27.37	2.02	0.98	0.29	4.58	6.36	12.54	48.81
SYNDIC	6.33	76.02	29.04	2.35	0.77	0.04	0.73	5.77	12.10	34.97

It can be observed that both Canara Bank and Syndicate Bank have almost similar financial performance over the years. Syndicate Bank is better than Canara Bank in

respect of CD Ratio, CASA, NIM, Cost of Funds and Cost to Income. CD Ratio of Syndicate Bank is much higher than Canara Bank which also explains its higher NPAs and the impact on profitability through ROA and ROE ratios which are near Zero and below 1 percent respectively, though not in negative territory.

Table 7.1.6 :MEAN VALUES OF MERGED BANKS (GROUP 4) AS PER DESCRIPTIVE STATISTICS (2011-2020)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
UNION	8.23	75.71	32.49	2.34	0.97	0.19	2.96	6.06	11.57	35.90
CORP	8.03	68.85	25.00	2.05	0.99	-0.22	-2.75	6.46	11.71	34.91
ANDHRA	8.78	75.59	28.57	2.78	0.90	0.15	1.28	6.43	12.05	42.37

It can be observed that Union Bank of India has better CD Ratio, CASA, NIM, ROA, ROE and Cost of Funds than Corporation Bank but its GNPA and Cost to Income are on higher side. Similarly Union Bank of India is better than Andhra Bank in respect of GNPA, CD Ratio, CASA, NII, ROA, ROE, Cost of Funds and Cost to Income. Andhra Bank is better than Corporation Bank in CD Ratio, CASA, NIM, ROA, ROE Cost of Funds and CAR. It can be concluded that Corporation Bank is the lowest performer amongst the three as its financial parameters like CD Ratio, CASA, NIM , ROA, ROE and Cost of Funds are weaker than the two other banks in the group. Again it can be established that a weak bank like Corporation Bank has been merged into two stronger banks.

Table 7.1.7 :MEAN VALUES OF MERGED BANKS (GROUP 5) AS PER DESCRIPTIVE STATISTICS (2011-2020)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
INDIAN	4.98	73.84	31.97	2.74	0.92	0.7	9.16	6.05	13.23	32.86
ALL BANK	9.23	71.36	38.43	2.48	0.91	-0.45	-1.70	5.96	11.29	42.28

It is obvious from the figures above that Indian Bank is a stronger bank than Allahabad Bank as it has lower GNPA, better CD ratio and NIM, higher Non-Interest income, ROA, ROE, CAR and lower Cost to Income. The financial ratios of Allahabad Bank like GNPA, CAR are much weaker and ROA and ROE are in negative territory. Accordingly a weaker bank has been merged in a bank with much stronger financials.

Table 7.1.8 : MEAN VALUES OF UN-MERGED BANKS (GROUP 6) AS PER DESCRIPTIVE STATISTICS (2011-2020)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2020) IN PERCENTAGE										
Bank	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOI	9.06	71.39	28.72	2.10	0.86	0.15	-0.63	5.28	12.02	39.31
BOM	9.07	70.47	42.48	2.57	0.83	-0.19	-4.06	5.98	11.99	41.42
CBI	11.33	63.59	37.81	2.27	0.74	-0.38	-6.62	6.28	10.80	39.34
IOB	12.47	69.54	31.37	2.19	1.08	-0.73	-3.78	6.34	11.10	45.86
PSB	6.89	69.75	24.28	2.08	0.60	0.09	1.42	6.92	11.83	29.31
UCO	12.32	64.28	31.46	2.14	0.71	-0.38	-5.01	5.84	11.90	41.06

It can be observed that on the date of merger of different PSBs, all unmerged banks with the exception of Punjab and Sind Bank had high GNPA and negative ROA and

ROE. Also CBI, IOB and UCO Bank have higher NPAs than the other three in the group. These three banks have weak financials with mean NPA ratios more than 11.30 percent. PSB though having lowest NPA has lowest CASA, NIM and Non-Interest Income while having the highest cost of Funds.

It is therefore significant that these six banks namely Bank of India, Bank of Maharashtra, Central Bank of India, Indian Overseas Bank, Punjab & Sind Bank and UCO Bank were left untouched by the Government of India. It appears that these banks were decided to be restructured at a future period of time because of their inherent weakness in their financials.

Summary of Restructured Banks

On the basis of comparison of financial performance of all public sector banks it can be established that while restructuring the banking sector, the Government chose to merge weak banks with strong banks rather than strong bank with stronger banks and weak banks with weaker banks as per recommendation of Narasimham Committee recommendations. The group wise rating of different banks on the basis of their financial strength is as under:

Table 7.1.9: Grouping and Rating of Merged PSBs

Group 1	Rating	Group2	Rating	Group 3	Rating
BOB (Anchor bank)	Strong	PNB (Anchor Bank)	Strong	Canara Bank (Anchor Bank)	Weak
VIJAYA	Strong	OBC	Strong	Syndicate	Strong
DENA	Weak	UNITED	Weak	-	
Group 4	Rating	Group 5	Rating	-	
UNION (Anchor Bank)	Strong	Indian (Anchor Bank)	Strong	-	
ANDHRA	Strong	Allahabad	Weak	-	
CORP	Weak			-	

It can be established from financial ratio analysis as detailed in Chapter 5 and the comparative mean strength (over number of years) of the amalgamating PSBs that

weak banks were chosen to be merged with stronger ones .This was the only option to save these banks from insolvency and a right step keeping in view their financial position at the relevant time. The Government of India could not afford to recapitalize these banks further at the cost of taxpayer's money. The only exception seem to be of Canara Bank which was weaker than Syndicate Bank but was named as an Anchor Bank .The reason that can be attributed is its bigger business size.

Chapter 8

Objective 5- To analyze the past restructuring of Public Sector Banks from various perspectives and study the possibility of further restructuring

Studies on International experiences/ practices generally refer to six methods for 'Bank Restructuring' (Dziobek 1997, Goodhart 2005, Hryckiewicz et al., 2020) used widely as under:

- Governments' Capital Injection
- Closure of Banks unable to survive
- Merger of Domestic Banks
- Privatization (Change of Ownership)
- Establishment of Assets Management Company/ Bad Bank
- Merger of domestic banks with foreign banks

8.1 Government's Capital Injection In Public Sector Banks :

It has been observed by us that Government of India injected a massive dose of Rs 335000 crore in Public Sector Banks to enable them to meet Basle requirements. But for this recapitalization the banks could have become insolvent. This option was exercised by the Government before exercising other harsher options of Restructuring. As per CAG report, Government had to revise its Budget estimates (Figure 1.7.1) for many years for recapitalization of public sector banks due to their poor financial health reflected in their depleting Capital Adequacy Ratios. Bank-wise injection of capital in different banks is reflected in Table 8.1.1 as below:

Table 8.1.1 Bank-wise Capital Injection in Public Sector Banks**(Rs. in Crores)**

BANK	2014	2015	2016	2017	2018	2019	2020	Total
Allahabad Bank	400	320	973	451	1,500	11,740	2153	17537
Andhra Bank	200	120	378	1,100	1,890	5,275	200	9163
Bank of Baroda	550	1,260	1,786	-	5,375	5,042	7,000	21013
Bank of India	1,000	-	3,605	2,838	9,232	14,724	-	31399
Bank of Maharashtra	800	-	394	300	3,173	4,703	-	9370
Canara Bank	500	570	947	745	4,865	-	6,571	14198
Central Bank of India	1,800	-	535	1,397	5,158	6,592	3,353	18835
Corporation Bank	450	-	857	508	2,187	11,641	-	15643
Dena Bank	700	140	407	1,046	3,045	-	-	5338
Indian Bank	-	280	-	-	-	-	2,534	2814
Indian Overseas Bank	1,200	-	2,009	2,651	4,694	5,963	8217	24734
Oriental Bank of Commerce	150	-	300	-	3,571	6,686	-	10707
Punjab National Bank	500	870	1,732	2,112	5,473	14,155	16,091	40933
Punjab & Sind Bank	100	-	-	-	785	-	787	1672
Syndicate Bank	200	460	740	776	2,839	3,963	-	8978
State Bank of India	2,000	2,970	5,393	5,681	8,800	-	-	24844
UCO Bank	200	-	935	1,925	6,507	6,406	4272	20245
Union Bank of India	500	-	1,080	541	4,524	4,112	11,768	22525
United Bank of India	700	-	480	1,026	2,634	4,998	1,666	11504
Vijaya Bank	250	-	220	-	1,277	-	-	1747
Bhartiya Mahila Bank	1,000	-	-	-	-	-	-	1000
Total	13200	6990	22771	23097	77529	106000	64612	314199

(Source: Ministry of Finance)

The bank wise recapitalization from 2013-14 to 2019-20 as above explains in detail year wise capitalization of PSBs (excluding recapitalization for IDBI Bank Ltd which is categorized as a private bank now). It can be observed that all these banks got a regular and massive injection of capital to enable them to maintain capital as per Basel norms. However the recapitalisation of PSBs was done at the expense of taxpayer's money. In the process a massive amount of more than Rs.314199 crore was infused in the said banks between 2014 to 2020 towards recapitalization.

In addition to the above, in September 2020, the Parliament approved supplementary demand for grants of Rs.20000 crore for recapitalization in PSBs, of which Rs.5500 crore alone was infused in Punjab and Sind Bank in November 2020. Besides Government also recapitalized the PSBs by Rs.4600 Crore in 2021-22 (DFS, Ministry of Finance).

It is significant to note that despite Government's initial endeavour to turn around these banks did not bring about the desired results. Their share in advances continued to slide (Figure 1.5.2) due to paucity of capital and accordingly NPA ratio did not come down significantly. Government had therefore to exercise other options of restructuring.

It may be mentioned that no budgetary allocation was made in the Year 2022-23 for recapitalization needs of PSBs as bank restructuring of thirteen PSBs has been completed upto 2020 and un-merged banks are showing signs of improvement of their financials by March 2022 and as such may not need further capital for the time being.

8.2 Closure of Banks unable to survive:

Government closed Bhartiya Mahila Bank (BMB) a bank which was set up in 2013 to grant accessible banking services to women and promote entrepreneurship in them. The bank became an unviable bank over a time period as it could generate a total business of only Rs. 1600 crores in three years despite having 103 branches across the country. Bank granted loans for a meagre amount of Rs. 192 crores to women borrowers and therefore had questions about its viability. Ultimately Government of India decided to restructure it by merger with SBI in 2017.

8.3 Merger of Domestic Banks

Government consolidated 13 PSBs into 5 Big Banks by Merger as detailed earlier.

8.4 Privatization of Public Sector Banks

Privatization of two PSBs was announced in Budget proposals for FY 2021-22. Central Bank of India and Indian Overseas Bank, two of the weakest banks, are supposed to have been shortlisted in 2021 by Niti Aayog as per economic media reports but no final decision has been taken so far.

8.5 Establishment of Asset Management Company

It has been observed that in an effort to reduce NPAs of PSBs. Government of India has also incorporated a new Bad Bank for the country in the shape of NARCL (National Asset Reconstruction Company Ltd) which is expected to buy bad loans/NPAs above Rs.500 crores of PSBs amounting to 2 lakh crore in phases within extant regulations of RBI. Under the arrangement Banks offering their big ticket NPAs to the new 'Bad Bank' of India will get up to 15 percent of the agreed value for the loans in cash and the remaining 85 percent would be received as government guaranteed security receipts. The Government has agreed to provide guarantees for Rs.30,600 crore to cover shortfall between the face value of SRs and their actual realization . Another company 'India Debt Resolution Co. Ltd' (IDRCL) has also been established by the Government. This company will manage the assets and engage market professionals/ turnaround experts for resolution of NPAs.

8.6 Merger of Domestic Banks with Foreign Banks

Only one alternative is left of merger of PSBs with foreign banks. However this may not be a viable option for Restructuring due to its social and political impact in the country (However a private bank Laxmi Vilas Bank has been allowed to be taken over by DBS India –a wholly owned subsidiary of DBS Singapore to avoid its insolvency.

8.7 Restructuring of Public Sector Banks in the past

To understand further the past restructuring of Public Sector Banks it is necessary to see their overall performance by Ranks achieved for different financial parameters for

a span of 9-12 years for different groups. Financial performance of a bank for a particular year may lead us to wrong decision. Therefore ranking method based on performance for a large number of indicators and years offers a simplistic and researcher friendly data for evaluation of banks. Three of the banks were merged in 2019. Accordingly the sum of Ranks of different parameters arrived on the basis of mean values of the financial parameters of all banks for the period 2011-2019 are given below:

Table 8.7.1: RANK OF PSBs ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2019)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	COI	TOTAL
AB	11	6	4	5	6	15	17	6	16	15	101
ANDHRA	10	3	13	1	10	6	8	15	6	16	88
BOB	6	11	11	10	13	2	2	1	1	17	74
BOI	12	7	14	16	11	7	10	2	9	9	97
BOM	13	8	2	4	12	14	15	7	10	13	98
CANARA	4	12	15	17	4	3	3	13	3	19	93
CBI	16	18	5	9	17	17	16	12	18	11	139
CORP	7	15	17	18	8	12	12	16	11	6	122
DENA	15	16	6	12	14	19	18	11	19	4	134
INDIAN	2	5	8	2	9	1	1	10	2	3	43
IOB	19	9	10	11	2	18	19	14	17	14	133
OBC	9	10	16	8	7	11	11	17	7	7	103
PNB	14	4	3	3	3	10	9	3	14	18	81
PSB	5	14	18	15	19	8	7	19	12	2	119
SYNDIC	3	1	12	6	15	9	6	4	5	8	69
UCO	18	17	9	14	18	16	14	5	8	12	131
UNION	8	2	7	7	5	5	5	9	15	5	68
UNITED	17	19	1	19	1	13	13	8	13	10	114
VIJAYA	1	13	19	13	16	4	4	18	4	1	93

Note: Lower Rank denotes better performance.

Table 8.7.2: RANK OF GROUP 1 ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2019)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOB	6	11	11	10	13	2	2	1	1	17	74
DENA	15	16	6	12	14	19	18	11	19	4	134
VIJAYA	1	13	19	13	16	4	4	18	4	1	93

Note: Lower Rank denotes better performance

It can be substantiated that Dena Bank is the lowest performer in the group having a rank of 134 against Bank of Baroda and Vijaya Bank rank of 74 and 93 respectively.

It is established from the Table 8.7.2 that Bank of Baroda was one of the strongest banks as on 31-03-2019 with a score of 74 and having top ranks in key parameters like CAR, ROA, ROE and Cost of Funds. Similarly Vijaya Bank having a score of 93 is a good performer in financials with highest rank in GNPA (low NPAs) and good ranks in some of the parameters like ROA, ROE and CAR. It can be established therefore that one of the weakest banks Dena Bank with a second lowest score of 134 had to be amalgamated with these two strong banks.

The GARRETT ranking scores of different public sector banks on the basis of Mean Values of Descriptive Statistics for the years 2011 to 2019 is given as under:

Table 8.7.3 : GARRETT RANKING SCORE OF ALL PSBS (2011-2019)

Garret Rank based on Mean Descriptives for all PSBs (2011-2019)											
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOB	61	47	47	50	42	78	78	87	87	28	605
DENA	36	32	61	45	39	13	22	47	13	68	376
VIJAYA	87	42	13	42	32	68	68	22	68	87	529
PNB	39	68	72	72	72	50	53	72	39	22	559
OBC	53	50	32	55	58	47	47	28	58	58	486
UNITED	28	13	87	13	87	42	42	53	42	50	457
CANARA	68	45	36	28	64	72	72	42	72	13	512

SYNDICATE	72	87	45	61	36	53	61	68	64	55	602
UNION	55	78	58	58	68	64	64	55	36	64	600
CORP	58	36	28	22	55	45	45	32	47	61	429
ANDHRA	50	72	42	87	50	61	55	36	61	32	546
INDIAN	78	64	55	78	53	87	87	50	78	72	702
ALLAHBAD	47	61	68	64	61	36	28	61	32	36	494
BOI	45	58	39	32	47	58	50	78	53	53	513
BOM	42	55	78	68	45	39	36	58	50	42	513
CBI	32	22	64	53	28	28	32	45	22	47	373
IOB	13	53	50	47	78	22	13	39	28	39	382
PSB	64	39	22	36	13	55	58	13	45	78	423
UCO	22	28	53	39	22	32	39	64	55	45	399

Note: The higher score indicates better performance

Table 8.7.4 : GARRETT RANKING SCORE OF GROUP 1 (2011-2019)

BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOB	61	47	47	50	42	78	78	87	87	28	605
DENA	36	32	61	45	39	13	22	47	13	68	376
VIJAYA	87	42	13	42	32	68	68	22	68	87	529

Note: The higher score indicates better performance

The GARRETT score gives the gap between scores of different merged banks. It can be established that Bank of Baroda with a score of 605 is the second strongest bank in the group of public sector banks. However Dena Bank is the weakest bank in the group with the second lowest score of 376 amongst 19 banks. Therefore it can be established that a very weak bank has been merged into the strongest bank. To compensate Vijaya Bank one of the banks with a high rating has been amalgamated with Bank of Baroda.

The Ranks of remaining 16 public sector banks on the basis of Mean Values of Descriptive Statistics for the period 2011-2020 (thirteen PSBs were further merged on 01-04-2020) and their GARRETT Score is given under as per Table 8.7.5 and Table 8.7.6 :

**Table 8.7.5: RANK OF PSBs AS PER MEAN DESCRIPTIVE STATS
(2011-2020)**

RANK AS PER DESCRIPTIVE STATISTICS (2011-2020)											
BANK	GNPA	CDRA TIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
AB	11	7	4	5	9	14	15	5	13	12	95
ANDHRA	8	3	12	1	10	5	6	13	4	13	75
BOI	9	6	11	12	11	6	8	1	5	8	77
BOM	10	8	2	4	12	10	11	6	6	11	80
CANARA	2	10	13	15	5	2	2	12	2	16	79
CBI	14	15	5	9	14	12	13	10	16	9	117
CORP	5	13	15	14	4	11	10	14	11	3	100
INDIAN	1	4	7	2	8	1	1	8	1	2	35
IOB	16	12	9	10	2	16	16	11	14	14	120
OBC	7	9	14	8	7	9	9	15	7	4	89
PNB	12	5	3	3	3	4	4	2	10	15	61
PSB	4	11	16	13	16	7	5	16	9	1	98
SYNDI	3	1	10	6	13	8	7	3	3	5	59
UNION	6	2	6	7	6	3	3	9	12	6	60
UNITED	13	16	1	16	1	15	14	7	15	7	105
UCO	15	14	8	11	15	13	12	4	8	10	110

Note: Lower rank indicates better performance

Table 8. 7. 6 : GARRETT RANK SCORE ON BASIS OF MEAN VALUES**UPTO 2020**

The GARRETT Scores of different public sector banks on the basis of Mean Values of Descriptive Statistics for the years 2011 to 2020 is given as under:

BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
AB	42	55	65	61	48	30	24	61	35	39	460
ANDHRA	52	70	39	86	45	61	58	35	65	35	546
BOI	48	58	42	39	42	58	52	86	61	52	538
BOM	45	52	76	65	39	45	42	58	58	42	522
CANARA	76	45	35	24	61	76	76	39	76	14	522
CBI	30	24	61	48	30	39	35	45	14	48	374
CORP	61	35	24	30	65	42	45	30	42	70	444
INDIAN	86	66	55	76	52	86	86	52	86	76	721
IOB	14	39	48	45	76	14	14	42	30	30	352
OBC	55	49	30	52	55	48	48	24	55	65	481
PNB	39	61	70	70	70	65	65	76	45	24	585
PSB	65	42	14	35	14	55	61	14	48	86	434
SYNDIC	70	86	45	58	35	52	55	70	70	61	602
UCO	24	30	52	42	24	35	39	65	52	45	408
UNION	58	76	58	55	58	70	70	48	39	58	590
UNITED	35	14	86	14	86	24	30	55	24	55	423

Note: The higher score indicates better performance.

Table 8.7.7 : RANK OF GROUP 2 ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2020)

BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
PNB	12	5	3	3	3	4	4	2	10	15	61
OBC	7	9	14	8	7	9	9	15	7	4	89
UNITED	13	16	1	16	1	15	14	7	15	7	105

Note: Lower rank indicates better performance

It can be substantiated that United Bank of India is the lowest performer in the group having a rank of 105 against PNB and OBC rank of 61 and 89 respectively.

Table 8.7.8 : GARRETT RANKING SCORE OF GROUP 2 (2011-2020)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
PNB	39	61	70	70	70	65	65	76	45	24	585
OBC	55	49	30	52	55	48	48	24	55	65	481
UNITED	35	14	86	14	86	24	30	55	24	55	423

Note: The higher score indicates better performance.

The Garrett score gives the gap between scores of different merged banks. It can be substantiated that PNB with a score of 585 is the strongest bank in this group of public sector banks. However, United Bank of India is the weakest bank in the group with a low score of 423 amongst 19 banks. Therefore, it can be established that a very weak bank has been merged into the strongest bank. To compensate OBC, one of the banks with a better score has been amalgamated with PNB.

Table 8.7.9 : RANK OF GROUP 3 ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2020)

BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
CANARA	2	10	13	15	5	2	2	12	2	16	79
SYNDIC	3	1	10	6	13	8	7	3	3	5	59

Note: Lower rank indicates better performance

From the ranks arrived at for Canara bank and Syndicate Bank as per Table 8.7.9 it can be emphasized that Syndicate Bank is a better bank than Canara Bank. The GARRET scores of these banks are as per Table 8.7.10:

Table 8.7.10 : GARETT RANKING SCORE OF GROUP 3 (2011-2020)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
CANARA	76	45	35	24	61	76	76	39	76	14	522
SYNDIC	70	86	45	58	35	52	55	70	70	61	602

Note: The higher score indicates better performance

The ranks of Union Bank Group (Group 4) is given in Table 8.7.11 as under:

Table 8.7.11 : RANK OF GROUP 4 ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2020)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
UNION	6	2	6	7	6	3	3	9	12	6	60
ANDHRA	8	3	12	1	10	5	6	13	4	13	75
CORP	5	13	15	14	4	11	10	14	11	3	100

Note: Lower rank indicates better performance

It can be substantiated that Corporation Bank is the lowest performer in the group having a rank of 100 against Union Bank and Andhra Bank rank of 60 and 75 respectively.

The GARRET Scores of these banks on the basis of Mean Values of Descriptive Statistics for the years 2011 to 2020 is given as under :

Table 8.7.12 : GARRETT RANKING SCORE OF GROUP 4 (2011-2020)

BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
UNION	58	76	58	55	58	70	70	48	39	58	590
ANDHRA	52	70	39	86	45	61	58	35	65	35	546
CORP	61	35	24	30	65	42	45	30	42	70	444

Note: The higher score indicates better performance

The Garrett score gives the gap between scores of different merged banks. It can be established that Union Bank of India with a score of 590 is the strongest bank in this group of public sector banks. However Corporation Bank is the weakest bank in the group with a low score of 444 amongst 16 banks. Therefore it can be established that a very weak bank has been merged into the strongest bank. To compensate this, Andhra Bank having a good score of 546 which is a good score has been amalgamated with Union Bank.

Table 8.7.13 : RANK OF GROUP 5 ON THE BASIS OF MEAN VALUES OF DESCRIPTIVE STATS (2011-2020)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
INDIAN	1	4	7	2	8	1	1	8	1	2	35
AB	11	7	4	5	9	14	15	5	13	12	95

Note: Lower rank indicates better performance

It can be established that Indian Bank was a much better bank in performance (Rank 35) than the bank amalgamated in it Allahabad Bank (Rank 95).

Table 8.7.14 : GARETT RANKING SCORE OF GROUP 5 (2011-2020)

BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
INDIAN	86	66	55	76	52	86	86	52	86	76	721
AB	42	55	65	61	48	30	24	61	35	39	460

Note: The higher score indicates better performance

It can be observed from the difference in gap of scores of two banks that Indian Bank was much better in financial performance than Allahabad Bank having one of the lowest scores.

Garrett ranking scores of Bank of Baroda Group for the FY March 2019 and PNB, Canara, Union and Indian Bank Groups for FY March 2020 are as under:

Table 8.7.15: GARRETT RANKING SCORES OF GROUPS OF MERGED BANKS

BANK	GARRETT SCORE	BANK	GARRETT SCORE	BANK	GARRETT SCORE
BOB	605	UNION	590	CANARA	522
DENA	376	CORP	444	SYNDICATE	602
VIJAYA	529	ANDHRA	546	-----	
TOTAL	1510	TOTAL	1580	TOTAL	1124
PNB	585			INDIAN	721
OBC	481			ALLAHABAD	460
UNITED	423			-----	
TOTAL	1489			TOTAL	1181

Note: The higher score indicates better performance

It can be established from GARRETT ranking scores, that Government of India merged almost equal ranking banks (with less than 5 percent variation) which is evident from the scores of Bank of Baroda Group (1510), PNB Group(1489) and Union Bank of India Group (1580). Similarly Canara Bank Group and Indian Bank Group have almost identical scores of 1124 and 1181 respectively based on their financials.

From a close scrutiny it is established that Dena Bank, United Bank and Corporation Bank were weaker financially than the two other banks in the respective groups. Similarly Canara Bank and Allahabad Bank were weaker than the banks in which these are amalgamated.

UNMERGED BANKS (GROUP 6)

Table 8.7.16: RANK OF UN-MERGED BANKS ON BASIS OF MEAN SCORES OF 2011-2019

RANK OF UNMERGED BANKS IN ALL PSBS (2011-2019)											
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOI	12	7	14	16	11	7	10	2	9	9	97
BOM	13	8	2	4	12	14	15	7	10	13	98
CBI	16	18	5	9	17	17	16	12	18	11	139
IOB	19	9	10	11	2	18	19	14	17	14	133
PSB	5	14	18	15	19	8	7	19	12	2	119
UCO	18	17	9	14	18	16	14	5	8	12	131

Note: The lower rank indicates better performance

From the above it can be observed that four banks out of the six un-merged banks are the weakest amongst the nineteen Public Sector Banks and were therefore not considered for merger to further impact adversely the Anchor Banks (already weakened by the NPAs). The two banks BOI and BOM though weaker, emerged to be

financially better than others in the group of unmerged banks. The gap in ranks of different banks is visible from the Garrett Scores of these banks as under:

Table 8.7.17: GARRETT RANKING SCORES OF UN-MERGED BANKS

Garrett Rank based on Mean Descriptives for Un-Merged PSBs (2011-2019)											
BANK	GNPA	CDRATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOI	45	58	39	32	47	58	50	78	53	53	513
BOM	42	55	78	68	45	39	36	58	50	42	513
CBI	32	22	64	53	28	28	32	45	22	47	373
IOB	13	53	50	47	78	22	13	39	28	39	382
PSB	64	39	22	36	13	55	58	13	45	78	423
UCO	22	28	53	39	22	32	39	64	55	45	399

Note: The higher score indicates better performance

The GARRETT ranking scores reinforce the better performance of BOI and BOM on the basis of financials of FY ending March 2019 with scores of 513 each. The other four banks in the group have lower scores. It can be established that there exists a big gap in the performance of Bank of India and Bank of Maharashtra and the other four banks. To further analyze the performance of unmerged banks a further period of three years is analyzed to judge their performance by mean values based on descriptive statistics for the period 2011-2022 as under:

Table 8.7.18 : MEAN VALUES OF UN-MERGED BANKS AS PER DESCRIPTIVE STATISTICS (2011-2022)

MEAN VALUES AS PER DESCRIPTIVE STATISTICS (2011-2022) IN PERCENTAGE										
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOI	9.53	69.94	30.33	2.09	0.90	0.18	0.44	5.06	12.68	39.51
BOM	8.48	69.03	44.72	2.60	0.91	-0.09	-2.25	5.63	12.57	42.21
CBI	12.05	61.04	39.84	2.29	0.75	-0.31	-5.51	5.92	11.39	41.24

IOB	12.18	66.96	33.30	2.19	1.22	-0.53	-0.35	6.02	11.68	46.16
PSB	7.90	68.60	25.79	2.10	0.64	-0.06	-1.31	6.54	12.82	35.93
UCO	11.72	62.64	32.76	2.18	0.81	-0.29	-3.75	5.53	12.20	42.51

It can be observed that out of the six PSBs not merged, BOI, BOM and PSB continue to have lower NPAs than the other three in the group **even on the basis of mean values upto the year 2022**. Central Bank of India, Indian Overseas Bank and UCO Bank have weak financials with mean NPA ratios more than 11.70 percent. Similarly their ROA and ROE are also in highly negative terrain depicting impact of GNPA's on profitability. Cost to income of all these three banks also continue to be high.

Table 8.7.19 : RANK OF UNMERGED BANKS ON BASIS OF MEAN VALUES (2011-22)

RANK OF UN-MERGED BANKS AS PER DESCRIPTIVE STATISTICS (2011-2022)											
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOI	3	1	5	6	3	1	1	1	2	2	25
BOM	2	2	1	1	2	3	3	3	3	4	24
CBI	5	6	2	2	5	5	5	4	6	3	43
IOB	6	4	3	3	1	6	6	5	5	6	45
PSB	1	3	6	5	6	2	2	6	1	1	33
UCO	4	5	4	4	4	4	4	2	4	5	40

Note: The lowest rank indicates better performance

It can be established conclusively that Bank of India and Bank of Maharashtra with rank total of 25 and 24 respectively continue to be the best performers in the group of six unmerged banks.

**Table 8.7.20: GARRETT RANK OF UNMERGED BANKS ON BASIS OF
MEAN VALUES (2011-22)**

Garrett Rank based on Mean Descriptives for Un-Merged PSBs (2011-2022)											
BANK	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI	TOTAL
BOI	54	77	37	23	54	77	77	77	63	63	602
BOM	63	63	77	77	63	54	54	54	54	46	605
CBI	37	23	63	63	37	37	37	46	23	54	420
IOB	23	46	54	54	77	23	23	37	37	23	397
PSB	77	54	23	37	23	63	63	23	77	77	517
UCO	46	37	46	46	46	46	46	63	46	37	459

Note: The higher score indicates better performance

Garrett rank analysis of Un-Merged Banks reinforces the better strength of Bank of India (602) and Bank of Maharashtra (605) are the top performers over a period of 12 years. Punjab and Sind Bank is placed in third position with a score of 517 in the group of six banks.

CHAPTER 9

CONCLUSIONS AND FINDINGS

This research project is related to Study of Financial Performance of Public Sector Banks, Identify the reasons and trends of NPAs and assess their impact on financial performance leading to their Restructuring by the Government of India. An effort is also made to look into the possible financial reasons for merger of different groups of banks and to explore the possibility of further restructuring of PSBs. Secondary data was obtained from RBI Website and money control.com. The tools for obtaining results are the content analysis, Ratio analysis, Correlation and Regression techniques besides Descriptive Statistics. Key findings and conclusions drawn are summarised in this section. Some suggestions have been made for the Government and Reserve Bank of India for looking into Restructuring of unmerged PSBs at a point of time in future. The investors interested in buying stake on banks on block as intended by Government can rely upon the financial performance of such banks over a long period of twelve years (2011-2022). The retail investors can also take a cue from the improvement in performance of merged banks after their consolidation for their investment appetite in Banking Stocks.

9.1 Findings of the Study

The important findings of the study are as under:

9.1.1 Trends of Non- Performing Assets

It is observed that Gross Non-performing Assets of Merged and Un-merged Public sector banks are on a decreasing trend since 2019 and as at end of March 2022 come down significantly. The lowest and the highest level of NPAs of merged and un-merged banks between the period 2011-2022 and the present position is given as per Table 9.1.1:

Table 9.1.1. TREND OF NON-PERFORMING ASSETS**(In Percentage)**

BANK	LOWEST	HIGHEST	PRESENT (MARCH 2022)
BOB	1.62	12.26	6.61
BOI	2.64	16.58	9.98
BOM	1.49	12.81	3.94
CANARA	1.47	11.84	7.34
CBI	1.82	21.48	14.84
INDIAN	0.99	9.85	8.47
IOB	2.71	25.28	9.82
PNB	1.79	18.38	11.78
PSB	0.99	14.18	12.17
UNION	2.37	15.73	11.11
UCO	3.31	25.00	7.89

It is observed that some of the banks like Bank of India, Bank of Maharashtra, IOB and UCO Bank have been able to bring about substantial reduction of their Gross NPAs. The anchor banks which amalgamated other banks in their fold too have exhibited substantial improvement in reduction of their GNPA. However Central Bank of India, Punjab National Bank , Punjab and Sind Bank and Union Bank of India continue to have double digit GNPA but it is expected that their performance will be better in FY 23 once Statutory and RBI audited figures are put in public domain/RBI Website.

9.1.2 Reasons of NPAs

The study examined the reasons as enumerated by different authors for the rise in non-performing assets of banks through different codes (Annexure-I). The main reasons observed through a detailed Content Analysis are as under:

EXTERNAL REASONS(ER)

Out of 10 external reasons for which literature was scanned through Content Analysis the following four reasons are found to be established prominently by the authors as Reasons for slippage of loan accounts in NPA category :

- **ER 1-** Decline in GDP, high inflation, recession and the resultant slowing economy, business environment , over optimism for fresh investments and natural calamities
- **ER 3-** Moral Hazard, Regulatory Forbearance, Excessive Risk Taking , Political and Social Implications
- **ER 6-** Adverse Exchange Rate movements resulting in huge losses for projects which did not exercise hedging options. Externalisation problems from countries having difficult balance of payments position and consequent restrictions on remittances of payments for imports , Non-payment and overdues in other countries, Disputes in Terms of Trade, Interest Rate Hike
- **ER 10-**Lack of Efficient Legal System and absence of Bankruptcy Laws

INTERNAL REASONS (IR)

The following reasons internal to banks' functioning out of 10 different reasons Coded are established as significant from a review of literature:

- **IR 1-** Incompetent Boards, Credit Policy of Banks, Inadequate Risk Assessment , Excess exposure to Corporates, Rapid Credit Growth, Weak Corporate Governance, Connected Lending, Corporate Bank Nexus, Inefficient operations
- **IR 2-** Due diligence of borrower, Lack of effective coordination between banks & financial institutions in respect of Large Value Projects at the implementation stage, Non –sharing of information with other banks/ members of Consortium about borrower

- **IR 3-** Weak appraisal of credit needs, Collateral based lending Vs Cash, Unrealistic Terms of Credit (Repayment and Moratorium), Lack of knowledge & training of staff
- **IR 6-** Poor post sanction follow up and supervision(Slackness on the part of the credit management staff in their post sanction follow up to detect and prevent diversion of funds), Lack of advanced collection system

BORRPWER RELATED (BR)

Out of the 10 borrower related reasons coded, five reasons come out to be significant as per Content Analysis are as under:

- **BR 2-** Unscrupulous borrowers with dubious integrity having resorted to Diversion of short term funds for long term uses and/or to unrelated businesses and/ or misused the Restructuring Norms
- **BR 4-** Wrong choice of technology/ Technical problems, product obsolescence and business failure
- **BR 7-**Wilful Default (The names and number of accounts of major Wilful Defaulters in different banks as on 30-09-2019 is as per Annexure- II & III)
- **BR 8-** Fraud (Siphoning of money), Over-invoicing of project-cost
- **BR 9-** Time and Cost Overrun

9.1.3 IMPACT OF GNPA ON FINANCIAL PERFORMANCE OF PSBs

The impact of GNPA on nine different financial parameters of PSBs was observed to be found through Correlation and Regression Analysis. The GNPA which is Independent variable of our study has negatively impacted the financial parameters of merged banks as per Table 9.1.3:

Table 9.1.3 Impact of GNPA on financial performance of Merged PSBs

BANK	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
BOB	√	-	√	-	√	√	√	√	-
VIJAYA	-	-	-	-	√	√	√	-	-
DENA	√	-	√	-	√	√	√	√	-
PNB	√	-	√	-	√	√	√	√	-
OBC	√	-	√	-	√	√	√	√	-
UNITED	√	-	√	-	√	√	√	√	-
UNION	√	-	√	-	√	√	√	-	-
ANDHRA	√	-	√	-	√	√	√	√	√
CORP	√	-	-	-	√	√	√	√	-
CANARA	√	-	√	-	√	√	√	√	-
SYNDICATE	√	-	√	-	√	√	√	-	-
INDIAN	-	-	√	-	√	√	√	-	-
ALLAHABAD	√	-	√	-	√	√	√	√	-

It can be observed from above Table that Bank of Baroda, Dena Bank, PNB, OBC , United Bank of India, Canara Bank, Allahabad Bank have been impacted in respect of CD Ratio, NIM,ROA, ROE, Cost of Funds and CAR.

Union Bank of India, Syndicate Bank are impacted in respect of CD ratio, NIM, ROA, ROE and Cost of Funds and Corporation Bank is impacted by GNPA on financials like CD Ratio, ROA, ROE, Cost of Funds and CAR.

Andhra Bank is impacted in respect of CD Ratio, NIM, ROA, ROE, Cost of Funds, CAR and Cost to Income.

Indian Bank was efficient to maintain single digit GNPA during the period of study and such was only impacted in respect of NIM, ROA, ROE and Cost of

Funds (Only four parameters are negatively affected), Vijaya Bank was impacted only in respect of ROA, ROE and Cost of Funds (Three Parameters). It can be construed that these banks exhibited their financial resilience. This is also corroborated by the lowest recapitalization of these banks for an amount of Rs. 2814 crore and Rs.1747 crore respectively by the Government of India between 2014 to 2020.

9.1.4 Impact of GNPA on Un-Merged Banks

The impact of GNPA on financials of Un-Merged Banks is given as per Table 9.1.4:

Table 9.1.4 Impact of GNPA on financials of Un-Merged banks

BANK	CD RATIO	CASA	NIM	NII	ROA	ROE	COST OF FUNDS	CAR	COST TO INCOME
BOI	√	-	√	-	√	√	√	-	-
BOM	√	-	√	-	√	√	√	√	-
CBI	√	-	√	-	√	√	√	√	-
IOB	√	-	√	-	√	√	√	√	-
PSB	√	-	√	-	√	√	√		-
UCO	√	-	√	-	√	√	√	√	-

Rejection of Null Hypothesis H₁:

From above it can also be established that GNPA has impacted the major financial parameters of Public Sector Banks like CD Ratio, NIM , ROA, ROE , Cost of Funds and Capital Adequacy Ratio rejecting our Null Hypothesis H₁ that there is no significant relationship between NPAs and financial performance of public sector banks.

The result has similarity of findings in literature. High NPAs reduce the deposit base and affect the credit generation capacity (Bawa et al., 2018) which implies banks are not left with much lendable resources thus affecting their CD Ratio. Higher loan growth(CD Ratio) generally resulted in higher NPAs (Salas and Saurina 2002). The view was endorsed by Keeton (1999). Saksonova (2014) emphasized that Net Interest

Margin had a tendency to reduce before difficulties engulfed the banks and therefore it can serve as an important indicator of growing tensions or vulnerabilities in the banking sector. Presence of NPAs indicate asset quality of a bank which affects future income generating prospects (NIM, ROA & ROE). NPAs require provisioning which has implications with respect to capital adequacy also (Dutta 2005). There exists a negative relation between CAR and NPA (Rajaraman, Bhaumik and Bhatia 1999., Rajaraman and Vasishtha 2001., Ghosh 2005., Das and Ghosh 2006). Through analysis of data from 2009 to 2015 it was observed that with higher NPA levels the Capital Adequacy Ratio is reducing (Kokane & Nerlekar 2017). Valliammal and Siddiqui (2018) noticed significant impact of NPAs on profitability. Saradhi and Siddiqui (2021) established that increase in GNPA impacted negatively ROA and ROE of banks. Erdas & Ezanoglu (2022) analyzed NPL rates from 1998 to 2017 which indicated capital adequacy has a negative association with NPLs.

9.1.5 Garrett Ranking of all PSB Groups

Through Descriptive Stat analysis of different banks (on the basis of mean performance for 9-10 years, it is established that Government of India has merged a weaker bank in the group of two strong banks. The same is also confirmed from GARETT Ranks of merged banks which measure the gap in the strength of different rankings of banks as per Table 9.1.5:

Table 9.1.5: GARRETT RANKING OF ALL PSB GROUPS

BANK	GARRETT SCORE	BANK	GARRETT SCORE	BANK	GARRETT SCORE
BOB GROUP		UNION BANK GROUP		CANARA BANK GROUP	
BOB	605	UNION	590	CANARA	522
DENA	376	CORP	444	SYNDICATE	602
VIJAYA	529	ANDHRA	546	-----	-----
TOTAL	1510	TOTAL	1580	TOTAL	1124
PNB GROUP		UN-MERGED GROUP		INDIAN BANK GROUP	
PNB	585	BOI	602	INDIAN	721
UNITED	423	BOM	605	ALLAHABAD	460
OBC	481	CBI	420	-----	-----
TOTAL	1489	IOB	397	TOTAL	1181
		PSB	517		
		UCO	459		

(Higher Score indicates better performance)

Rejection of Null Hypothesis H₂:

From a critical examination of ranks obtained and Garrett scores of all public sector banks it is established that Government of India has amalgamated weak banks with stronger banks on the basis of their mean performance of 9-10 years. Dena and Vijaya Bank are weaker as compared to financials of Bank of Baroda. Similarly OBC and United Bank of India are much weaker as compared to Punjab National Bank. Corporation and Andhra Bank are weaker in comparison to Union Bank of India. In Indian Bank consolidation Allahabad bank is clearly a much weaker Bank . In Canara Bank merger Syndicate Bank has better performance and can be established as a better bank but Canara Bank is named as the Anchor Bank due to its sheer size . Incidentally both banks come from same cultural background. **In view of the finding that weaker banks have been merged into stronger Public Sector Banks our Null**

hypothesis H₂ that there is no significant effect of financial performance on restructuring of public sector banks is rejected.

It can be observed from GARRETT ranking score of unmerged banks that BOI and BOM are much better banks in their financial performance than other banks .

9.1.6 : Impact of Restructuring on Financial Performance of Merged Banks

Many researchers have observed that Merger of different banks as a means of Restructuring does not bring the expected results. Most have however emphasized that Mergers bring about a significant change in performance of amalgamated entities (Abel and Szakadat 1998, Altunbas et al., 2001, Benzekkoura et al.,2014 , Akkus et al., 2015, Lahoti 2016 and Shakti Kanta Das 2019). It is also established that it takes quite a long period for visible improvement in the financials of banks merged .The new anchor banks under this study which were amalgamated have been in existence only for a period of 2-3 years and as such it can not be expected that there is an improvement or otherwise in their financial performance in this short span. However the analysis of these banks is given in the following tables:

**Table 9.1.6: BANK OF BARODA POST- MERGER FINANCIALS
(PERCENTAGE)**

YEAR	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
2019	9.61	73.40	35.04	2.46	0.84	0.06	0.97	4.60	13.42	52.01
2020	9.40	72.95	35.29	2.45	0.92	0.06	0.84	4.79	13.30	49.97
2021	8.87	73.04	40.15	2.49	1.07	0.07	1.11	4.02	14.99	49.90
2022	6.61	74.30	41.46	2.68	0.94	0.60	8.93	3.41	15.68	49.24

(Source: RBI Data)

It is established from Table 9.1.6 that Bank of Baroda has witnessed substantial improvement in all its assessed parameters other than CD ratio. The stagnant CD Ratio could be another reason for no improvement in its Non-Intt Income as credit

disbursements yield Non-Intt Income by way of Processing and documentation charges, Commissions on LC/LG business besides the regular interest income.

**Table 9.1.7: PUNJAB NATIONAL BANK POST- MERGER FINANCIALS
(PERCENTAGE)**

YEAR	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
2020	14.21	67.04	42.97	2.17	1.16	0.04	0.63	4.95	14.15	56.47
2021	14.12	60.94	44.54	2.43	1.02	0.15	2.29	4.40	14.32	46.91
2022	11.78	63.53	46.56	2.23	0.96	0.26	3.71	3.95	14.50	49.38

(Source: RBI Data)

It can be observed from Table 9.1.7 that there is not much improvement in financials of PNB after its amalgamation with OBC and United Bank of India. GNPA has reduced but there is no visible improvement in CD ratio, CASA, NIM, ROA and CAR. The reason can be attributed to two weak banks merger in PNB and it can only be expected that that the bank will improve its performance in next 2-3 years.

**Table 9.1.8 : CANARA BANK POST MERGER FINANCIALS
(PERCENTAGE)**

YEAR	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
2020	8.04	69.11	31.38	1.85	1.10	-0.32	- 5.92	5.48	13.65	58.81
2021	8.93	63.22	32.73	2.18	1.39	0.23	4.62	4.45	13.18	49.15
2022	7.34	64.76	33.95	2.22	1.39	0.48	9.09	3.92	14.90	46.16

(Source: RBI Data)

It can be noticed that there is lot of improvement in financials of Canara Bank after amalgamation with Syndicate Bank as its GNPA has reduced. There is improvement

in CASA, NIM, NII, ROA, ROE, Cost of Funds and CAR. Its cost to income has also improved which will positively impact profitability. The reason can be explained by the fact that Syndicate Bank was a better managed bank before merger and had ranking above that of Canara Bank.

**Table 9.1.9 : UNION BANK OF INDIA POST MERGER FINANCIALS
(PERCENTAGE)**

YEAR	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
2020	14.15	69.91	35.59	2.19	1.01	-0.53	- 9.62	5.36	12.81	46.11
2021	13.74	63.97	36.33	2.36	1.08	0.27	4.68	4.61	12.56	41.34
2022	11.11	64.03	36.54	2.46	1.11	0.47	7.75	3.90	14.52	43.59

(Source: RBI Data)

In the case of Union Bank also some improvement in financials is witnessed in parameters like GNPA, NIM, ROE, Cost of Funds and CAR but other parameters are stagnant. More improvement can be expected in the next few years.

**Table 9.1.10 : INDIAN BANK POST MERGER FINANCIALS
(PERCENTAGE)**

YEAR	GNPA	CD RATIO	CASA	NIM	NII	ROA	ROE	COF	CAR	CTI
2020	6.87	76.04	34.65	2.58	1.12	0.26	3.63	5.16	14.12	41.12
2021	9.85	67.65	42.30	2.63	1.02	0.50	8.21	4.33	15.71	41.47
2022	8.47	65.56	41.77	2.58	1.07	0.63	9.61	3.77	16.53	43.03

(Source: RBI Data)

Indian Bank financials seem to have improved a little after its amalgamation with a weak bank like Allahabad Bank. Most important indicator of Banking GNPA has

gone up besides Cost to Income. The CD Ratio has also taken a hit. Important ratios like NIM, NII and ROA are stagnant.

It can be inferred from post –merger performance of Amalgamated banks that the improvement as expected from merger process may come over the next few years subject to macro economic conditions also showing some improvement. The improvement already witnessed is small due to high inflation caused by continuance of Russia-Ukraine war, Controversy in corporate governance of big industrial houses and failure of big banks like Signature Bank and Silicon Valley Bank in USA. Banks were helped by the government in the COVID period by permitting Emergency Lines of Credit under the Emergency Line Guarantee Scheme (ECLGS) to borrowers to avoid slippage of accounts to NPAs which will be due for repayment after the moratorium period. Banks continue to hold massive restructured portfolio and if it translates to GNPA the financials of all banks may get impacted as established by our study. Only time will prove if Restructuring of PSBs has served the objectives as laid down by the Government of India.

9.2 SUGGESTIONS FOR REDUCING NON-PERFORMING ASSETS OF PUBLIC SECTOR BANKS:

-Pre-sanction appraisal as to the ‘cash generating capacity’ of the project and its overall viability should be an essential aspect of providing financial assistance to a borrower.

-Projected plan for new units/ expansion of existing units should be compared with the growth in production of peer companies.

-Lack of Pre-sanction appraisal and Post-sanction Credit monitoring has contributed to the burgeoning of NPAs of Public Sector Banks in the past as confirmed by the ‘Content Analysis’ in this study. It is therefore critical that PSBs give due importance to these two important aspects of credit dispensation.

-Qualitative periodic appraisal of financial statements understanding the unhealthy developments in borrowal accounts can put the banks on guard and should lead to cessation of further disbursements.

- Early symptoms of sickness should be discussed with borrower / member banks in consortium accounts without losing precious time .A remedial plan of action like necessity of a ‘Restructuring Feasibility Study’ should be undertaken at early stages of weakness for revival of borrowal companies.
- Periodic / regular inspections of the unit , hypothecated/pledged primary securities and verification of collateral security must be undertaken at regular intervals in terms of sanction. At the time of sanction attempts be made to get charged the residential house/s , Guest houses of individual borrower/ companies besides primary securities as these are highly priced and carries sentimental value to the borrowers.
- Stock audit by external professionals like Chartered Accountants at least once in a year for large borrowal accounts must be implemented.
- The banks should undertake ‘Forensic Audit’ post-Disbursement of High Value Loans (Rs.100 crores and above) to avoid diversion of funds leading to incidence of NPAs.
- Timely valuation of assets charged to the bank must be got done at least once in three years.
- ASM (Agency for Specialized Monitoring) should be appointed for accounts over 150 Crore exposure to undertake concurrent review and monitor end use of funds by the borrower .
- Recalling the advance should not be delayed in cases when it appears /proved that borrower is diverting bank funds for some other purpose or is diluting the securities offered.
- Timely initiation of all recovery actions simultaneously be done after recalling the advance. The action should be followed up regular by concerned officials till a logical conclusion.
- Bank officials should focus to take physical possession of securities within vested powers by laws like SARFAESI for improving success rate of sale of securities to fetch better realisation.

-E-auction of properties should be conducted with proper publicity and with reasonable period of notice to attract more bidders.

-Examination of Wilful and Fraud type of accounts should be done promptly in a time bound manner to bring the borrower to negotiating table for settlement of loan account.

-Initiation of legal action on the personal guarantor and corporate guarantor for individual and companies respectively must be initiated faster as a pressure tactic.

-Filing of CAVEAT as remedial measure to delay legal action by the borrowers. This will prevent granting of relief, if any, to the borrowers filing claims against the banks.

-Detective agencies can be approved and hired to locate attachable properties /assets of the NPA borrowers/ guarantor not disclosed earlier for bank record .

-Transfer of NPA accounts to NARCL/ ARCs should be expedited for their early resolution/ sale to bidders.

-Instead of putting emphasis on improvement of Net Interest Margin (NIM), the banks should focus more on high rated corporate accounts. This may require lending at lower interest but will ensure safety of funds and avoiding write off of loss assets and thus improve profitability

-The top management of PSBs should have a tenure of at least 3-4 years to make them accountable for Bad Lending within Head Office Powers as bulk of the wilful Defaulters are the borrowal accounts having sanction of loans at Corporate Office.

9.3 SUGGESTIONS FOR FUTURE RESTRUCTURING OF UN-MERGED BANKS:

The Government should follow a policy of merging a strong bank with a strong bank only so as not to weaken the financial health of banks. Weak banks like Dena Bank, United Bank of India and Corporation Bank have strained financials of Bank of Baroda, Punjab National Bank and Union Bank of India respectively. Similarly Vijaya Bank, Indian Bank and Syndicate Bank which were better banks should not have been amalgamated with other banks. Vijaya Bank and Indian Bank were observed to be better in profitability and ROA and lower GNPA than other banks

(Dhananjaya 2019). Except these two banks all PSBs posted negative ROA in 2017–2018.

From an analysis of financials of unmerged banks it has emerged that **Bank of India** and **Bank of Maharashtra** are performing better than the other four unmerged banks. It is common prudence that investors will opt for the banks which offer the best value for their money when Government of India decides to go in for divestment of banks. In the budget speech of 2021 the Finance Minister had stated government's intention to restructure two banks by privatization. The names were not declared. It can be assumed that the intention was to sell two banks not performing well. But as mentioned no buyer will risk with buy out of an enterprise which does not give an expected return in the short to medium term. The Government seems to have put on hold its intention to privatize banks and wait till an opportune time for the improvement in financials of the proposed banks. It is known that governments take tough decisions after general elections. "Willingness of governments to undertake bank restructuring is inversely proportional to the proximity of the next general election date" (Sheng 1991). But since it is an opportune time as evidenced by the better performance of two banks out of un-merged banks and the overall performance of banking sector in India due to substantial reduction of NPAs, our recommendation to the Government and RBI is to further undertake Restructuring of PSBs without further delay by divesting its stake in Bank of India (BOI) and Bank of Maharashtra. A strong and healthy Banking System is in the interest of all stakeholders to transform India into a \$5 trillion economy soon.

9.4 Contribution of the Study

This study is simple to comprehend with a logical conclusion as to bring improvements in functioning of banks. The observations made in this study can be useful for top management of different banks, Ministry of Finance, Reserve Bank of India as it offers a detailed financial analysis of all public sector banks over a reasonable period of time. The reasons for growing incidence of Non-Performing Loans have been studied from a vast pool of knowledge spanning different nations with different levels of development. The same can be kept in mind by credit officers of different banks during the process of credit dispensation to avoid repetition of

mistakes of past. The suggestions made for privatization of two banks out of unmerged group can be acted upon at the earliest as per stated intentions of Government of India. Also for the remaining four banks the performance be kept under strict watch and action be taken for their merger with the existing Public Sector Banks once their operations stabilize due to previous restructuring in 2019/2020. It is in the interest of our economy to have a few strong banks which can compete with private sector players. The objective for which the banks were nationalised earlier to make banking accessible to different sections of society seems to have been fulfilled and the benefit of Direct Benefit Transfers (DBT) and collection of Government revenues can be easily handled by the restructured public sector banks and private sector banks alike.

9.5 Future Scope of Study:

This study has confined itself to analysis of financial performance of all the public sector banks based on ten important parameters. The financial analysis can be expanded to more parameters by future researchers. Also the study examines the recent consolidation of public sector banks only. The private sector banks also need to be studied for their financial performance. Many private sector banks like Yes Bank and Lakshmi Vilas Bank had to be put under moratorium besides PMC Bank giving innumerable difficulties to the depositors and borrowers of these banks. These private banks also would have been impacted by GNPA but these lack transparency due to their weaker audit systems. A study can bring forth weaknesses of these private banks based on the study of their critical financials. Based on findings of this study, suggestions can also be made for the improvement in their functioning and restructuring in the interest of all stakeholders. A single bank going down can pose a systemic risk to the entire banking sector.

REFERENCES

- Abel., & Szakadat, L. (1998) . Bank Restructuring in Hungary, *Acta Oeconomica*, 49 (1/2) , 157-189.
- Abisola, A. (2022). The nexus between bank size and financial performance: Does internal control adequacy matter? *Journal of Accounting and Taxation*, 14 (1), 13-20.
- Acharya, V. (2017 September 7).The Unfinished Agenda: Restoring Public Sector Bank Health in India. *Remarks delivered during the 8th RK Talwar Memorial Lecture organized by the Indian Institute of Banking and Finance, Mumbai.*
<https://www.brookings.edu/wp-content/uploads/2017/08/iibf-va.pdf>
- Acharya, V. (2018). Prompt corrective action: An essential element of financial stability framework. *RBI Bulletin*, 2018, 1-19.
<https://www.bis.org/review/r181012k.pdf>
- Adhikary, B.K.(2005). Nonperforming Loans in the Banking Sector of Bangladesh: Realities and Challenges, Bangladesh Institute of Bank Management.
<https://www.semanticscholar.org/paper/Nonperforming-Loans-in-the-Banking-Sector-of-and-Adhikary/8f27b0ac6293f9871ba229edad8cb5720cca3ccf>.
- Agrawal , P (2017). Haircuts worth Rs. 2.4 lakh crore , *CRISIL Ratings*.
<https://www.crisil.com/content/dam/crisil/ouranalysis/reports/Ratings/documents/Haircuts-worth-Rs-2.4-lakh-crore.pdf>
- Agarwala, V., & Agarwala, N. (2019).A critical review of non-performing assets in the Indian banking industry. *Rajagiri Management Journal*, 13(2), 12-23.
- Agrawal, S., & R.S. Meena., (November 2020). Financial Performance Appraisal of Indian Banks: A Comparative Study of BOB and HDFC Bank, *Pacific Business Review International*, 13 (5), 130-147.
- Ahmed, F.(2017). Specific determinants of Non Performing Assets, *International Journal of Research in Management, Economics and Commerce*, 7(11), 64-70.

- Ahmad, Z., & Jegadeeshwaran, M. (2013). Comparative study on NPA management of nationalised banks. *International Journal of Marketing, Financial Services and Management Research*, 2(8), 66-78.
- Akhavain, J. D., Berger, A. N., & Humphrey, D. B. (1997). The effects of megamergers on efficiency and prices: Evidence from a bank profit function. *Review of industrial Organization*, 12(1), 95-139.
- Akkus, O., Cookson, J. A., & Hortacsu, A. (2015). The Determinants of Bank Mergers: A Revealed Preference Analysis. *Management Science*, 62 (8), 2241-2258.
- Alshebmi, A.S., Adam, M.H.M., Mustafa, A.M.A., Thomran.M. & Fathelbab, O.E.A (2020). Assessing the Non-Performing Loans and their Effect on Banks Profitability: Empirical Evidence from the Saudi Arabia Banking Sector, *International Journal of Innovation, Creativity and Change*, 11(8), 69-90.
- Altunbas, Y., Carbo, S., Gardener, E. P., & Molyneux, P. (2007). Examining the relationships between capital, risk and efficiency in European banking. *European financial management*, 13(1), 49-70.
- Altunbas, Y., Molyneux, P., & Evans, L. (2001). Bank Ownership and Efficiency , *Journal of Money Credit and banking*, 33(4), 926-954.
- Anand, M., & Singh, J. (2008). Impact of merger announcements on shareholders' wealth: Evidence from Indian private sector banks. *Vikalpa*, 33(1), 35-54.
- Antoun, R., Coskun,A., & Georgievski, B.(2018). Determinants of financial performance of banks in Central and Eastern Europe, *Business and Economic Horizons*, 14 (3) 513-529.
- Ari, A., Chen, Sophia & Ratnovski, L(2019). The dynamics of Non-Performing Loans During Banking Crises :A New Database, IMF working Paper No. WP/19/272.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3523145.
- Aspal, P. K., & Dhawan, S. (2016). Camels rating model for evaluating financial performance of banking sector: A theoretical perspective. *International Journal of System Modeling and Simulation*, 1(3), 10-15.

- Athanasoglou, P. P., Delis, M., & Staikouras, C. (2006). Determinants of bank profitability in the South Eastern European region, *Journal of Financial Decision Making*, 2(2), 1-18.
- Baer, W., & Nazmi, N. (2000). Privatization and restructuring of banks in Brazil. *The Quarterly Review of Economics and Finance*, 40 (1), 3-24.
- Balakrishnan, C. (2019). A Study on Financial Performance of ICICI Bank, *Cikitusi Journal for Multidisciplinary Research*, 6 (4), 694-701.
- Bamoriya, P., & Jain, R. (2013). NPA and select key financial heads: An empirical study of commercial banks of India using multiple regression modeling. *The Journal of Accounting and Management*, 3(2), 19-25.
- Banerjee, A.V., Cole, S. & Duffo, E. (2004). Banking Reform in India, India Policy Forum , Department of Economics, MIT. 1-57.
- Barseghyan, L(2010). Non-performing Loans, prospective bailouts and Japan's slowdown, *Journal of Monetary Economics*, 57, 873-890.
- Batra, S (November 10-11, 2003). Developing the Asian Markets for Non-Performing Assets- Developments in India, 3rd Forum for Asian Insolvency Reform (FAIR) Seoul, Korea.
- <https://www.oecd.org/corporate/ca/corporategovernanceprinciples/20218724.pdf>.
- Bawa, J.K., Goyal, V., Mitra, S.K., Basu, S (2019). An analysis of NPAs of Indian Banks: Using a comprehensive framework of 31 financial ratios, *IIMB management Review* (31), 51-62.
- Beaton, K., Myrvoda, A & Thompson, S (2016). Non-Performing Loans in the ECCU: Determinants and Macroeconomic Impact, IMF Working Paper No. WP/16/229
- <https://www.imf.org/external/pubs/ft/wp/2016/wp16229.pdf>.
- Berger, A. N., & Humphrey, D. B. (1997). Efficiency of financial institutions: International survey and directions for future research. *European Journal of Operational Research*, 98(2), 175–212.

- Benzekkoura, L., Adouka, L., & Chenini, A. (2014). Restructuring of Banking: Concept, Justifications, Stages and Results. *Mediterranean Journal of Social Sciences*, 5(4), 123-134.
- Berg, S. A., Forsund, F. R., & Jansen, E. S. (1991). Technical efficiency of Norwegian banks: The non-parametric approach to efficiency measurement. *Journal of Productivity Analysis*, 2(2) 127-142.
- Berger, A.N., & Hannan, T.H. (1998). The Efficiency Cost of Market Power in the Banking Industry: A Test of the "Quiet Life" and Related Hypotheses, *The Review of Economics and Statistics*, 80 (3), 454-465.
- Berger, A.N., & Young, R.D. (1997). Problem Loans and Cost Efficiency in Commercial Banks, *Journal of Banking and Finance*, 21(6), 849-870.
- Bersch, J., Degryse, H., Kick, T., & Stein, I. (2020). The real effects of bank distress: Evidence from bank bailouts in Germany. *Journal of Corporate Finance*, 60, 1-20.
- Bhasin, M.L. (2017). Galloping Non-Performing Assets Bringing a Stress on India's Banking Sector: An Empirical Study of an Asian Country, 6(3), 1-26.
- Bishnoi, T.R. and Devi, S. (2017). Banking Reforms in India –Consolidation, Restructuring and Performance, *Palgrave Macmillan Studies in Banking and Financial Institutions*, Series Editor Philip Molyneux U.K.
<https://link.springer.com/book/10.1007/978-3-319-55663-5>.
- Bock, R.D., & Demyanets, A. (2012). Bank Asset Quality in Emerging Markets: Determinants and Spillovers, IMF WP/12/71.
 Available at SSRN: <https://ssrn.com/abstract=2028247>
- Bodla, B. S., & Verma, R. (2006). Evaluating performance of banks through CAMEL Model: A case study of SBI and ICICI. *The IUP Journal of Bank Management*, (3), 49-63.
- Boot, A. W. (1999). European lessons on consolidation in banking. *Journal of Banking & Finance*, 23(2-4), 609-613.

Budhedeo , S. and Pandya, N,P. (2018). Financial Performance of Public Sector Banks in India : A Post Reform Analysis, *Indian Journal of Finance*, 12 (10), October.

Business Standard (December 25, 2021)Bankers expect NPA crisis to worsen in the next two-three years: E&Y .

https://www.business-standard.com/article/finance/bankers-expect-npa-crisis-to-worsen-in-the-next-two-three-years-e-y-115090800669_1.html.

Carletti, E., Philipp Hartmann, and Giancarlo Spagnolo, (2007), Bank mergers, competition and financial stability, *Journal of Money, Credit and Banking*, 39(5) 1067-1105.

Chavan, P., & Gambacorta, L. (2016). Bank lending and loan quality: the case of India (BIS Working Papers 595)

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2886759.

Chandrasekhar, C.P., & Ghosh, J.(2018). The Banking Conundrum, Non-performing Assets and Neo-liberal Reform, *Economic & Political Weekly*, LIII(13), 129-137.

Dahiya, M & Bhatia, S.J (2016).A study of Non Performing Assets (NPA's) of Public sector Banks in India, *International Journal of Scientific Research*, 5(3), 425-427.

Daniel, J., & Saal, M. (1997). Macroeconomic Impact and Policy Response. In Alexander.W.E , Davis.J.M., Ebrill. L. P.& Lindgren, C.J(Eds.), *Systemic Bank Restructuring and Macroeconomic Policy (1-42). International Monetary Fund*.

Das, A., & Ghosh, S. (2005). Size, non-performing loan, capital and productivity change: evidence from Indian state-owned banks. *Journal of quantitative Economics*, 3(2), 48-66.

Das, S .& Dutta, A. (2014, November). A study on NPA of Public Sector Banks in India , *OSR Journal of Business and Management (IOSR-JBM)*, 16(11), 75-83.

Das, Shaktikanta., (2019, November 16), *Indian banking at Crossroads: Some Reflections*, First Annual Economics Conference, Amrut Mody School of Management, Ahmedabad University.

<https://www.bis.org/review/r191118c.pdf>

Datta Chaudhuri, T. (2005).Resolution Strategies for Maximising Value of Non-Performing Assets (NPAs).

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=871038.

Deloitte Consulting Group Paper. (2020).Banking and capital markets M&A outlook- Partnering to navigate the future.

<https://www2.deloitte.com/content/dam/Deloitte/be/Documents/financial-services/us-bcm-ma-outlook-2020.pdf>

Delrose Noronha, S. (2017). Study on the Changing Landscape of Financial Services in Indian Banking System-Opportunities and Challenges. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, 3(1), 1-10.

Demirgüç-Kunt, A., &Detragiache, E. (1997). The determinants of banking crises-evidence from developing and developed countries (Vol. 106). IMF Working Paper, WP /97/106, World Bank Publications.

<https://www.imf.org/external/pubs/cat/longres.aspx?sk=2323.0>.

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. *The World Bank Economic Review*, 13(2), 379-408.

Devika.P.(2020). A Study on Recapitalization with reference to Selected Public Sector Banks, *International Journal of Advanced Science and Technology*, 29(4), 07-16.

Dhananjaya, K (2019). Corporate Distress and Non-performing Assets in India, *Global Business Review*, 1-17 , DOI: 10.1177/0972150918812553.

Dhananjaya, K. and Raj, K. (2017). Assessing the Inter Bank Disparity in Non-Performing Assets (NPAs) Management in Indian Public Sector Banks, *International Journal of Financial Management* , 7 (2 &3), 49-59.

Dudhe, C. (2017). Impact of Non-Performing Assets on the profitability of banks–A selective study. *Annals of Faculty of Economics, University of Oradea, Romania*, 1(1) , 307-314.

https://econpapers.repec.org/article/orajournal/v_3a1_3ay_3a2017_3ai_3a1_3ap_3a307-314.htm

Dziobek, M. C. H., & Pazarbasioglu, C. (1997). *Lessons from systemic bank restructuring: a survey of 24 countries*. A Working Paper of the International Monetary Fund WP/97/161.

<https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Lessons-From-Systemic-Bank-Restructuring-A-Survey-of-24-Countries-2436>

Erdas, M.L., and Zeynep Ezanoglu, (2021). How do Bank- Specific Factors Impact Non-Performing Loans: Evidence from G 20 countries, *Journal of Central Banking Theory and Practice* , Vol. 2, 97-122.

Fofack, H (2005). Nonperforming Loans in Sub-Saharan Africa: Casual Analysis and Macroeconomic Implications *WPS 3769* (World Bank Paper).

<https://openknowledge.worldbank.org/entities/publication/aeae136f-0a7b-5be0-b66d-41c5e352cc8d>

Fogalia, M.(2022). Non-Performing Loans and Macroeconomic Factors, *RISKS* 10 (21) 1-13.

<https://doi.org/10.3390/risks10010021>

Fries, S; & Taci ,A .(2005). Cost efficiency of banks in transition: Evidence from 289 banks in 15 post-communist countries, *Journal of Banking & Finance*, 29 (1) , 55-81.

Fungacova, Z., & Solanko, L. (2008). *Risk-taking by Russian banks: Do location, ownership and size matter?* (BOFIT discussion papers 21/2008). Bank of Finland, Institute for Economies in Transition, Helsinki, Finland.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1313019

Finance Minister's Presentation , *Measures to achieve higher economic growth , Progress since announcements on 23-08-2019*.

Focarelli, D., Panetta, F., & Salleo, C. (2002). Why do banks merge?. *Journal of money, credit and banking*, 34(4), 1047-1066.

Gambacorta , L. and Shin, H.S. (2016). Why bank capital matters for monetary policy , BIS Working Papers No 558.

<https://www.bis.org/publ/work558.pdf>.

Gandhi, K. (2015). Non-performing assets: A study of State bank of India, *International Journal of Research in all subjects in Multi Languages*, 3(3), 24-29.

Garg, N. (2019). Decoding the Great Indian Recapitalisation Plan: Restoring the Health of Public Sector Banks in India. *South Asian Survey*, 26 1), 28-54.

Ghosh, A. (2015). Asset quality of banks: Evidence from India. *Indian Institute of Banking and Finance*, 1-145.

https://www.iibf.org.in/documents/reseachreport/Asset_quality_AG_IIBF_Submission_review_comments_incorporated_sent.pdf.

Ghosh, Amit (2015). Banking-industry specific and regional economic determinants of non-performing loans: Evidence from US states. *Journal of financial stability*, 20, 93-104.

Goodhart, C.A. (2005). Financial regulation, credit risk and financial stability, *National Institute Economic Review*, 192, 118-127.

Gopal Sumathi (2010) Ph.D Thesis D.Y.Patil University, NPA's--A Comparative Analysis on Banks & Financial Institutions and its Implications.

Goyal, K. A., & Joshi, V. (2011). Mergers in banking industry of India: Some emerging issues. *Asian Journal of Business and Management Sciences*, 1(2), 157-165.

Gulati, P. R. (2018). Comparative Analysis of impact of NPAs on Profitability. *International Journal of Research and Analytical Reviews*, 5(2), 1763-1770.

Gupta, D. K., & Gautam, P. (2017). Non Performing Assets (NPAs)-A Study of Punjab National Bank. *International Journal of Science Technology and Management*, 6(1), 694-704.

Gupta & Sangeeta (2018). A Study of Non Performing Assets(NPAs) –A Profit Cutter to Banking Structure, *Journal of Modern management & Entrepreneurship*, 8(1), 227-231.

Gupta, P., & Panagariya, A. (2022). *Privatization of Public Sector Banks in India: Why, How and How Far*, India Policy Forum 2022,(No. 141). National Council of Applied Economic Research, 3-45.

Halkos, G. E., & Tzeremes, N. G. (2013). Estimating the degree of operating efficiency gains from a potential bank merger and acquisition: A DEA bootstrapped approach. *Journal of Banking & Finance*, 37(5), 1658-1668.

Haque, A.(2014). Comparison of Financial Performance of Commercial Banks: a Case Study in the context of India (2009-2013). *Journal of Finance and Bank Management*, 2, 1-14.

Hawkins, J. (2000). *Restructuring Banking Systems, Global Financial Crisis- Lessons from Recent Events*, edited by Bisignano R, Joseph et al., Kluwer Academic Publishers, Boston. Chapter 11, 121-141.

Hawkins, J., & Turner, P. (1999). Bank restructuring in practice: an overview. *BIS Policy Paper*, 6.

<https://www.bis.org/publ/plcy06.pdf>.

Hawkins, J.& Mihaljek, D (2001). The banking industry in the emerging market economies: competition, consolidation and systemic stability-an overview, *BIS Papers No.4*, 1-44.

Herwadkar, S,S; Agarwal , A & Dhingra, S.(2022, February). Bad banks as Good Samaritans: Lessons from Cross-Country Experience for India, *RBI Bulletin*, 67-78.

Herwadkar, S. S., Gupta, S., & Chavan, V (2022). Do Bank Mergers Improve Efficiency? The Indian Experience, Reserve Bank of India Occasional Papers 43(1).

<https://www.publicnow.com/view/11AB8D4387ECF2F3F04CD89DAA5896DE1C8E9089?1676898067>

Hoshi, T. & Kashyap, A.K (2004), Japan's Financial Crisis and Economic Stagnation, *Journal of Economic Perspectives*, 18(1), 3-26.

Houston, J. F., & Ryngaert, M. D. (1994). The overall gains from large bank mergers. *Journal of Banking & Finance*, 18(6), 1155-1176.

Hryckiewicz, A., Kryg, N., & Tsomocos, D. P. (2020). New bank resolution mechanisms: is it the end of the bailout era? European Bank Working Paper (Number 247).

<https://www.ebrd.com/publications/working-papers/new-bank-resolution-mechanisms>

Ino, A., & Matsuki, Y. (2020). *Welfare analysis of bank merger with financial instability* Tokyo Center for Economic Research (TCER) Working paper July 2020.

<https://www.tcer.or.jp/wp/pdf/e149.pdf>

International Monetary Fund (2022, July). World Economic Outlook Update – Gloomy & More Uncertain

IMF- Financial Soundness Indicators, IMF e-library.

<https://data.imf.org/regular.aspx?key=63174545> (downloaded 06-05-2023 23.50)

Jain Anubha (2020). Analysing Indian public sector bank merger CAMELS Score <https://www.researchgate.net/publication/342977678>

Janakiraman, B (2018). Impact of Casa Deposit Growth on the Profitability of Banks- Study of Syndicate Bank. *Asian Journal of Management*. 9(2)978-982.

Jayakkodi, D. & Rengarajan, P. (2016). Impact of non -performing assets on return on assets of public and private sector banks in India , *International Journal of Applied Research*, 2(9) , 696-702.

Jeet, V. & Aspal , P.K. (2020). The Determinants of Financial Performance of Indian Public Sector Banks- A Panel Data Approach, *International Journal of Financial Research*, 11(5), 285-295.

Jolevski, L. (2017). Non-performing Loans and Profitability indicators: The case of the Republic of Macedonia, *JCEBI*, 4(2). 5-20.

Joseph, M.T., Edson, G., Manuere, F., Clifford, M & Michael, K (2012). Non-performing loans in Commercial Banks: A case of CBZ Bank Limited in Zimbabwe, *Interdisciplinary Journal of Contemporary Research in Business*, 4(7), 467-488.

- Joseph, A.L ., Prakash, M(2014). A Study on Analyzing the trend of NPA level in Private Sector Banks and Public Sector Banks, *International Journal of Scientific and Research Publications*, 4(7), 1-9.
- Joshi, D., Thakkar, S., Machhi, R., & Chauhan, D. (2021).Financial performance analysis of banking sector in India. *European Journal of Molecular and Clinical Medicine*, 8(3), 3129-3136.
- Juan de.A. (2003). From Good Bankers to Bad Bankers- Ineffective Supervision and Management Deterioration as Major Elements in Banking Crises, *Journal of International Banking Regulations* , 4, 237-246.
- Kalaichelvan, K. (2011). Efficacy of merger and acquisition in Indian Banking Industry. *A Study With Reference To Select Merged Banks In India*. Ph.D Thesis, Pondicherry University.
- Kamini Rai (2012). Study on Performance of NPAs of Indian Commercial Banks, *Asian journal of Research in Banking and Finance*, 2(12), 1-13.
- Kapoor Sonal. (2016). Non Performing Assets Management in Public Sector Banks an appraisal <http://hdl.handle.net/10603/276809>
- Karri, H., Meghani, K., & Mishra, B. (2015). A comparative study on financial performance of public sector banks in India: An analysis on CAMEL model. https://mpr.ub.uni-muenchen.de/62844/8/MPRA_paper_62844.pdf
- Kaur, M., &Kumar ,R. (2018). Bank Specific and Macro Determinants influencing Non Performing Assets in Indian Public Sector Banks, *Pacific Business review International* , 10 (7), 125-132.
- Kazík, R. (2012). The impact of the corporate culture on the success or the failure of mergers and acquisitions. *cit*, 2008, 02-20.kazik@probull.cz.
- Keeton, W. R. (1999). Does faster loan growth lead to higher loan losses?. *Economic review-Federal reserve bank of Kansas City*, 84(2), 57.
- Kithinji, A. M. (2019). The effect of Bank Restructuring on financial performance controlled by Customer Deposits: An empirical investigation of commercial banks in

Kenya. *International Journal for Innovative Research in Multidisciplinary Field*, 5(1), 13-19.

Klein, N (March, 2013). *Non-Performing Loans in CESEE: Determinants and Macroeconomic Performance*, European Department, International Monetary Fund, IMF Working Paper No. WP/13/72

<https://www.elibrary.imf.org/view/journals/001/2013/072/001.2013.issue-072-en.xml>.

Kokane, S., & Nerlekar, S. (2017). Recapitalization of Public Sector Banks-Will it reduce the Non-Performing Asset Levels. *IOSR Journal of Economics and Finance*, 84-91, SIMSR International Finance Corporation (SIFICO2017).

Korde and Laghate (2014). Only Management Responsible for Rising NPAs of Public Sector Banks in India? *Proceedings of the Second International Conference on Global Business, Economics, Finance and Social Sciences (GB14Chennai Conference)* ISBN: 978-1-941505-14-4 Chennai, India 11-13 July 2014 Paper ID: C484 www.globalbizresearch.org.

Kress, J.C. (2020). Modernizing bank merger review. *Yale Journal on Regulation.*, 37: 435, 435-498.

Kruner ,A & Tornell, A. (1999). The role of Bank Restructuring in Recovering from Crises: Mexico 1995-98, Working Paper 7042, National Bureau of Economic Research, Massachusetts.

Kunt, A., D. and Harry Huizinga, (1998). Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence, *The World Economic Review*, 13(2), 2-38.

Kumar, R. B., Subba Rao, B. V. S. S., & Kusuma, G. D. V. (2018). Genesis for increase of NPAs in Indian banks—an empirical analysis. *Journal of banking and finance management*, 1(1), 1-8.

Kumar Rajiv (2020) Ex- Secretary , Ministry of Finance, Government of India, The Storm Before the Lull, *The Economic Times*, 27th Feb 2020.

Kumari, R., Singh, P. K., & Sharma, V. C. (2017). Impact of Non-Performing Assets (NPAs) on Financial Performance of Indian banking Sector. *Journal of Commerce & Management*, 6(1), 122-133.

Laeven, L., & Valencia, F (2008). Systemic banking Crises: A New Database, IMF Working Paper WP/08/224.

<https://www.imf.org/external/pubs/ft/wp/2008/wp08224.pdf>.

Lahoti, J.H.(2016). An Experiential Study of Mergers And Acquisitions in Indian Banking Sector, *Indian Journal of Research, Paripex*, 5 (4), 398-400.

Landier, A. and Ueda, K. (2009). The Economics of Bank Restructuring: Understanding the option , *IMF Staff position note*, SPN/09/12.

Lindgren, C.J., Balino, J.T., Tomas., Enoch, C., Gulde, A.M., Quintyn, M., and Teo, L.(1999). Financial Sector Crisis and restructuring-Lessons from Asia, (Washington: International Monetary Fund Occasional Paper 188.)

<https://www.imf.org/external/pubs/ft/op/opfinsec/op188.pdf>

Lindgren, C.J; Garcia, G and Saal, M.I (1996). Bank Soundness and Macroeconomic Policy, (Washington: International Monetary Fund).

<https://www.imf.org/en/Publications/Books/Issues/2016/12/30/Bank-Soundness-and-Macroeconomic-Policy-1538>.

López-Espinosa, G., Moreno, A., Rubia, A., & Valderrama, L. (2012). Short-term wholesale funding and systemic risk: A global CoVaR approach. *Journal of Banking & Finance*, 36(12), 3150-3162.

López- Espinosa, G., Rubia, A., Valderrama, L., & Antón, M. (2013). Good for one, bad for all: Determinants of individual versus systemic risk. *Journal of Financial Stability*, 9(3), 287-299.

Louzis, D.P., Vouldis, A.T., Metaxas, V.L.(September,2010). Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative Study of Mortgage, Business and Consumer Loan Portfolios, Bank of Greece Working Paper No.118.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1703026

Ma, G. (2006). Who Pays China's Bank Restructuring Bill? *CEPII, Working Paper No 2006-04, February*

<https://direct.mit.edu/asep/article-abstract/6/1/46/17399/Who-Pays-China-s-Bank-Restructuring-Bill?redirectedFrom=fulltext>.

Maji, S.G. (2019). An insight into the non-performing assets of Indian commercial banks. *International Journal of Business and Economic Affairs*, 4(6), 264-272.

Mausiukiewicz, P (2015). Bad Banks as Support Instrument for crisis Deactivation, *American International Journal of Social Science* , 4(4), 28-33.

McAllister, P. H., & McManus, D. (1993). Resolving the scale efficiency puzzle in banking. *Journal of Banking & Finance*, 17 (2-3), 389-405.

Meghani K., Karri, H.K. and Mishra, B.M. (2015). A comparative study on Financial Performance of Public Sector Banks in India : An analysis on Camel Model.

https://mpira.ub.uni-muenchen.de/62844/8/MPRA_paper_62844.pdf

Messai, A. S., & Jouini, F. (2013). Micro and macro determinants of non-performing loans. *International journal of economics and financial issues*, 3(4), 852-860.

Milbourn, T. T., Boot, A. W., & Thakor, A. V. (1999). Megamergers and expanded scope: Theories of bank size and activity diversity. *Journal of Banking & Finance*, 23(2-4), 195-214.

Mishra, A. K., Jain, S., Abid, M., & RL, M. (2021). Macro-economic determinants of non-performing assets in the Indian banking system: A panel data analysis. *International Journal of Finance & Economics*, 26(3), 3819-3834.

Mishra ,U. & Pawaskar, J.(2017). A study of Non- Performing assets and its Impact on Banking Sector , *Journal for Research* 3(1) , 1-5.

Mouneswari, V., Rajesh, M., & Reddy T.N.(2016). Performance Analysis of Indian Banking Sector Using Camel Approach, *International Journal of Applied Business and Economic Research*, 14(10), 6835-6844.

Muniappan, G.P.(2002), address by Deputy Governor, RBI at CII Banking Summit 2002, Mumbai.

https://www.rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=104.

Murari, K. (2014). Comparative Evaluation of Non Performing Assets of Indian Banks: A Study of Public and Private Sector Banks. *Asian Journal of Research in Banking and Finance*, 4(5), 232-247.

Mukhopadhyay, A. (2018). Finding Innovative Solutions to India's NPA Woes, *ORF (Observer Research Foundation) Issue Brief*, (246), 1-12.

Mylonakis, J. (2006). The Impact of Banks' Mergers and Acquisitions on their Staff Employment & Effectiveness, *International Research Journal of Finance and Economics* (3), 121-137.

Nachimuthu, K. & Veni, M. (2019). Impact of non –performing assets on the profitability in Indian scheduled commercial banks , *African Journal of Business Management*,.13(4), 128-137.

Nalliboyina, S.B.& Venkata Chalam, G.(2023). Factors determining the Financial Performance of Public Sector Banks in India, *Asian Journal of Economics, Business and Accounting*, 23(14), 57-71.

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

Naveenan, R.V., Kumar, B, Ravi., & Lakshmi, B.V.(2018). Non -Performing Assets in Public Sector Banks: A Cause Analysis, *American Finance & Banking Review*, 2(2) ,14-19.

Neha & Gaba, D (2014). Analysis of Non-performing Assets of Public Sector Banks, *Global Journal for Research Analysis* , 3(9).

Olabode, S.O., Olateju, O.I., & Bakare, A, A.(2019). An assessment of the reliability of secondary data in management science research, *International Journal of Business and Management Review*, 7(3), 27-43.

Parliament Question No. 146 (2019, November18), *Department of Financial Services, Ministry of Finance, Government of India.*

Pinprayong, B., & Siengtai, S. (2012). Restructuring for organizational efficiency in the banking sector in Thailand: a case study of Siam Commercial Bank. *Far East Journal of Psychology and Business*, 8(2), 29-42.

Pradeep, M.D., & Nornha, Sonia D.N (2017). Study on the changing landscape of financial services in Indian Banking System- Opportunities and Challenges, *International Journal of Management, Technology & Social Sciences(IJMTS)*, 3(1) , 1-10.

Prabu, G. G., & Chandrasekaran, G. (2015).A Comparative Study on Financial Performance of State Bank of India and ICICI Bank. *International Journal of Research in Business Management*, 3(4), 19-26.

Prasad, K.V.N and Ravinder G.(2012). A Camel Model Analysis of Nationalized Banks in India *International Journal of Trade and Commerce*, 1(1), 23-33.

Pundir, A & Choudhury ,S.(2021). A Systematic Review on Non-Performing Assets in banks in India, *Turkish Journal of Computer and mathematics Education*, 12(2), 177-184.

Punjab National Bank Annual Report 2015-16, Address by the Managing Director & CEO, pp 5.

Ranjan, R., & Dhal, S. C. (2003). Non-performing loans and terms of credit of public sector banks in India: An empirical assessment. *Reserve Bank of India Occasional Papers*, 24(3), 81-121.

Rajan. R. (2018, September 11). Reply to the estimates committee of parliament about his views on the NPA crisis.

<https://www.moneycontrol.com/news/business/economy/raghuram-rajans-note-to-parliamentary-estimates-committee-on-bank-npas-2941201.html>

Rajaraman, I., & Vasishtha, G.(2002). Non-performing loans of PSU banks: Some panel results. *Economic and Political weekly*, 429-435.

Rani, N. & Gaba, D. (2014). Analysis of Non- Performing Assets of Public Sector Banks, *Global Journal For Research Analysis*, 3(9), 4-5.

Rao, M. & Patel, A.(2015). A study on non performing assets management with reference to public sector banks, private sector banks and foreign banks in India, *Journal of Management and Science*, 30-43. DOI:10.26524/jms.2015.4.

Ravi Kumar, B., Subba Rao, B.V.S.S., and Kusuma.G.D.V. (2018). Genesis for Increase of NPAs in Indian Banks-An Empirical Analysis, *Journal of Banking and Finance Management* 1(1), 1-8.

Raju, M.D., (2021). Determinants of Banks's Profitability: An Empirical Study on Select Indian Public Sector Banks , *Finance India*, Vol. XXXV, No. 2, 467-479.

Rashmi Kumari., Singh, P.K., & and Sharma, V.C. (2017). Impact of Non-Performing Assets (NPAs) on Financial Performance of Indian Banking Sector, *International Journal of Commerce and Management* 6(1), 122-133.

RBI Master Circular–Basel III Capital Regulations

DOR.CAP.REC.15/21.6.201/2023-24 dated May 12, 2023.

https://www.rbi.org.in/scripts/BS_ViewMasterCirculars.aspx?Id=12504&Mode=0

RBI Master Circular –Prudential norms on Income Recognition , Asset Classification and Provisioning pertaining to advances-DOR.STR.REC.4/21.04.048/2022-23

Reserve Bank of India-Financial Stability Report: December 2013.

Report of the Comptroller and Auditor General of India (2017). Recapitalisation of Public Sector Banks.

https://cag.gov.in/cag_old/content/report-no28-2017-performance-audit-union-government-recapitalisation-public-sector-banks

Reserve Bank of India, (2020). *Sixth Bi-monthly Monetary Policy statement 2019-20* (RBI Bulletin February).

Reserve Bank of India, India's Central Bank, Database on Indian Economy-Statistical Tables Relating to Banks in India (Time Series Publication)-2011-2021
<http://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics>

- Rhoades, S. A. (1993). Efficiency effects of horizontal (in-market) bank mergers. *Journal of Banking & Finance*, 17(2-3), 411-422.
- Rochet, J. C. (2003). Why are there so many banking crises?. *CESifo Economic Studies*, 49(2), 141-155.
- Richard, E. (2010). Factors that cause non-performing loans in commercial banks in Tanzania and strategies to resolve them, Peer reviewed Proceedings of the 11th annual international conference , Lagos, 2010, ‘Moving Africa Toward Sustainable Growth and Technological Development’, *International Academy of African Business and development (IAABD) edited by Emmanuel Obuah* , 16-23.
- Saharan , A. & Sharma , D.K. (2016). Analysis of Earning Quality of Public Sector Bank: A Study of Selected Banks, *International Journal of Research in Finance and Marketing*, 6(11), 103-110.
- Sato, Y. (2005). Bank restructuring and financial institution reform in Indonesia. *The Developing Economies*, 43(1), 91-120.
- Saksonova, S.(2014).The role of Net Interest Margin in Improving Banks’ Asset Structure and Assessing the Stability and Efficiency of their operations, *Procedia-Social and Behavioral Sciences* 150, 132-141.
- Salas, V., & Saurina, J. (2002). Credit Risk in Two Institutional Regimes: Spanish Commercial and Savings Banks. *Journal of Financial Services Research* 22(3) , 203–224.
- Saradhi, V. R & Siddiqui, A. (2021). The Impact of NPAs on Profitability of Public Sector Banks in India, *Finance India*, 35(3), 861-872.
- Satpal (2014). A comparative study of Non Performing Assets in Public and Private Sector Banks in the New Age of Technology, *International Journal of Current Engineering and Technology* , 4(4) , 2469-2471.
- Sengupta, R., & Vardhan, H. (2017). Non-performing assets in Indian Banks: This time it is different. *Economic and Political Weekly*, 52(12), 85-95.
- Sharma, P.K., & Dhiman, B. (2023). Can Un-Merged Public Sector Banks in India be Privatized ? A Scrutiny, *Finance India*, 37(1), 123-146.

- Sharma, P. K., & Dhiman, B. (2023). Impact of Non-Performing Assets on Financial Performance of Selected Merged Indian Public Sector Banks. *Indian Journal of Finance*, 17(7), 54-69.
- Sheng, A. (1991). The Art of Bank Restructuring- Issues and Techniques , *Economic Development Institute of the World Bank*, Catalogue No.340/054.
- Shenbagavalli, R., Senthilkumar, S & Ramachandran ,T (2013). A strategy to manage the NPAs of Public Sector Banks, *International Journal of Management*, 4(3), 1-7.
- Shukla, S. (2016). Performance of the Indian Banking Industry: A Comparison of Public and Private sector Banks, *Indian Journal of Finance*, 10(1):41-55.
- Siauwijaya, R. (2017). The evaluation of bank efficiency in post merger stage in banking industry. *Binus Business Review*, 8(2), 133-139.
- Singh Asha (2013). Performance of Non-Performing Assets (NPAs) in Indian Commercial Banks, *International Journal of Marketing, Financial Services & Marketing Research*, 2 (9), 86-94.
- Singh, A. B., & Tandon, P. (2012). A study of financial performance: A comparative analysis of SBI and ICICI Bank. *International Journal of Marketing, Financial Services & Management Research*, 1(11), 56-71.
- Singh, Charan, Brar, J. (2016). Stressed assets and Banking in India, Indian Institute of Management Bangalore, IIMB WP No.507.
- Singh, G.,& Singla ,R.(2016). Performance Evaluation of New Private Sector banks Using Camel Rating Model, *International Journal in Management and Social Science*, 4(6) , 325-334.
- Singh, H. and Vashisht , A.(2019). Credit Risk management in Banking Sector: A Comparison of Non-Performing Assets of Public Sector and Private Sector Bank, *International Journal of Research in Advent Technology* 17(5), 442-447.
- Singh, V. R. (2016). A Study of Non-Performing Assets of Commercial Banks and it's recovery in India. *Annual Research Journal of SCMS, Pune* , 4(1), 110-125.
- Sinha, A. (2016). Non-Performing Assets in Indian Banking and the role of Asset Reconstruction Companies, *ICTACT Journal of Management Studies*, 2(1), 232-237.

- Sodhi and Waraich (2016). Analysis of Selected Public and Private Sector Banks In India, *NMIMS Management Review* <https://www.semanticscholar.org/paper>.
- Srinivas, K. (2011). Mergers and acquisitions in Indian banking sector: A study of selected banks. Himalaya Publishing House, 2011 Edition.
- Srinivasan, Palamalai and Britto, John (2017). Analysis of Financial Performance of Selected Commercial Banks in India, *Theoretical Economics Letters*, 7 (7), 2134-2151.
- Swamy, V. (2013). Determinants of bank asset quality and profitability-An empirical assessment. *Available at SSRN 2126761*.
- Tandon, D., Chaturvedi, A., & Vidyarthi, H. (2017). Non-performing assets and profitability of Indian banks: an econometric study. *International Journal of Business Competition and Growth*, 6(1), 60-76.
- Tanwar, A.(2020). An investigation of Financial Trustworthiness of Public. Private and Foreign Banks in India in the Camels Model, *Journal of Critical Reviews*, 7(16) , 1253-1258.
- Tripathi, R., & Syed, A. (2017). Study of NPA Trend and Basel Norms: Statistical Evidences. *Indian Journal of Commerce & Management Studies ISSN, 2249, 0310*.
- Tyagi, A., Rai, K., & Sharma, M. (2020). Impact of NPA on the Profitability of Banks—with special references to Indian Banks. *International Journal of Advanced Science and Technology*, 29(9), 2520-2526.
- Valliammal, M and Manivannan, S.K (2018) . A study on Non-Performing Assets and Its Impact on Public Sector Banks in India ,*International Journal of Scientific Research in Science and Technology* 4 (8) , 43-45.
- Van Hoose, D. (2009). Bank Competition, Stability, and Regulation. *The Industrial Organization of Banking* ,115-137.DOI 10.1007/978-3-642-02821-2_6, C Springer-Verlag Berlin Heidelberg 2010.
- Vanjerkhede, S, (2019). *Corporate Restructuring in India: A study with special reference to Select Corporate Restructuring Initiatives in banking sector* , Ph.D. thesis, Gulbarga University, Kalaburagi, Karnataka, 2019

Verma, R., Dhanraj Sharma, Shubham Sharma and Shiney Sam, (2022). Relationship between Bank-Specific Factors and Non-Performing Assets of Indian Banks during post Global Financial Crisis Era, *Finance India@ Indian Institute of Finance* , 36(2) , 867-885.

Vikram, S.K & Gayathri, G (2018). Study on Non-Performing Assets in Indian Banking Sector, *International Journal of Pure and Applied Mathematics*,118(20) 4537-4541.

Vo, X. V., & Nguyen, H. H. (2018). Bank restructuring and bank efficiency—The case of Vietnam. *Cogent Economics & Finance*, 6(1), 1520423.

Wadhwa, R., Ramaswamy, M. K., & Fin, S. M. (2020).Impact of NPA on Profitability of Banks. *International Journal of Engineering Technology and Management Sciences*, 4(3), 1-8.

Williams, J., & Nguyen, N. (2005). Financial liberalization , crisis, and restructuring: A comparative study of bank performance and bank governance in South East Asia. *Journal of Banking & Finance*, 29(8-9), 2119-2154.

World Bank. (2020). India Development Update, July 2020.

Yadagiri , M and Srinivas, N, (2012). Performance Analysis of Public Sector Banks in India, *Finance India*, 26 (1) , 217-230.

Yameen, M & Shivam Jindal (2017), CAMEL-VS: A new way to look at the Banks: A case of Punjab National Bank *International Research Journal of Management Sociology & Humanities*, 8(9) , 123-140.

Yildirim, C. (2014). Competition in Turkish Banking: Impacts of Restructuring and the Global Financial Crisis. *The Developing Economies*, 52(2), 95-124.

Websites Links

<https://www.moneycontrol.com/financials/allahabadbank/ratiosVI/AB15> Retrieved on 29th Sept., 2021

<https://www.moneycontrol.com/financials/andhrabank/ratiosVI/AB14> Retrieved on 29th Sept., 2021

<https://www.moneycontrol.com/financials/bankindia/ratiosVI/BOI> Retrieved on 29th Sept.,2021

<https://www.moneycontrol.com/financials/bankofbaroda/ratiosVI/bob> Retrieved on 29th Sept.,2021

<https://www.moneycontrol.com/financials/bankbaroda/ratiosVI/bob> Retrieved on 26th Nov.,2022

<https://www.moneycontrol.com/financials/bankmaharashtra/ratiosVI/BM05> Retrieved on 29th Sept., 2021

https://canarabank.com/media/20711/performance_highlights_mar-2019.pdf
Retrieved on 06 Sept., 2022

<https://canarabank.com/media/2071/Investors%20Presentation%20March%202021.pdf>
Retrieved on 06 Sept.,2022

<https://www.moneycontrol.com/financials/corporationbank/ratiosVI/CB> Retrieved on 30th Sept., 2021

<https://www.moneycontrol.com/financials/indianbank/ratiosVI/IB04/3#IB04> Retrieved on 01 Oct., 2021

<https://www.moneycontrol.com/financials/indianoverseasbank/ratiosVI/IOB> Retrieved on 01 Oct., 2021

<https://www.moneycontrol.com/financials/orientalbankcommerce/ratiosVI/OBC>
Retrieved on 1st Oct.,2021

<https://www.moneycontrol.com/financials/punjab&sindbank/ratiosVI/PSB>
Retrieved on 1st Oct.,2021

<https://www.moneycontrol.com/financials/punjabnationalbank/ratiosVI/PNB05/3#PNB05> Retrieved on 1st Oct.,2021

<https://www.moneycontrol.com/financials/syndicatebank/ratiosVI/SB9/2#SB9> Retrieved on 1st Oct.,2021

<https://www.moneycontrol.com/financials/ucobank/ratiosVI/uco/3#uco> Retrieved on 1st Oct., 2021

<https://www.moneycontrol.com/financials/unionbankofindia/ratiosVI/UBI01/3#UBI01> Retrieved on 1st Oct., 2021 22.39hrs.

<https://www.moneycontrol.com/financials/unitedbankindia/ratiosVI/UBO> Retrieved on 1st Oct.,2021

<https://www.moneycontrol.com/financials/vijayabank/ratiosVI/VB03/2#VB03> Retrieved on 1st Oct.,2021

<https://canarabank.com/media/20711/performance-highlights-march-2020.pdf>
Retrieved on 06th Sept.,2022

<https://canarabank.com/media/4559/Investors%20Presentation%20MAR%202022.pdf>
Retrieved on 06th Sept.,2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=LbznLiYcZbYHsUTxSUKWQw>
Retrieved on 07 Sept.,2022

https://www.pnbindia.in/document/financials-current/Analyst_presentation_March16
Retrieved on 07 Sept., 2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=K+RT5pEw0nsfpfDEu4BaQARe>
Retrieved on 07 Sept., 2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=VnSyVUtS4Nghy9XFa4+mUw>
Retrieved on 07 Sept.,2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=k2a1+hYxJ8BTi1RYHrKnIw>
(2019) Retrieved on 07 Sept., 2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=Em1Y2u8t7DthcmjvNfWHuQ>
(2020) Retrieved on 07 Sept., 2022

<https://www.pnbindia.in/downloadprocess.aspx?fid=tKPFyLksGJAwYONvLB2yig>
(2021) 07-Sept., 2022 23.04

<https://www.pnbindia.in/downloadprocess.aspx?fid=9m9yVijy0tWh3zErE9LQeg>
(2022) 07-Sept., 2022

<https://www.unionbankofindia.co.in/pdf/about%20us-investor%20relations-presentations-financial%20results%20mar%202011.pdf> Retrieved on 07 Sept., 2022

<https://www.unionbankofindia.co.in/pdf/analystmeetmar12wn0905xfinal.pdf>(2012)
downloaded 07 Sept.,2022

https://www.unionbankofindia.co.in/pdf/financial%20results_union%20bank_q4_fy16-17_080517.pdf(2017)Retrieved on 07 Sept.,2022

<https://www.unionbankofindia.co.in/pdf/financial-results-may2018.pdf> Retrieved on 07 Sept., 2022

https://www.unionbankofindia.co.in/pdf/financial-results_union%20bank_q4_fy18-19_final.pdf Retrieved on 07 Sept., 2022

https://www.unionbankofindia.co.in/pdf/financial-results_unionbank_q4_fy19-20.pdf
Retrieved on 07 Sept., 2022

[https://www.unionbankofindia.co.in/pdf/final%20analyst%20presentaion%20_union%20bank_q4fy21%2007062021\(2021\).pdf](https://www.unionbankofindia.co.in/pdf/final%20analyst%20presentaion%20_union%20bank_q4fy21%2007062021(2021).pdf) Retrieved on 07 th Sept., 2022

<https://www.ucobank.com/pdf/Analyst%20Presentation%20FY%202020-21.pdf>Retrieved on 03-Oct.,2021

<https://www.indianbank.in/wp-content/uploads/2020/08/March-2019.pdf> Retrieved on 16th Sept.,2022

<https://www.indianbank.in/wp-content/uploads/2020/08/March-2020.pdf> Retrieved on 16th Sept.,2022

<https://www.indianbank.in/departments/e-allahabad-bank/#!> Retrieved on 9th Oct., 2021

<https://www.indianbank.in/wp-content/uploads/2021/05/Presentation-March-2021.pdf>
Retrieved on 9th Oct., 21

[https://iob.in/upload/CEDocuments/iobAnalyst_Presentation \(March 2020-21 pdf \)](https://iob.in/upload/CEDocuments/iobAnalyst_Presentation_(March_2020-21_pdf))
Retrieved on _ 9th Oct., 2021

<https://moneylife.in/article/here-is-the-list-of-top-50-wilful-bank-defaulters-bad-debts-of-rs1009-lakh-crore-written-off-in-past-5-years-says-govt/69238.html>

Can Un-merged Public Sector Banks in India be Privatized? A Scrutiny

PARMOD KUMAR SHARMA*
BABLI DHIMAN**

Abstract

During the period 2017-2020, GOI has merged the subsidiaries of SBI and BMB in SBI besides amalgamation of thirteen PSBs to make five big banks. PSBs besides other commercial banks had resorted to evergreening of their credit portfolio under the guise of Corporate Debt Restructuring. But for huge recapitalization inducted by Government of India due to the erosion of capital, many of the PSBs faced insolvency like situation. To avoid using public money through budgetary allocations for capitalization of banks, the Government took a bold step to amalgamate many banks. The stated objective of GOI for merger is clear which is to make internationally competitive. The present study attempts to analyze impact of Gross Non-Performing Assets (GNPA) on financial performance of PSBs through statistical tools and suggest which banks can be further restructured based on their mean financial position for the period of study.

JEL Code : G20; G21;

Keywords : PSBs; NPA; Merger; Restructuring; Privatization; GOI; Recapitalization; Bank; SBI; BMB; India

I. Introduction

THE INDIAN BANKING scene has undergone a steady evolution since independence. From a few private sector banks managed by big business houses to nationalised banks in late sixties and opening of new generation of private sector banks, the sector has been on a consistent transformation. There was a need of the government to take over major banks by nationalization in late sixties and eighties for development of hitherto neglected sectors of economy. Having achieved its social objective largely through Lead Bank Scheme and 20 Point Programme, the government diluted the equity stake in nationalised banks by listing them on stock exchanges thereby introducing transparency and accountability of these banks now called

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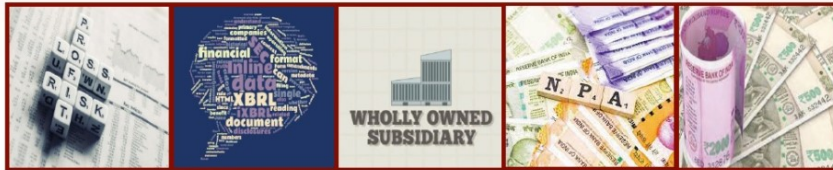
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Lalit Bhalla**

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with Indian Macroeconomic Factors**

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**Impact of Non-Performing Assets on Financial
Performance of Selected Merged Indian
Public Sector Banks**

**Parmod Kumar Sharma
Babli Dhiman**

Public Sector Banks in India : Growth of NPAs and Restructuring Aspects

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ABSTRACT

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The recent restructuring of Public Sector Banks (PSBs) has generated immense interest in the economic world and the various stakeholders which include investors, depositors, borrowers, the staff working in these banks and the top management of the merging entities. Whereas the depositors look for safety of their monies, the borrowers of merging entities look for new loan products at cheaper rates and faster delivery. The investors will look for resumption of dividend payouts at higher rates and capital appreciation of their investments and the staff looks for better working conditions. The top management will expect more freedom to operate and manage their respective banks more efficiently to grow and earn higher profits. The merger of strong banks was recommended by the first Narasimham Committee in 1991. It has taken almost 28 long years for the Government of India to act on this very critical suggestion of the committee. It is widely believed that this belated step has been initiated due to huge pile of Non Performing Assets (NPAs) with Public Sector Banks and the resultant need for their frequent recapitalization. It is a moral hazard and bad economics for any government to regularly recapitalise PSBs being the major stake holder and having total administrative control of their boards and the top management. To enable PSBs meet the regulatory capital as per international norms and the provisioning requirements enforced by Reserve Bank of India, use of tax payer's money (collected for economic development of the country) is questionable. However it is made clear by the government that the merger is intended to make PSBs bigger and internationally competitive and to build up their capacity to access capital markets for raising resources. A perspective of growth of NPAs and the resultant impact on the financial deterioration of PSBs over a time horizon can give answers to the need for restructuring of Public Sector Banks as repeat of such actions by the government may again be necessitated in future. The improvement in financial performance parameters of PSBs over next few years will answer if act of restructuring by the Government of India results in internationally strong 'too big to fail banks'.

Keywords : Restructuring, Merger, NPA, PSBs, PCA, Financial Ratios.

Changing Scenario of Bad Assets in Public Sector Banks in India

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ABSTRACT

The Government of India has merged during last two years thirteen public sector banks (PSBs) into five leaving their total number to eleven in addition to State Bank of India which earlier witnessed merger of associate banks and Bhartiya Mahila Bank in it. This major restructuring has been undertaken by the government with the stated objective of making PSBs stronger and internationally competitive. The rationale is that bigger banks can face challenges of the modern day world, out of which raising of capital and upgradation of banking technology are the most important. This restructuring exercise came at a time when many of these PSBs faced challenges of survival because of huge rise in their bad assets (non-performing loans). But for massive recapitalization many of these banks would have faced insolvency like situation. The present circumstances are still too uncertain to guarantee a return of these banks to good financial health as these continue to face twin challenges of capitalization and reduction of non-performing loans commonly known as Non-Performing Assets (NPAs) in India.

Keywords : Restructuring , PSBs, Mergers, NPA, AQR, PCA, Recapitalization

I. INTRODUCTION

All countries require a robust banking system for their economic development. In our country too the various sectors of economy like agriculture, small and medium industry to large green field projects are all dependent upon banking system for their growth. The entrepreneurs in all sectors have equity of their own but it acts mostly as seed capital. The majority of funding of different new ventures is either done by equity investors or by the banks. The equity investors

are shy of investing in new enterprises / industries because of risk of failure of the promoters having no previous track record. The alternative with the first generation of entrepreneurs is therefore to depend upon public sector banks for support as these banks still dominate the banking arena having more than sixty percent share in advances. Their share is high because of the developmental role assigned to them by the owner, the Government of India. It is necessitated to fulfil the objective of economic development of the nation. After many years of

Restructuring of Indian Public Sector Banks: Genesis and the Challenges

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Abstract: Banking industry has been facing difficulties worldwide. The problems have been common though scale might be different at different places. The major issues that have confronted them are providing customer delight by way of 'wow' banking and to keep themselves afloat. There is abundant expectation by the public from the industry to provide state of the art technology at competitive pricing and products which give them their value for money. The regulators want these banks to be adequately capitalised to mitigate the enormous risks they undertake by financing borrowers who are genuine and need bank money for growth of their businesses and the unscrupulous ones who borrow money to divert it to their unfunded projects or in real estate to make a quick buck. The banks also on daily basis face the operational risks (frauds by public and employees, looting of ATMs and robberies etc). There is pressure on them to earn good profits by safe lending and expanding the reach by adding new customers. There is good competition between Public Sector Banks (PS Banks) among themselves and PS Banks and the private sector banks. Many private sector banks in past faced liquidity issues due to management failure and bad lending. A case in point is some banks which were born out of liberalised economic policy of 1991 like Centurion Bank, Bank of Punjab, Times Bank Ltd and Global Trust Bank which faced management inefficiencies and were amalgamated with other banks. Even New Bank of India a public sector bank had to be merged into another nationalised bank Punjab National Bank which had never happened before. It can be stated that to overcome liquidity constraints and bad management issues, bank mergers and restructurings are generally resorted to. In India besides PS Banks we have also recently witnessed restructuring of 'Yes Bank Ltd' a private sector bank at the behest of government to save it from failure resulting from personalized lending by the promoters to friendly corporates which ultimately sunk.


Andrew Sheng (1991)^[1] observed that most economists deal with financial distress as an economic or financial problem. The causes of financial distress are usually attributed to one or a combination of two factors: microeconomic (bank mismanagement) or macroeconomic changes in relative prices, poor macroeconomic policies or external shocks. Various governments have been resorting to Bank mergers in the Public Sector to have synergies by way of branch rationalization, gaining access to latest technology, capital optimization and above all experienced and professional managements to take control. Government might have taken the credit for successful amalgamation of PS Banks but unless the macroeconomic parameters change, the expected results like, resumption of credit and earning of substantial profits to take care of Capital requirements and adequate provisioning of bad assets, will not be forthcoming. With COVID-19 having deeply infected the society, the resultant lock downs and enormous negative impact on our as well as world economy, it will be interesting to watch whether the declared objectives of government for restructuring of PS banks in India will be fulfilled.

Key Words: Restructuring, PS Banks, Mergers, Amalgamation, NPA, NCLT.

1. INTRODUCTION (Perspective of Indian Banking Industry):

Banks perform the task of intermediation. One set of customers having surplus money deposits it with the banks. Another set which is in need of money for their sundry needs, gets it from the bank. The difference in interest paid on deposits and earned on lending represents major income of the banks besides other incomes earned by way of commissions on drafts, letters of credit and guarantees issued on behalf of customers. It is when the income of banks earned on loans is impacted due to wilful defaults in repayment, genuine business failures or frauds on banks that the bank or a financial institution is stressed. Banking is the backbone of a nation and equally strong is the trust of people in their governments to bail them out in a banking crisis. It is the trust in their governments that most bank failures are averted by Govt. takeovers or merged with other strong banking entities to avoid any spill over to the banking system. No country can achieve the goals of economic development and social upliftment without a strong financial system mainly comprising of banks and non-banking finance companies. Most of the ownership of these banking institutions is in private hands in the developed economies. But the economies in a transient phase of development like ours have a major share in System by the state owned banking institutions. As per **ShaktiKanta Das (2019)**^[2] in the post independence days the banking presence was sparse in India and it was in the hands of private players mainly industrial houses. In the year 1967 credit to agriculture constituted only 2.2 percent of the total advances of the scheduled

Participation in Conferences & Presentation of Papers



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This is to certify that Dr./ Mr. / Ms. Parmod K Sharma
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ANNEXURE-I

Reasons of Non-Performing Assets (CODES FOR CONTENT ANALYSIS)

External Reasons (ER)

- **ER 1-** Decline in GDP, high inflation, recession and the resultant slowing economy, business environment , over optimism for fresh investments and natural calamities
- **ER 2-** Abrupt Change of Government Policies/ Regulations
- **ER 3-** Moral Hazard, Regulatory Forbearance, Excessive Risk Taking , Political and Social Implications
- **ER 4-**Malfeasance/Wrong doing
- **ER 5-**Transformation of major term lending institutions into universal banks as commercial banks' lack of expertise to appraise projects of various industries
- **ER 6-** Adverse Exchange Rate movements resulting in huge losses for projects which did not exercise hedging options. Externalisation problems from countries having difficult balance of payments position and consequent restrictions on remittances of payments for imports , Non-payment and overdues in other countries, Disputes in Terms of Trade, Interest Rate Hike
- **ER 7-**Raw Material / Power Shortages and price increase
- **ER 8** Asset Quality Review by Regulator to reflect true state of NPAs
- **ER 9-** Delay in payment of dues by Government Departments
- **ER 10-**Lack of Efficient Legal System and absence of Bankruptcy Laws

INTERNAL REASONS (IR)

- **IR 1-** Incompetent Boards, Credit Policy of Banks, Inadequate Risk Assessment , Excess exposure to Corporate, Rapid Credit Growth, Weak Corporate Governance, Connected Lending, Corporate Bank Nexus, Inefficient operations

- **IR 2-** Due diligence of borrower, Lack of effective coordination between banks & financial institutions in respect of Large Value Projects at the implementation stage, Non –sharing of information with other banks/ members of Consortium about borrower
- **IR 3-** Weak appraisal of credit needs, Collateral based lending Vs Cash, Unrealistic Terms of Credit (Repayment and Moratorium), Lack of knowledge & training of staff
- **IR 4-** Collateral based lending/ Low collaterals
- **IR 5-** Delay in sanction and disbursement of working capital funds / limits
- **IR 6-** Poor post sanction follow up and supervision(Slackness on the part of the credit management staff in their post sanction follow up to detect and prevent diversion of funds), Lack of advanced collection system
- **IR 7** Non-transparent accounting policy and poor auditing practices
- **IR 8-** Directed and target oriented credit (as per Government priorities) to lend to priority sectors of economy
- **IR 9-** Use of technology (System based) to crystallize bad loans as per NPA norms to bring about transparency as directed by the regulator resulted in massive NPAs.
- **IR 10-** Mismatching of maturity of deposits and tenor of loan products

BORRPWER RELATED (BR)

- **BR 1-** Lack of Planning /Incompetent Management & Lack of Entrepreneurship/ failure in financial administration
- **BR 2-** Unscrupulous borrowers with dubious integrity having resorted to Diversion of short term funds for long term uses and/or to unrelated businesses and/ or misused the Restructuring Norms
- **BR 3-**In case of External Commercial Borrowing (ECB)/ Foreign Currency Loan (FCL) keeping the position unhedged

- **BR 4-** Wrong choice of technology/ Technical problems, product obsolescence and business failure
- **BR 5-**Management / Labour Disputes
- **BR 6-**Lack of Interest , Non cooperation to bring further equity
- **BR 7-**Wilful Default
- **BR 8-** Fraud (Siphoning of money), Over-invoicing of project-cost
- **BR 9-** Time and Cost Overrun
- **BR10 -** Poor credit collection, Dependence on Single Customer

ANNEXURE-II-BANK WISE LIST OF WILFUL DEFAULTERS

WILFUL DEFAULTERS IN BANKS AS ON 30-9-2019

	NO OF WILFUL DEFAULTER BORROWERS	AMOUNT RS. IN CRORES
1. STATE BANK OF INDIA	685	43,887
2. PUNJAB NATIONAL BANK	325	22,370
3. BANK OF BARODA	355	14,661
4. BANK OF INDIA	184	11,250
5. CENTRAL BANK OF INDIA	69	9,663
6. UNITED BANK OF INDIA	128	7,028
7. UCO BANK	87	6,813
8. OREINTAL BANK OF COMMERCE	138	6,549
9. CANARA BANK	96	5,276
10. ANDHRA BANK	84	5,165
11. ALLAHABAD BANK	57	4,339
12. INDIAN OVERSEAS BANK	49	3,188
13. CORPORATION BANK	58	2,450
14. INDIAN BANK	27	1,613
15. SYNDICATE BANK	36	1,438
16. BANK OF MAHARASHTRA	42	1,405
17. PUNJAB & SIND BANK	6	255
	2426	1,47,350 cr

(Source : Lok Sabha Document)

ANNEXURE-III- WILFUL DEFAULTERS

Details of top 50 wilful defaulters in Scheduled Commercial Banks as on 31.3.2022

Amounts in crore Rs.

Borrower Name	Amount owed
Gitanjali Gems Limited	7,848
Era Infra Engineering Limited	5,879
Rei Agro Limited	4,803
Concast Steel and Power Limited	4,596
ABG Shipyard Limited	3,708
Frost International Limited	3,311
Winsome Diamonds and Jewellery Limited	2,931
Rotomac Global Private Limited	2,893
Coastal Projects Limited	2,311
Zoom Developers Private Limited	2,147
Kudos Chemie Limited	2,082
VMC Systems Limited	2,001
Transstroy (India) Limited	1,932
Amtek Auto Limited	1,926
Deccan Chronicle Holdings Limited	1,890
IVRCL Limited	1,766
Best Foods Limited	1,653
Forever Precious Jewellery and Diamonds Private Limited	1,639
Shri Lakshmi Cotsyn Limited	1,599
Siddhi Vinayak Logistic Limited	1,588
Pratibha Industries Limited	1,497
Svogl Oil Gas and Energy Limited	1,486
Surya Vinayak Industries Limited	1,481
Unity Infraprojects Limited	1,476
Hanung Toys and Textiles Limited	1,449
Nakoda Limited	1,448
Gili India Limited	1,447
EMC Limited	1,342
S Kumars Nationwide Limited	1,334
Rohit Ferro-Tech Limited	1,333
Sterling Biotech Limited	1,311
Amira Pure Foods Private Limited	1,293
Shree Ganesh Jewellery House (I) Limited	1,157
Gupta Coal India Private Limited	1,152
Nakshatra Brands Limited	1,149
Sintex Industries Limited	1,147
Sterling Oil Resources Limited	1,028
Wind World (India) Limited	993
Ezeego One Travel and Tours Limited	944
Parekh Aluminex Limited	934
Corporate Ispat Alloys Limited	933
JVL Agro Industries Limited	932
First Leasing Company of India Limited	896
Diamond Power Infrastructure Limited	886
Shri Lal Mahal Limited	881
Kingfisher Airlines Limited	866
Jain Infraprojects Limited	853
Metalyt Forgings Limited	818
Firestar International Limited	803
Jay Polychem (India) Limited	798

Source: RBI

ANNEXURE-IV- NPAs Written Off by Banks

Details of NPAs written off by Public Sector Banks

Amounts in crore Rs.

Bank	Amount written off					Recovery from written-off accounts				
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Bank of Baroda ¹	7,148	19,292	15,912	14,782	17,967	917	1,295	1,532	2,985	2,510
Bank of India	8,976	7,405	7,618	8,815	10,443	408	971	1,775	530	1,097
Bank of Maharashtra	2,460	5,127	5,698	4,931	3,118	138	245	342	844	642
Canara Bank ²	10,710	21,042	12,431	7,642	8,210	724	1,874	1,196	3,032	2,747
Central Bank of India	2,924	10,375	4,169	5,992	1,236	410	557	693	297	332
Indian Bank ³	5,242	7,091	12,151	8,371	8,347	249	158	261	618	1,612
Indian Overseas Bank	6,908	7,794	16,405	4,618	3,769	3	28	39	32	19
Punjab and Sind Bank	460	1,635	1,781	71	1,134	49	160	178	125	261
Punjab National Bank ⁴	15,631	24,076	18,444	15,877	18,312	1,351	3,213	4,333	2,498	3,441
State Bank of India	39,151	58,905	52,362	34,402	19,666	5,333	8,345	9,250	10,297	7,782
UCO Bank	2,735	4,420	12,479	9,410	3,851	182	448	1,003	986	1,546
Union Bank of India ⁵	13,371	16,040	16,426	16,983	19,484	474	1,774	3,401	2,537	2,750
IDBI Bank Limited⁶	12,515		734740			219		103048		

Source: RBI, Global Operations