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Impact of NPA Management on Profitability Analysis of Indian Commercial Banks

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Abstract

The article explores the complex connection between managing Non-Performing Assets (NPAs) and analyzing profitability in Indian commercial banks. The escalating burden of NPAs has emerged as a critical concern, exerting substantial adverse effects on the banking sector's financial health and overall economic stability. The study scrutinizes the impact of efficient NPA management strategies on the profitability metrics of Indian commercial banks. Through a comprehensive analysis spanning a significant period, encompassing various bank-specific indicators, this research endeavors to elucidate the significant role of NPA management in shaping the financial landscape of Indian banks. The findings illuminate that effective NPA management directly correlates with enhanced profitability, evidenced by metrics such as return on assets and return on equity. Moreover, the research explores diverse bank-specific attributes, including net interest margin, non-interest income, and operational efficiency, to discern their influence on the interplay between NPA management and profitability. By investigating the dynamics of NPA management and its repercussions on profitability, this article aims to provide valuable insights and recommendations to enhance the financial resilience of Indian commercial banks, ultimately fostering a robust and stable banking sector contributing to the nation's economic growth and development.

Key Words: Non-Performing Assets, Profitability, Bank, Management

Introduction

The current global financial crisis which has been attracting the attention of policy framer and academicians is due to the problem of Non-Performing Assets (NPA). Today, the word NPA is creating terror in the banking industries and corporate houses. In other words, the NPA is like a ―big red balloon that causes cancer in the banking system of India. But now NPAs are an important subject matter for Indian banks. Even before Indian banks gear up to meet the Basel III standards, they have to fight the NPA crisis that threatens to strike at its very heart. The banking industries health is measured through NPAs. The performance of private sector banks have defeated by the brilliant performance of public sector banks in regard to financial operations (ASSOCHAM, India, 2014). However, the mounting NPAs are the only problem of these banks over the years. The major portion of the total NPAs of public sector banks are contributed from the NPAs of priority sector and the non-priority sector. According to a recent survey by Business Standard on balance sheet of 10 public sector banks (PSBs) shows that 23% of corporate loans in the non-priority sector became worse at the end of financial year 2018 compared to 15.6 % at the end of 2017 financial year. On the contrary, the private sector banks NPAs have revealed a declining trend (ASSOCHAM, India, 2014). The cause of this decline is due to the tightening of the credit appraisal system over the years by the private sector banks. The profitability of banks reduces due to the increase in NPAs. Therefore, to improve the profitability and efficiency of banks, NPAs must be shrinking to the controllable and manageable level. The liquidity, profitability and solvency position of banks affected by a high degree of NPAs which implies probability of huge credit defaults by the banks. Therefore, the financial sustainability of the Indian banking sector requires for maintenance of adequate capital. On the contrary, to keep the Indian banks at par with international standard, Basel norms may be applied with great focus. Hence, to achieve the financial sustainability, banks should develop their recovery mechanism, quality of assets and higher provisions.

Objectives of the Study:

This research work has been undertaken for achieving the below mentioned objectives.

1) To study the current status of NPAs of Commercial Banks in India
2) To analyse the impact of NPA management on the profitability position of commercial banks in India.

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Research Methodology

Data Collection

The secondary sources constitute the source of data collection by the researcher. The RBI Bulletin, Reports of Govt. of India, Annual Reports of commercial banks and financial institutions and Annual Reports on trend and progress of banking in India published by RBI etc are the main sources of data collection. In addition to this, relevant information has been gathered by holding discussion with bank officials involved in the management of NPAs. Apart from this the researcher has collected information from text books, articles, research papers published in various journals/magazines, seminars, workshops etc. The time series data has been collected from 2003-04 to 2017-18 for a period of 15 years.

Sample & Sample Design

In this particular study, a sample of 05 public sector banks and 03 private sector banks of India has been taken into consideration on the basis of banks having total risk weighted assets of more than Rs 2000 billion such as Andhra Bank, Bank of India, Punjab National Bank, State Bank of India, UCO Bank, (Public) and Axis Bank, HDFC Bank & ICICI Bank (Private). Another cause of selecting these banks as samples in our study since the majority of banks are indexed in Bankex Stock Index.

Time Period of the Study: The time period of the study is being undertaken from the year 2003-2004 to 2017-2018 as there is a tremendous increase in non-performing assets of commercial banks in India because of soaring outstanding in priority sector like agriculture, housing, education and MSME etc.

Use of Tools and Techniques for the Study

The data has been analysed with the help of certain standard and appropriate statistical research tools such as, Correlation, Regression, Mean, standard deviation, Co-variance, Analysis of variance (ANOVA), Percentage, averages, statistical package like SPSS, have been used for data testing on NPA management.

Limitations of the Study

The present research study is not free from various limitations. These are outlined below.

1) Indian public and private sector banks have been included only in the sample whereas foreign banks are not considered for this study.
2) The study is limited to 08 selected commercial banks (05 public sector and 03 private sector banks) only. For the study, many other banks are left out which may provide better results.
3) The time period taken for study is set for 15 years from the year 2003-2004 to 2017-2018. The study can be extended to more time periods for better outputs.
4) An attempt has been made to review the existing literatures to conduct the study. However, it may be possible that some other important studies be excluded due to the wide range of availability.
5) This study is based on secondary data. Primary data is not used in this study. Secondary data may have its own limitations.

Review of Literature:

Balasubramaniam (2012) analyzed the trajectory of banks' Non-Performing Assets (NPAs) in the last decade, starting from 2000. The paper gains significance in light of the recent proposal by the RBI to implement Basel III norms in the banking sector from January 2013. The initial section of this paper engages in a discussion on the concept of NPAs, focusing on identification and control procedures, as well as the impact of NPAs on the profitability and financial stability of banks in a general sense. The analysis reveals that the current level of NPAs is elevated across all banks, necessitating a concerted effort to reduce them. This reduction can be achieved through effective credit appraisal procedures, robust internal control systems, and endeavors to enhance the quality of assets in their balance sheets.

Kumar (2016) Conducted a selective analysis to explore the existence of a significant correlation between non-performing assets (NPAs) and a bank's performance, as NPAs serve as a reflection of overall bank performance. Presently, the Indian banking sector is grappling with a substantial NPA problem, impacting both the bank's profits and market valuation due to NPA provisioning on the balance sheet. High levels of NPAs indicate a heightened likelihood of numerous credit defaults, adversely affecting a bank's profitability and liquidity. Public sector banks tend to experience a relatively higher extent of NPAs compared to private banks. Controlling and minimizing NPAs are crucial steps to enhance both the efficiency and profitability of banks.

Arasu, Sridevi, Nageswari & Ramya(2019) conducted a research that revealed a gradual increase in both Gross and Net Non-Performing Assets (NPA) for both public and private sector banks over the specified period. Notably, a substantial positive correlation was established between the Gross NPA and Net NPA of both public and private sector banks. Moreover, a significant adverse correlation was observed between NPAs and the Return on Assets (ROA) for both public and private sector banks. Specifically, Gross NPA exerted a noteworthy negative impact on ROA, whereas Net NPA had a favorable influence on ROA for both sectors. Consequently, the study strongly advocates for regulatory bodies and concerned bank authorities to undertake essential measures to mitigate NPAs and enhance the recovery process. Additionally, the study disclosed that among public sector banks, SBI, PNB, and BOI exhibited Average Gross and Net NPA figures surpassing the overall sample bank average.

Nachimuthu & Veni(2019) Piloted a study to assess how Non-Performing Assets (NPAs) have affected the profitability of Indian scheduled commercial banks over a decade. Specifically, it explored the impact of NPAs on profitability within the Indian scheduled commercial banking sector from 2007-2008 to 2016-2017. Various analytical methods such as ratio analysis, regression analysis, tests comparing means, and cross correlogram utilizing EViews 10 software were employed to identify NPA-related variables influencing banking sector profitability. In essence, this study concludes that non-performing assets significantly impair the profitability of scheduled commercial banks in India. The global economy has periodically felt the adverse effects of non-performing assets or bad loans. The research indicates a notable increase in non-performing assets, subsequently leading to diminished bank profitability within the Indian scheduled commercial banking sector.

Gowda (2019) Investigated the viability of the financial performance of Public Sector Banks (PSBs), Private Sector Banks (PVSBs), and Foreign Banks (FBs), analyzing the effects of Non-Performing Assets (NPAs) and the provisions made against these NPAs on their profit and overall profitability. The study utilizes relevant statistical data spanning a ten-year period from 2008-09 to 2017-18. After the analysis the study affirms that NPAs exert a substantial negative influence on the profitability of PSBs and PVSBs. Consequently, there is an urgent need for Indian Scheduled Commercial Banks (SCBs), particularly PSBs, to enhance their asset quality, thereby reducing NPAs and provisions and ultimately boosting profitability.

Wadhwa & Ramaswamy (2020) studies the influence of Non-Performing Assets (NPAs) on bank profits and strives to examine the impact of key financial aspects on a bank's NPAs, offering recommendations for efficient NPA management. Based on RBI data, the study focused on the five banks (both public and private) with the highest NPAs during the period from 2014-2015 to 2018-2019. The findings revealed a higher incidence of NPAs in public banks compared to private ones. It is imperative for banks to proactively adopt stringent measures to effectively recover from NPAs.

Tyagi , Rai & Sharma (2020) Assessed the extent of Non-Performing Assets (NPAs) in both public and private sector banks in India and subsequently analyze its effect on the banks' profitability. The study relies on secondary data gathered from various sources. It is evident from the study that NPAs are on the rise in both private and public sector banks. The research underscores a substantial correlation between Non-Performing Assets and the profitability of banks.

NAAZ (2021) investigated that increasing occurrence of non-performing assets (NPAs) has implications for operational efficiency, ultimately affecting a bank's financial health in terms of profitability, liquidity, and solvency. This study aims to explore the correlation between NPAs and a bank's profitability, specifically focusing on major public sector banks grappling with the mounting NPA issue. Collaborating with the RBI, banks are proactively implementing measures to handle non-performing assets. To enhance bank profitability, it's imperative to reduce NPA levels, prompting banks to undertake various strategies. When deposits transition into non-performing assets (NPAs) due to payment defaults, capital becomes unavailable, directly impacting the bank's profit margin.

Tanted, Gupta & Gaykwad (2021) analysed the influence of Non-Performing Assets (NPA) on a bank's profitability and overall performance. The study revealed a substantial adverse impact of NPA on both total loans and operating expenses. The study's outcomes affirm a direct correlation between NPA and a bank's performance and profitability. Not only does NPA negatively affect a bank's profitability, but it also hampers their operational effectiveness. The findings of the study emphasize that NPA detrimentally affects banking performance by reducing profitability, increasing operational costs, and limiting loan approval capabilities due to liquidity and cash flow discrepancies. When comparing NPA levels between private and public sector banks,

private banks demonstrate better NPA management. Furthermore, private sector banks face less government pressure for loan approvals, contributing to their lower NPA levels in comparison to public sector banks.

Das & Uppal (2021) explored the correlation between Non-Performing Assets (NPAs) and profitability by analyzing the factors influencing the profitability of 39 public sector and private banks from 2005 to 2019. Utilizing a range of bank-specific and macroeconomic indicators related to profitability, it was observed that NPAs exert a detrimental effect on the profit rates of Indian banks. The study recommends that banks should strive to minimize their NPAs and lower their operational expenses to enhance their profitability. Furthermore, the findings indicate that an increase in operational costs adversely impacts the profitability of Indian banks. The study highlights a significant negative relationship between profitability (return on assets - ROA) and NPAs (net non-performing assets - NNPA), as well as between profitability (ROA) and operational costs (OCTII).

Lam(2022) explored the factors contributing to the escalation of Non-Performing Assets (NPAs) and proposes preventive measures to mitigate this rise. NPAs disrupt the flow of credit capital, consequently impacting economic development and growth. A significant portion of the present NPAs stems from loans issued during the prosperous mid-2000s when the economy was thriving and business confidence was robust. However, with the economic slowdown following the 2008 global financial crisis, the ability of borrowers from that time to repay their loans diminished. This situation has given rise to Vietnam's Balance Sheet problem, wherein both the banking sector and businesses are grappling with financial strain. Another contributing factor is computational engineering. Considering the economic challenges triggered by COVID-19, the demand for credit is not as robust as in previous years, leading to a smaller denominator and a relatively higher ratio of bad debts to outstanding loans.

Reddy (2022) assesses the profitability of Bank of Baroda during the period from 2016 to 2021. The findings reveal a significant and adverse relationship between Net-Profit and Non-Performing Assets within the banking sector, indicating that NPAs substantially reduce the bank's profits. Recovering and minimizing these non-performing assets is crucial for banks to enhance their profits. Consequently, an increase in Net Profit will lead to a decrease in Gross Non-Performing Assets (GNPA) for the bank. The study establishes a strong negative correlation between Net Profit and Net Non-Performing Assets (NNPA) of the bank. By enhancing credit monitoring and improving loan disbursement assessment practices, banks can significantly boost their profits.
Kaur, Kaur, sood & Grima(2023) analyzed the impact of Non-Performing Assets (NPAs) on the profitability of selected public and private sector banks in India, namely Punjab National Bank (PNB), Bank of India (BOI), UCO Bank, Punjab and Sind Bank (PSB), HDFC Bank, Axis Bank, ICICI Bank, and Yes Bank, during the period from 2009/2010 to 2017/2018. This study specifically focuses on comparing the impact of NPAs on the profitability of both public and private sector banks. NPAs have shown a substantial increase, particularly within public sector banks, adversely affecting their financial stability and overall performance. The escalation of NPAs negatively influences the operational approach and long-term stability of both public and private sector banks within the economic framework. The detrimental effects of NPAs extend beyond the banks' profitability to adversely impact the country's economic growth.

Status of Gross NPA and Net NPA of Commercial Banks in India

According to RBI, the GNPAs figure in India seems more distressing than the NNPA figure in comparison to USA and other Asian economies (Prasad and Veena: 2011). Presently, Gross NPAs of Foreign Banks is Rs 79700 Million, Gross Advances is Rs 2689674 million and Gross NPAs to Gross Advances Ratio is 2.96%. It has been found that Gross NPAs percentage showing decreasing trend till the year 2006. As per the data, in public sector banks the gross NPA was 11.09% in 2001-02, 9.36 % in 2002-03, 7.80 % in 2003-04, 5.50% in 2004-2005, 3.60% in 2005-06 and 2.70 % in 2006-07. As per the data, the gross NPA of private bank was 9.64% in 2001-02, 8.08 % in 2002-03, 5.85 % in 2003-04, 6.00% in 2004-2005, 4.40% in 2005-06 and 3.10% in 2006-07. Thereafter, gross NPA was most probably remains constant from year 2007 to 2012 in both Public and Private Sector banks respectively (2% - 3%), whereas the Net NPAs percentage in Public and Private Sector Banks reflects more or less declining trend during a decade i.e. from 2001 to 2012 (5.82% to 0.60%). The percentage of Gross NPA of total assets was 10.4% during 2001-02, 8.8 % in 2002-03, 7.2% in 2003-04, 5.2% in 2004-05, 3.3% 2005-06 and 2.5% in 2006-07 and after that this rate decreased till 2008-09. But from 2009-10, this rate was continuously increased over the year and during 2012-13 this rate was 3.23%. On the other hand, rate of Net NPA during 2001-02 was 5.5%, 4.03% in 2002-03, 2.8% in 2003-04, 2.0% in 2004-05, 1.2% in 2005-06 and after that this rate was decreased year by year up to 2008-09 but from 2009-10 this rate was increased year by year and during 2012-13 this rate was 1.7% of net advance and 1.0% of total assets. However, the data shows overall Gross NPA is increasing than Net NPA (Table no -1.1). Hence, to control the volume of

NPA financial and banking institutions should take appropriate measures as it indicates a bad signal for banking industries.

Table No-1
Gross NPA and Net NPA of Scheduled Commercial Banks in India
(Amount in Billion)

Year	Gross Advance	Gross NPA	Gross NPA to Gross Advances (%)	Net Advance	Net NPA	Net NPA to Net Advances (%)
2003-04	9001.66	648.12	7.2	8712.85	243.96	2.8
2005-06	15457.30	517.53	3.3	15168.11	185.43	1.2
2006-07	20074.13	505.17	2.5	19812.37	202.81	1.0
2007-08	25034.31	566.06	2.3	24769.36	247.30	1.0
2008-09	30246.52	699.54	2.3	29999.24	315.64	1.1
2009-10	32620.79	817.18	2.5	34967.20	391.27	1.1
2010-11	39959.82	939.97	2.4	42974.87	417.99	1.0
2011-12	46488.08	1369.68	2.9	50735.59	652.05	1.3
2012-13	59718.20	1927.69	3.2	58797.73	986.93	1.7
2013-14	68757.48	2630.15	3.8	67352.13	1426.56	2.1
2014-15	75606.66	3229.16	4.3	73881.60	1758.41	2.4
2015-16	81711.14	6116.07	7.5	78964.67	3498.14	4.4
2016-17	84767.05	7902.68	9.3	81161.97	4330.10	5.3
2017-18	92662.09	10656.14	11.5	86197.09	5344.22	6.2

Hypothesis
H0: There is no impact of Gross NPA on the profitability position of commercial banks in India.
H1: There is impact of Gross NPA on the profitability position of commercial banks in India.

Profitability Analysis of Commercial Banks
Profitability analysis of Indian commercial banks is measured through four different ratios: Return on assets, Return on equity, Net interest margin and Cost to income ratio.

Return on Assets Ratio
Return on assets ratio points out the ability of the management in utilizing the assets of the bank (Srairi, 2009). High ratio indicates the efficiency of the management through proper utilization of the assets.

Table No: 2
Return on Assets Ratio of Commercial Banks

Sl. No.	Bank Name	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009 10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	AVG
1	ANB	1.72	1.59	1.38	1.31	1.16	1.09	1.39	1.36	1.19	0.99	0.29	0.38	0.28	0.08	-1.46	**0.85**
2	BOI	1.25	0.38	0.68	0.88	1.25	1.49	0.7	0.79	0.72	0.65	0.51	0.27	-0.94	-0.24	-0.91	**0.49**
3	PNB	1.08	1.12	1.09	1.03	1.15	1.39	1.44	1.34	1.19	1.00	0.64	0.53	-0.61	0.19	-1.6	**0.73**
4	SBI	0.94	0.99	0.89	0.84	1.01	1.04	0.88	0.71	0.88	0.97	0.65	0.68	0.46	0.41	-0.19	**0.74**
5	UCO	1.13	0.73	0.34	0.47	0.52	0.59	0.87	0.66	0.69	0.33	0.7	0.48	-1.25	-0.75	-1.88	**0.24**
6	AXB	NA	NA	1.18	1.1	1.24	1.44	1.67	1.68	1.68	1.7	1.78	1.83	1.72	0.65	0.04	**1.18**
7	HDB	1.45	1.47	1.38	1.33	1.32	1.28	1.53	1.58	1.77	0.9	2.00	2.02	1.68	1.81	1.81	**1.55**
8	ICIB	1.31	1.59	1.3	1.09	1.12	0.98	1.13	1.35	1.5	1.66	1.76	1.86	1.49	1.35	0.87	**1.35**

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	AVG	**1.11**	**0.98**	**1.03**	**1.01**	**1.09**	**1.16**	**1.20**	**1.18**	**1.20**	**1.03**	**1.04**	**1.01**	**0.35**	**0.44**	**-0.42**	**0.89**

Source: Results Computed from Annual Reports of Selected Commercial Banks, (2004-2018)

Private sector banks are more profitable in comparison to the public sector banks during the study period as shown in Table no 2. HDFC Bank (1.55) is the most profitable bank followed by ICICI Bank (1.35) and Axis Bank (1.18). State Bank of India (0.74) has low return on its assets than the average ROA of the banking industry (0.89). The same thing also happens in case of other public sector banks like Andhra bank (0.85), Bank of India (0.49), Punjab National bank (0.73), and the lowest ratio is found in UCO bank (0.24). On the basis of Table no 2, it is found that public sector banks are not managing their assets properly as these banks have low ROA than the industry average ratio. On the other hand the private banks are more efficient than the public sector banks in case of utilizing the assets.

Return on Equity

Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company‘s assets minus its debt, ROE could be thought of as the return on net assets. ROE is considered a measure of how effectively management is using a company‘s assets to create profits.

The Formula for ROE is
Return on Equity =Net Income
Average Share Holder‘s Equity

Where, Net Income is the amount of income, net of expenses and taxes that a company generates for a given period. Average Shareholder’s Equity is calculated by adding equity at the beginning of the period. The beginning and end of the period should coincide with that which the net income is earned. Return on equity measures the efficiency of the management in utilizing the shareholders money (Ilhomovich, 2009). It determines the rate of return flowing back to the bank stakeholder’s money.

Table No: 3
Return on Equity Ratio of Commercial Banks

Sl. No.	Bank Name	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	AVG
1	**ANB**	40.31	31.62	20.52	17.78	17.97	18.94	25.96	23.24	19.25	15.27	4.98	6.34	4.95	1.53	31.54	**18.68**
2	**BOI**	26.65	8.03	14.85	20.65	24.38	24.97	12.56	15.79	14.00	13.62	11.82	6.70	-25.39	-7.78	-31.07	**8.65**
3	**PNB**	22.72	21.41	16.41	15.55	18.01	22.92	24.12	22.60	19.80	15.19	9.69	8.12	-10.37	3.52	-29.90	**11.99**
4	**SBI**	19.15	19.43	17.04	15.41	16.75	17.05	14.80	12.62	15.72	15.94	10.49	11.17	7.74	7.25	-3.78	**13.12**
5	**UCO**	10.46	17.86	8.68	12.34	14.75	16.20	22.08	14.36	13.83	6.38	13.45	9.06	-24.15	-15.94	-45.15	**4.95**
6	**AXB**	NA	NA	18.28	20.96	17.60	19.12	19.15	19.34	20.29	20.51	18.23	18.57	17.49	7.22	0.53	**14.49**
7	**HDB**	20.61	18.45	17.74	19.46	17.74	17.17	16.30	16.74	18.69	18.57	20.15	17.25	16.91	17.95	17.87	**18.11**
8	**ICIB**	20.93	18.86	14.33	13.17	11.63	7.77	7.96	9.66	11.20	12.94	13.73	14.32	11.32	10.34	6.60	**12.32**
	AVG	**20.10**	**16.96**	**15.98**	**16.92**	**17.35**	**18.02**	**17.87**	**16.79**	**16.60**	**14.80**	**12.82**	**11.44**	**-0.19**	**3.01**	**-6.67**	**12.78**

Source: Result Computed from Annual Reports of Commercial Banks (2004-2018).

Table no 3 reveals that Andhra Bank has highest return on equity (18.68) followed by HDFC bank (18.11) and AXIS Bank (14.49) during 2003-04 to 2017-2018, while UCO Bank (4.95) stands at the bottom of the table with lowest return on equity followed by Bank of India (8.65) and PNB (11.99). State bank of India (13.12) has return on equity above the average return on equity of the industry (12.78). ICICI bank is just nearer to the industry average ratio. According to the study of Buyuksalvari and Abdioglu (2011), return on equity has a significant positive effect on the financial performance of the banks. So Indian commercial banks especially banks having negative return on equity, should try to develop their condition otherwise it would put at risk their existence. Table no 3 concludes that return on equity in case of public sector banks especially State bank of India and Andhra bank is in better position. In case of private sector banks AXIS bank and HDFC bank also

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stands at better stage of return on equity. It indicates that these banks enhancing their efficiency in utilizing the shareholder's money perfectly.

Net Interest Margin Ratio

Net Interest Margin ratio is calculated on the basis of difference between interest income and interest expended divided by total assets. The net Interest margin can be expressed as a performance metric that examines the success of a firm's investment decisions as contrasted to its debt situations. A negative Net Interest Margin indicates that the banks were unable to make an optimal decision, as interest expenses were higher than the amount of returns produced by investments. Thus, in calculating the Net Interest Margin, financial stability is a constant concern.

The Net Interest Margin is calculated as:
Net Interest Margin = Investment Returns - Interest Expenses
Average Earnings Assets

Net interest margin indicates the control of spread (i.e. difference between interest income and interest expenses) which affects the profitability of the banks (Chander and Chandel, 2010). HDFC bank (3.75) has high net interest margin ratio followed by Punjab National Bank (3.05) and Andhra Bank (2.95) as shown in Table no 3.

Table No: 4
Net Interest Margin Ratios of Commercial Banks

Sl. No	Bank Name	2003-04	2004 05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	AVG
1	**ANB**	3.37	3.27	2.87	2.98	2.37	2.38	2.43	2.96	3.01	3.21	2.76	3	3.18	3.07	3.33	**2.95**
2	**BOI**	3.48	2.36	2.34	2.43	2.36	2.44	2.09	2.22	2.16	2.38	2.34	2.11	2.11	2.2	1.92	**2.33**
3	**PNB**	3.54	3.17	3.21	3.4	2.78	2.85	2.86	3.12	2.93	3.52	3.44	3.15	2.95	2.69	2.16	**3.05**
4	**SBI**	2.74	3.03	3.16	2.83	2.36	2.16	2.25	2.66	3.24	3.34	3.17	3.16	2.96	2.84	2.67	**2.84**
5	**UCO**	2.73	2.58	2.53	2.26	1.66	1.47	1.69	2.35	2.16	2.34	2.82	2.35	2.16	1.56	1.32	**2.13**
6	**AXB**	NA	NA	2.17	2.14	2.36	2.5	2.77	2.7	2.81	3.53	3.81	3.92	3.9	3.67	3.44	**2.65**
7	**HDB**	3.16	3.46	3.46	4.07	3.93	4.05	3.77	3.8	3.64	3.94	3.75	3.79	3.89	3.83	3.76	**3.75**
8	**ICIB**	1.5	1.69	1.87	1.93	1.83	2.21	2.23	2.22	2.27	3.11	3.33	3.48	3.49	3.25	3.23	**2.51**
	AVG	**2.57**	**2.45**	**2.7**	**2.76**	**2.46**	**2.51**	**2.51**	**2.75**	**2.78**	**3.17**	**3.18**	**3.12**	**3.08**	**2.89**	**2.73**	**2.78**

Source: Results are calculated from Annual Reports of Banks (2004-2018)

The State Bank of India (2.84) has more net interest margin as compared to the average net interest margin ratio of banking industry (2.78) during 2003-04 to 2017-18. UCO Bank (2.13) has lowest net interest margin followed by Bank of India (2.33) and ICICI Bank (2.51). The income of the banks has worsened in 2007-08 due to global recession. The results are consistent with the previous studies Ghosh (2010) and Siraj and Pillai (2011) that the global financial crisis has adversely affected the profitability (proxy as net interest margin) of banks. Table no 4 points out that public sector banks are better as compared to private sector banks except HDFC bank.

Cost to Income Ratios

Cost to Income ratio analyses the burden of bank through the operating expense and operating income (Nurazi and Evans, 2005). High ratio indicates the inefficiency of the management in controlling the operational expenses of the bank.

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Sl. No.	Bank Name	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	AVG
1	**ANB**	41.45	39.70	52.73	50.05	47.18	46.16	42.72	41.40	39.06	42.40	45.56	45.37	42.49	44.03	38.43	**43.91**
2	**BOI**	39.00	38.22	37.22	36.03	29.56	26.78	31.54	32.64	28.16	41.69	44.30	51.93	55.72	47.67	56.04	**39.76**
3	**PNB**	45.60	42.42	35.95	38.47	33.28	31.50	32.50	35.90	31.33	42.81	45.06	46.74	44.94	41.57	43.81	**39.45**
4	**SBI**	37.07	47.83	58.70	54.18	49.03	46.62	52.59	47.60	38.00	48.51	52.67	49.04	49.13	49.54	50.18	**48.71**
5	**UCO**	37.21	35.46	34.78	29.66	24.16	23.00	21.03	31.42	24.90	15.42	33.05	35.09	47.19	50.67	68.57	**34.10**
6	**AXB**	38.88	34.94	36.21	33.35	37.24	34.20	41.38	39.45	33.54	42.63	40.82	40.74	38.55	40.96	47.29	**38.67**
7	**HDB**	43.19	47.09	49.98	48.59	47.75	43.58	46.27	45.13	38.03	49.57	45.60	44.60	44.30	43.37	41.02	**45.20**
8	**ICIB**	27.70	30.18	32.53	32.59	30.19	31.38	34.86	32.22	28.67	40.49	38.25	36.83	34.70	35.78	38.83	**33.68**
	AVG	**38.76**	**39.48**	**42.26**	**40.37**	**37.30**	**35.40**	**37.86**	**38.22**	**32.71**	**40.44**	**43.16**	**43.79**	**44.62**	**44.19**	**48.02**	**40.44**

Table No: 5
Cost to Income Ratios of Commercial Banks

Source: Results calculated from Annual Reports of Banks (2004-2018)

Table no 5 indicates that State Bank of India (48.71) has highest cost to income ratio followed by HDFC Bank (45.20). ICICI Bank (33.68) has lowest operating expenses ratio followed by UCO Bank (34.10) and Axis Bank (39.45). The most of the public sector banks of our study are just nearer to the industry average ratio or above the ratio. The private sector banks are more efficient in controlling its burden ratio as compared to the public sector banks during 2003-04 to 2017-18 except the HDFC bank. The public sector banks suffer from overstaffing which leads to increase in operating expenses (Makkar and Singh, 2012). These banks are required to control these expenses to reduce their operational inefficiency. On the basis of table no 5, it can be pointed out that public sector banks are lagging behind in case of operational efficiency from private sector banks.

Impact Analysis of GNPA on Profitability
The impact analysis has done to test the hypothesis of the study, for which we have taken regression analysis. The hypothesis of the study is:
H0: There is no impact of Gross NPA on the profitability position of commercial banks.
H1: There is impact of Gross NPA on the profitability position of commercial banks.

Table No: 6
Gross NPA and Gross Profit of Commercial Banks
(Amount in Crores)

Year	GNPA of Selected Banks	Gross Profit
2003-04	26073.46	20873.16
2004-05	24702.30	21854.79
2005-06	20758.30	25201.95
2006-07	22574.00	27543.52
2007-08	29081.00	36777.86
2008-09	36015.30	58783.84
2009-10	40054.80	55269.85
2010-11	48958.60	68072.07
2011-12	69661.00	138623.45
2012-13	98292.40	89501.87
2013-14	121115.70	102027.93
2014-15	143982.40	117698.24
2015-16	272588.80	127432.55
2016-17	327999.90	152760.56
2017-18	523673.80	179992.70

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Source: Data are calculated from Annual Reports of selected Banks (2004-2018)

Table No: 7
Output of Linear Regression of GNPA on Gross Profit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846[a]	.716	.694	29046.033

ANOVA[a]

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	27678129554.901	1	27678129554.901	32.807*	.000[b]
	Residual	10967736199.367	13	843672015.336		
	Total	38645865754.268	14			

a. Dependent Variable: Gross. Profit

b. Predictors: (Constant), GNPA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	44753.862	9868.667		4.535	.001	23433.904	66073.821
	GNPA	.305	.053	.846	5.728	.000	.190	.420

a. Dependent Variable: Gross. Profit

F Calculated value= 32.807*, F tabulated value=4.667 at 5% level of significance, d. f.= 14

Source: Results are computed in SPSS

The above mentioned study examines the degree of relationship between two variables that is dependent and independent variable. Profitability (Gross Profit) factor is taken to be a dependent variable, whereas gross NPA (GNPA) is an independent variable. Gross NPA is regarded as X as the movement of the former significantly changes the value of profitability (Gross Profit) factor over a period of 15 years. Gross NPA do have a significant bearing which can be intended from the following equation. Regression equation line being Y= a + bX states that Y is dependent and X is an independent variable, 'a' is constant and 'b' is beta-coefficient.

The equation is written as: Y= a + bX
Y = 44753.862 + 0.305 (X).
The value of Y will change linearly as the value of X changes. The value of Y will change to the extent of 0.305 *(X), keeping intercept constant.

From the above table-7, it is being inferred that multiple R is 0.846 which indicates a high degree of positive correlation between assumed variables that is Gross NPA and Profitability. If gross NPA changes, then the profitability position also varies in a positive linear direction to the extent of 84.6%. The R square value is 0.716

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which means that 71.6% of the data supports this meticulous model which implies if the independent variable (GNPA) changes, then dependent variable (Gross Profit) also changes. Further, we come to the conclusion that null hypothesis is rejected and alternative hypothesis is accepted as F calculated value (32.807) is more than the F tabular value (4.667). As null hypothesis is rejected, so it is proved that there is significant impact of gross NPA on the profitability position of commercial banks.

Conclusion

From the above analysis it is outlined that the profitability of private sector banks is better in contrast with public sector banks. The main reason for high profitability of private sector banks is mainly the low staffing, specific designed banking products, high customer satisfaction, well asset management system, low operating cost, better loan recovery management. The public sector banks operate with overstaffing, large branch banking leads to high operating expenses; miss management, loan subsidies, lack of utilization of shareholder‘s money etc are not able to generate sufficient profits. This is the major reason for their operational inefficiency.

The Indian Commercial Banks facing serious issues and challenges from the problem of Non-Performing Assets (NPAs) because it affects the sound financial positions and performance of the banks. Further, the banks should make more provisions in accordance with Basel norms for maintaining high liquidity. So, the problem of NPAs must be handled in such a manner that would not spoil the financial performance and affect the image of the banks. The RBI and the Government of India have taken countless steps to reduce the volume of NPAs of the Commercial Banks. So lots of strategic efforts needs to be undertaken to mitigate the problems of NPA otherwise NPAs will not allow growing the profitability of banks and the question of financial sustainability will be a long ahead destination like a ―pole star‖ for the Indian banking industry and for the new India.

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Appendix

Total Profitability of Selected Commercial Banks

Year	Andhra	BOI	PNB	SBI	UCO	AXIS	HDFC	ICICI	Gross Profit
2003-2004	930.17	2241.87	3120.85	9553.45	948.40	698.03	1007.91	2372.48	**20873.16**
2004-2005	992.92	1460.35	2707.20	10990.35	838.49	565.61	1343.87	2956.00	**21854.79**
2005-2006	769.10	1701.22	2917.11	11299.22	852.10	993.81	1978.73	4690.66	**25201.95**
2006-2007	931.23	2394.98	3230.64	9999.93	944.75	1362.59	2805.00	5874.40	**27543.52**
2007-2008	1056.94	3701.20	4006.23	13107.55	953.94	2225.91	3765.41	7960.68	**36777.86**
2008-2009	1288.02	5456.80	5744.34	27266.58	1201.61	3722.32	5178.95	8925.22	**58783.84**
2009-2010	1809.82	4704.76	7326.28	18320.91	1705.63	5240.55	6429.72	9732.18	**55269.85**
2010-2011	2413.06	5384.22	9055.69	25335.56	2694.96	6415.68	7725.36	9047.54	**68072.07**
2011-2012	2815.00	6693.94	10614.29	88480.87	2811.42	7430.86	9390.60	10386.47	**138623.45**
2012-2013	2767.23	7458.49	10907.37	31081.72	3357.09	9303.13	11427.62	13199.22	**89501.87**

2013-2014	2760.24	8422.90	11384.45	32109.23	4940.39	11456.08	14360.07	16594.57	**102027.93**
2014-2015	3298.43	7487.77	11954.75	39537.27	4910.21	13385.43	17404.47	19719.91	**117698.24**
2015-2016	3960.00	3941.33	11339.37	43257.80	3603.38	16103.61	21363.53	23863.53	**127432.55**
2016-2017	4387.95	9732.65	14565.16	50847.89	2926.08	18081.72	25732.37	26486.74	**152760.56**
2017-2018	5361.03	7138.92	10294.19	59510.95	1334.24	16084.61	32624.78	47643.98	**179992.70**

Source: Annual Reports of Selected Banks (2004-2018)
Note: Results of Gross Profit Computed