

A STUDY OF NPA AND ITS IMPACT ON BANKING PERFORMANCE

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ABSTRACT

India's banks play a critical role in the country's economy. Many Indian banks confront numerous risks, including a large pile of non-performing assets, operational inefficiencies, and a lack of credit approval experience. Modern banks are increasingly focusing on a business stream distinct from traditional banking, which enables them to reduce their risk portfolio and maximize the efficiency of their labor and resources. When an asset does not create any income for the bank, it is referred to as a non-performing asset (NPA). The loans granted to customers are the bank's assets. The loan becomes a Bad Loan or Non-Performing Asset if the consumer does not pay either the interest or the principal. The purpose of this study is to identify what impact does NPA have on profitability and performance? The study found that NPA has a significant negative impact on total loan and operating expenses.

KEYWORDS:

Non-Performing Asset, Risk portfolio, Profitability, Performance.

INTRODUCTION

The Indian banking industry is the base of the economy. In India, there is a total of 12 public sector banks and 22 private banks. It plays a very important role in the Indian economy. The Reserve bank of India is a regulator of the banking industry. In today's scenario, banks are majorly focusing on risk management. Indian banks have complied with international banking supervision standards established by "Basel II," and the bulk of them have met Basel III capital requirements. India's banks play a critical role in the country's economy. Many Indian banks are confronting various concerns, including a large pile of non-performing assets, operational inefficiency, and a lack of credit approval experience. Modern banks are increasingly focusing on a business stream distinct from traditional banking, which enables them to reduce their risk portfolio and maximize the efficiency of their labor and resources. The loan that is sanctioned and disbursed to borrowers is called its assets. If the principal and interest is not received consecutively for three months or 90 days then it is considered as non-performing assets. Also, when an asset does not create any income for the bank, it is referred to as a non-performing asset (NPA).

REASONS FOR THE RISE IN NPA IN INDIA

The Profit margin of banks is reduced and raises stress in the banking sector which leads to fewer funds available for other projects funding. In the case of public sector banks, the NPA causes bad returns for the government which reduces funding for social and infrastructure development. The pressure on the marketing department is also one of the major reasons for increasing the Bank's NPA. The pressure of generating business leads to the creation of fabricated documents with inflated value of assets. This in turn to breach the essence of haircut margin. Hence, the loan is sanctioned as per criteria only but the base data is fabricated which increases the loan amount. Thus, those who are not eligible also get a hefty amount of loans and later on become NPA.

NEED FOR THE STUDY

Non-performing assets or NPA is like a deadly worm that has been destroying the banking system of India slowly and steadily. Unmitigated NPAs are proving to be a major challenge for banks all over the world. Degrading the banks' credit rating and credibility is only one of the few issues increasing NPA levels have caused. Like any other business, banks also run-in profits, but NPA eats into that margin

for banks. NPA is becoming a very tough task for Banks. It is affecting profitability and overall, ROE. However, some banks are trying to manage their profitability despite NPA by alternatives modes of revenue generation activities. Keeping it in check and recovery of delinquent loans is now one of the most priority tasks for sustaining profitability. The present study will study the impact of NPA on profitability and how it affects banking performance. As the topic is very dynamic and require regular impact check, this study will identify the impact and its effects on Banking Performance.

LITERATURE REVIEW

Nataraja (2018), In his research, looks at the performance of banks in three different ways. internal performance comes first, followed by market performance, and finally by a bank's income that is returned to shareholders as equity. ROA, often known as profitability or productivity ratio, examines internal-based performance. ROA can be a useful tool for banks to track their progress against established internal objectives. The ROA ratio shows how well the management or the bank is utilizing the company's or bank's total assets or resources to produce more revenue (profit). The higher the yield, the more effective management or the bank uses its asset base. Siraj (2013), in his study, states that When bank performance metrics mitigate the association between advances and NPAs, the relationship is enhanced. In the regression model and its significance testing, the moderating impact is more obvious and statistically significant. Another key finding of the study is that advances have a greater impact on bank additions to NPA than bank gross NPA. This emphasizes the need for change in existing policy, which uses the relationship between advances and nonperforming assets (NPA) as a criterion for evaluating credit risk management efficiency. The findings show that bank performance indicators have a considerable impact on public sector banks' nonperforming assets (NPA). The result may be applied to the whole Indian banking system because Public Sector Banks account for roughly 80% of total advances and deposits in Indian Scheduled Commercial Banks. This is the end outcome. Banks, on the other hand, can use these performance metrics to forecast NPA levels. The study's major conclusions are applicable in the real world and have policy consequences. The Indian scheduled commercial banks' regulatory authority will use the linkages of bank performance indicators as moderating variables in the interaction between Advances and in building adequate credit risk management measures.

Manisha (2018) In this study authors concluded that non-performing assets are the biggest difficulty for both "ICICI Bank and State Bank of India," according to research because they cause a drop in the banks' liquidity balance and create "bad debts." Increased NPA levels have an impact on "profitability." "Secondary data" such as "annual reports of respective banks," "information bulletins," and "journals" are used in the correlation study. Chetan Dudhe (2018) according to his research, the Indian banking industry is experiencing a crisis with nonperforming assets (NPAs). The financial structure of any country determines its economic progress. The banking sector is the most important part of the financial system. To increase profitability, banks, particularly public sector banks, should concentrate on NPA management. Goyal et al. (2016) According to their research, the opening of the financial sector in 1990, followed by the RBI's reform program aimed at creating a viable, competitive, and efficient banking system in India, resulted in the entry of many private banks, both domestic and foreign, and increased competition among India's commercial banks. Banks are important financial intermediaries or institutions that serve as a performance measurement framework that incorporates strategic non-financial performance measures alongside traditional financial metrics to provide managers and executives with a more "balanced" view of organizational performance."

Bikker (2010), in his analysis, concludes that some dimensions of performance cannot be assessed directly, even though they are economically significant. While stockholders will look at performance in terms of profits made on their behalf, whether or not those profits are adjusted for risks taken, this article will look at performance in a broader sense, that is, the contribution financial institutions make to the commonwealth on behalf of consumers and businesses." EFSI(2018), the EFSI regulation defines four key performance indicators (KPIs) that capture various aspects of EFSI: the value-added of operations (contribution to EFSI objectives, quality, and soundness of projects, and technical and financial contribution); (ii) additionally (strongly linked to the risk profile of EFSI operations); and the macroeconomic impact of EFSI (expressed through (iii) total investment and (iv) mobilization of private finance). In addition to the KPIs, the EFSI agreement includes seven additional KPIs that help to provide an aggregated picture of the performance of the EIB Group about EFSI. The KPIs are divided into two categories: those that report on the progress of using the EU Guarantee and meeting the objectives and criteria set out in Articles 6, 9, and Annex II of the EFSI regulation (as applicable); and (ii) those that report on the macroeconomic impact of EFSI operations and the mobilization of private capital.

THE OBJECTIVE OF THE STUDY

1. To study the impact of NPA on banking performance indicators.
2. To suggest various strategies based on research findings.

RESEARCH METHODOLOGY

THE STUDY AND THE SAMPLE

The study is empirical. In this study, the sample is taken of the top 5 banks in India as per the market capitalization as of the 1st of October 2019. And the Data for the study was taken from FY 2014-15 to FY 2018-19 (1 April 2015 to 31 March 2019)

TOOL FOR DATA COLLECTION

The study took secondary data of the top 5 banks in India as per the market capitalization and the data is collected from financial reports of the respective banks and official websites as well.

PERFORMANCE INDICATORS IN THE BANKING INDUSTRY

1. NPA (non-performing assets)
2. Operating expense as a percentage of assets
3. Total loan outstanding
4. Total deposits

TOOL FOR DATA ANALYSIS

The study makes use of regression analysis to analyze the data collected. Regression models were used for prediction purposes. Based on the trend of independent variables, the trend can be predicted for the dependent variable. Since prediction is based on internal and external factors, regression models are the best fit in this particular situation. SLR could not be used because it gives the value of a dependent variable (Gross NPA's) in terms of only one independent variable. NPA is often dependent on various factors so this method will never give satisfactory results.

RESULT AND DISCUSSION

HO1: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE OPERATING EXPENSES OF HDFC BANK.

Table 1 states R square is .97 which indicates that NPA and operating expenses are highly correlated and regression can be used for analyzing the impact of NPA on operating Expenses. The null hypothesis is rejected as the “p” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the operating expenses of HDFC Bank. It is also evident that NPA reduces profitability and thus banks have to cut their operating expenditure. As the profitability is less many expenses which are important for banks for development are to be reduced which in turn also affects further profitability and growth. This can also lead to salary cuts and the layoff of employees. However, HDFC Bank is a top bank and it can sustain but its NPA affects its profitability.

HO2: THERE IS NO SIGNIFICANT IMPACT OF NPA ON TOTAL LOAN DISBURSEMENT OF HDFC BANK.

Table-1 state that the R square is .96 which indicates that NPA and total loan are highly correlated and regression is apt in analyzing NPA impact on total Loan disbursement. Thus, a regression can be used for analyzing the impact of NPA on total loan disbursement. The null hypothesis is rejected as the p-value is less than .05. Thus, it interprets that there is a significant impact of NPA on the total loan disbursement of HDFC Bank. It is also evident that NPA reduces profitability and thus, banks have fewer amounts left with them for disbursing loans. The high NPA level affects the liquidity of the banks which in turn reduces the cash flow of banks. Banks enter into a vicious circle and in long run can result in insolvency. However, HDFC Bank is a top-notch bank it may not be affected in the short run but if due measures are not taken it can affect it in long run.

HO3: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL DEPOSIT OF HDFC BANK.

The results of Table 1 state that the R square is .96 which indicates that NPA and total deposits are highly correlated and regression can be used for analyzing NPA impact on total deposits the null hypothesis is rejected as the p-value is less than .05. It interprets that there is a significant impact of NPA on total deposits of HDFC Bank. It is also evident that more NPA is the question mark on the credit analysis of Banks. It affects the goodwill of Banks and thus reduces their profitability. Investors are afraid of such banks as there is always a probability of losing money because of More NPA. The deposit level of the bank is also affected. If the deposit level of Banks is reduced, then the amount left for loan disbursement is less and affects the total business turnover of banks. Ultimately the profitability and cash flow are affected. However, HDFC Bank is having good credit, it may not in the short run but long run it can be adversely affected.

HO4: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE OPERATING EXPENSES OF KOTAK MAHINDRA BANK.

As we can see from table 1, a result that R square is .88 which indicates that NPA and total loan are highly correlated and regression can be used for analyzing the impact of NPA on operating expenses. The null hypothesis is accepted as the P-value exceeds 0.05. It interprets that there is no significant impact of NPA on the operating expenses of Kotak Mahindra Bank. It shows that the bank has diversified income sources other than banking which affects its operating profit. This means the firm has sufficient funds for its day-to-day operations and NPA will not result in salary cuts and the layoff of employees in the short run but if NPA continues to grow then it will have a negative impact in the long run.

HO5: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL LOAN DISBURSEMENT OF KOTAK MAHINDRA BANK.

The results of table 1 state that the R square is .80 which indicates that NPA and total loan are highly correlated and regression is apt in analyzing NPA Impact on total loan disbursement. Thus, a regression can be used for analyzing the impact of NPA on total loan disbursement. The null hypothesis is accepted as the P-value is more than .05. It can be interpreted that there is no significant impact of NPA on the total loan disbursement of Kotak Mahindra Bank. As Kotak Mahindra Group have multiple sources of income other than banking but NPA reduces profitability and thus banks have fewer amounts left with them for disbursing the loan. The high NPA level affects the liquidity of the banks which in turn reduces the cash flow of banks which will affect them in long run. However, Kotak Mahindra Bank is a top bank it may not be affected in the short run but if due measures are not taken it can affect it in long run.

HO6: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL DEPOSIT OF KOTAK MAHINDRA BANK.

The results of table 1 depict that the R square is .92 which indicates that NPA and total deposits are highly correlated and regression can be used for analyzing NPA impact on total deposits the null hypothesis is accepted as the P-value is more than .05. Thus, it interprets that there is significantly no impact of NPA on total deposits of Kotak Mahindra Bank. More NPA is the question mark on the credit analysis of Banks. It affects the goodwill of Banks and thus reduces their profitability. Deposits are the primary function of any bank. The deposit level of the Banks is also affected. If the deposit level of Banks is reduced, then the amount left for loan disbursement is less and affects the total business turnover of banks. Ultimately the profitability and cash flow are affected. However, Kotak Mahindra Bank is having good credit so it will not have an impact in the short run.

HO7: THERE IS NO SIGNIFICANT IMPACT OF NPA ON OPERATING EXPENSES OF ICICI BANK.

As analyzed from table 1: the result of R square is .97 which indicates that NPA and operating expenses are highly co-related and regression can be used for analyzing the impact of NPA on operating Expenses. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the operating expenses of ICICI Bank. It is also evident that NPA reduces profitability and thus, banks have to cut their operating expenditure. As the profitability is less many expenses that are vital for bank growth and development will reduce which affects the future growth of the bank. However, ICICI Bank is a top bank and it can sustain but its NPA affects its profitability.

HO8: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL LOAN DISBURSEMENT OF ICICI BANK.

Results of table 1 state that R square is .91 which indicates that NPA and total loan are highly correlated and regression is apt in analyzing NPA impact on total loan disbursement. Thus, the regression can be used for analyzing the impact of NPA on total loan disbursement. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the total loan disbursement of ICICI Bank. The high NPA level affects the liquidity of the banks which in turn reduces the cash flow of banks. The bank will have a cargo of NPA. However, ICICI Bank is a top-notch bank it may not be affected in the short-run but if due measures are not taken it can affect it in long run.

HO9: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL DEPOSIT OF ICICI BANK

The result of table 1 states that the R square is .96 which indicates that NPA and total deposits are highly correlated and regression can be used for analyzing NPA Impact on total deposits the null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the total deposits of ICICI Bank. It also gives an understanding that more NPA is the question mark on the credit analysis of Banks and cargo on the bank. It affects the goodwill of banks investors are afraid of such banks as there is always a probability of losing money because of more NPA. Thus, the deposit level of the banks is also affected. If the deposit level of banks is reduced the loan disbursement is automatically reduced which will result in the profitability and cash flow of the bank. However, ICICI Bank is having good credit so it may not be in the short run but in long run, it can be adversely affected.

HO10: THERE IS NO SIGNIFICANT IMPACT OF NPA ON OPERATING EXPENSES OF SBI BANK.

The results state that R square is .83 which indicates that NPA and operating expenses are highly co-related and regression can be used for analyzing the impact of NPA on operating Expenses. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the operating expenses of SBI Bank. SBI Bank is nationalized bank already grants loans at less rates compared to private banks having an NPA will result in reduced profitability and thus banks have to cut their operating expenditure. As the profitability is less many operating expenses will have reduced which affects the bank’s future growth. However, SBI Bank is a top nationalized bank and it can sustain but its NPA affects its profitability in long run adversely.

HO11: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL LOAN DISBURSEMENT OF SBI BANK.

The results of table 1 State that the R square is .83 which indicates that NPA and total loan are highly correlated and regression is accurate in analyzing NPA impact on total loan disbursement. Thus, regression can be used for analyzing the impact of NPA on total loan disbursement. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the total loan disbursement of SBI Bank. It states that NPA reduces profitability and thus banks have less amount left with them for disbursing loans. The high NPA level affects the liquidity of the banks which in turn reduces the cash flow of banks. Thus, banks enter into a vicious circle and in long run can result in insolvency. However, SBI Bank is a top-notch bank it may not be affected in the short run if steps are not taken it can affect in long run.

HO12: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL DEPOSIT OF SBI BANK

The results of table 1 State that the R square is .93 which indicates that NPA and total Deposits are highly correlated and regression can be used for analyzing NPA Impact on Total Deposits the null hypothesis is rejected as the “P” value is less than .05. Thus it interprets that there is a significant impact of NPA on Total Deposits of SBI Bank. PA is the question mark on the credit analysis of Banks. It not only affects the goodwill of Banks but also reduces their profitability. Investors lose confidence in such banks and total deposits reduce as a result banks reduce the loan disbursement and affect the total business turnover of banks. Ultimately the profitability and cash flow are affected. However, SBI Bank is having good credit so it may not affect it in the short run but in long run, it can be adversely affected.

HO13: THERE IS NO SIGNIFICANT IMPACT OF NPA ON OPERATING EXPENSES OF AXIS BANK.

The results of table 1 state that the R square is .94 which indicates that NPA and operating expenses are highly co-related and regression can be used for analyzing the impact of NPA on operating Expenses. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the operating expenses of AXIS Bank. It is understandable that the NPA reduces the profitability of the bank and increases the burden on the bank which results in fewer development expenses for the bank which affects the future growth of the bank. This can also lead to salary cuts and the layoffs of employees. However, AXIS Bank is a top bank and it can sustain but its NPA affects its profitability in long run.

HO14: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL LOAN DISBURSEMENT OF AXIS BANK.

The results of table 1 show that the R square is .86 which indicates that NPA and total loan are highly correlated and regression is apt in analyzing NPA’s impact on total loan disbursement. Thus, a regression can be used for analyzing the impact of NPA on total loan disbursement. The null hypothesis is rejected as the “P” value is less than .05. Thus, it interprets that there is a significant impact of NPA on the total loan disbursement of AXIS Bank. It is also evident that NPA reduces profitability and thus banks have fewer amounts left with them for disbursing loans. The high NPA level affects the liquidity of the banks which in turn reduces the cash flow of banks. Bank enters into a vicious circle and in long run can result in insolvency. However, AXIS Bank is a top-notch bank it may not be affected in the short-run but if due measures are not taken it can affect it in long run.

HO15: THERE IS NO SIGNIFICANT IMPACT OF NPA ON THE TOTAL DEPOSIT OF AXIS BANK

The results of table 1 depict that the R square is .85 which indicates that NPA and total Deposits are highly correlated and regression can be used for analyzing NPA Impact on Total Deposits the null hypothesis is rejected as the p-value is less than .05. It can be interpreted that there is a significant impact of NPA on the total deposits of AXIS Bank. It is also evident that more NPA is the question mark on the credit analysis of Banks. It affects the goodwill of banks and thus reduces their profitability. Investors are afraid of such banks as there is always a probability of losing money because of More NPA. Thus, the deposit level of the banks is also affected. If the deposit level of banks is reduced, then the amount left for loan disbursement is less and affects the total business turnover of banks. Ultimately the profitability and cash flow are affected. However, AXIS bank is having good credit so it may not in the short-run but long run it can be adversely affected.

SUGGESTIONS

In the Indian banking industry, banks are doing very well. But there is a need for certain reforms in the banking industry not only in the public sector but in private banks as well.

SUGGESTIONS FOR BANKS

- Multi-layer credit sanctioning process should be developed so that borrowers' profiles can be verified at multiple levels independently.
- The valuation of assets should be done on Registry Guideline value + 30% so that assets can be valued properly. The haircut margin can be decided on that basis only.
- Hair cut on collateral securities should be decided based on market fluctuations so that the problem of liquidating the collateral becomes easy. Even the margin should be decided on the credit rating of the borrower.
- Banks should not pressurize its employee to attain the targets for granting loans so that employees will take due care while selecting the clients. This undue pressure is the major reason for NPA.
- Banks should directly link the responsibility of employees who are involved in the loan sanctioning process. As incentives and promotions are done on achieving the targets, likewise penalties and demotions should also be designed so that concerned employees can be cautious which indulging in any such wrong practice.
- Credit department must be proactive before and after approval of loan applications and disbursement of the loan.
- Annual meetings with borrowers should be done to understand and know their financial positions and current updates about industry and sector.
- The detailed description of fund usage should be taken so that unproductive usage may be curtailed.
- The banks should also give some weightage to qualitative parameters like surrounding goodwill, past track record, criminal offenses record, etc.

SUGGESTIONS FOR REGULATORY AUTHORITIES

- Regulatory authorities should cancel the license of banks if the NPA level crosses the defined threshold level.
- The banks whose NPA is more than the threshold level, the deposit acceptance right should be banned. As NPA is a loss for banks and this can be a threat to overall profitability. The threat can also be to the depositors. Regulators should take it seriously to avoid any such default in the future.

LIMITATION

- NPA of different categories can be taken so that category-wise NPA can be identified.
- Only 5 Banks were taken for the study.
- In this study only 3 Indicators are considered for analyzing the impact of NPA, However, return on investment, return on asset, and asset turnover ratios can also be considered, however, this also leads to further scope for other researchers.

CONCLUSION

The results of the study undertaken state that there is a direct impact of NPA on banking performance and profitability. Banks need to work on credit policy and loan sanctioning process. NPA not only impact the profitability of the banks but also affect their operational efficiency. The study shows that

NPA affects the banking performance in terms of profitability, increasing operating costs, and low loan sanctioning power because of a mismatch in liquidity and cash flows. Out of the five banks selected, Kotak Mahindra bank is the least affected in terms of NPA because of its stringent credit policy and apt recovery mechanism. The diversified source of income of Kotak Mahindra Bank also helps to manage the effect of NPA on its operating cost and sanctioning of loans. The SBI is a public sector bank that has very poor performance in terms of managing NPA.

Finally, it can be concluded that NPA is surely the biggest problem affecting banks' performance. However, when we compare the NPA level of private banks and public sector banks, the private sector banks have good control over managing NPA as compared to public sector banks. It is also evident that private sector banks have less government pressure to sanction loans this is also one of the reasons for less NPA as compared to public sector banks.

REFERENCES

- Agarwala, V., & Agarwala, N. (2019). A critical review of non-performing assets in the Indian banking industry. *Rajagiri Management Journal*, 13(2), 12–23. <https://doi.org/10.1108/RAMJ-08-2019-0010>
- Bikker De, J. A. (2010). Measuring performance of banks: An assessment, Netherlands Bank and Utrecht University. *Journal of Applied Business and Economics*, 11(4), 141–159.
- Das, S. K., & Uppal, K. (2021). NPAs and profitability in Indian banks: An empirical analysis. *Future Business Journal*, 7(1), article no.: 53. <https://doi.org/10.1186/s43093-021-00096-3>
- Dudhe, C. (2018). Impact of non-performing assets on the profitability of banks—A selective study, 1(1) (pp. 307–314).
- Goyal, S. et al. (2016). Analysis of financial ratios for measuring performance of Indian public sector banks. *International Journal of Engineering and Management Research* Page, 6(2, March–April), 152–162.
- Limbore, N. V. (2014). A study of banking sector in India and overview of performance of Indian banks with reference to net interest margin and market capitalization of banks, *Review of research*, 679, 1–11.
- Nataraja N et al.(2018).Financial Performance of Private Commercial Banks in India: Multiple Regression Analysis by Research Article: 2018 Vol: 22 Issue: 2, *Academy of Accounting and Financial Studies Journal* (Print ISSN: 1096-3685; Online ISSN: 1528-2635)
- Raj, M. et al. (2018). Non-performing assets: A comparative study of SBI&ICICI bank from 2014–2017. *IOSR Journal of Business and Management (IOSR-JBM)*, VII(20 (9)), 78–84.
- Sensarma, R., & Ghosh, S. (2004). Net interest margin: Does ownership matter? *Vikalpa: The Journal for Decision Makers*, 29(1), 41–48. <https://doi.org/10.1177/0256090920040104>
- Siraj, K. K. (2013). The moderating role of bank performance indicators on credit risk of Indian public sector banks. *International Journal of Finance and Accounting*, 4(17), 219–226.
- Staikouras, C. K., & Wood, G. E. (2004). The determinants of European bank profitability. *International Business and Economics Research Journal*, 3(6), 57–68. <https://doi.org/10.19030/iber.v3i6.3699>

TABLE-1: REGRESSION ANALYSES

NULL HYPOTHESES	"R SQUARE"	"P VALUE"
Ho1: There is no significant impact of NPA on operating Expenses of HDFC Bank.	0.978429051	0.005583
Ho2: There is no significant impact of NPA on the Total Loan disbursement of HDFC Bank.	0.966491043	0.012115
Ho3: There is no significant impact of NPA on the Total deposit of HDFC Bank.	0.969339339	0.008146
Ho4: There is no significant impact of NPA on operating Expenses of KOTAK MAHINDRA Bank.	0.882753676	0.09495839
Ho5: There is no significant impact of NPA on the Total Loan disbursement of Kotak Mahindra Bank.	0.801359093	0.289766762
Ho6: There is no significant impact of NPA on the Total deposit of Kotak Mahindra Bank.	0.927432149	0.641883
Ho7: There is no significant impact of NPA on operating Expenses of ICICI Bank.	0.974809306	0.001312
Ho8: There is no significant impact of NPA on the Total Loan disbursement of ICICI Bank.	0.911322355	0.000398
Ho9: There is no significant impact of NPA on the Total deposit of ICICI BANK	0.963616848	0.00036194
Ho10: There is no significant impact of NPA on operating Expenses of SBI Bank.	0.831260414	0.028417
Ho11: There is no significant impact of NPA on the Total Loan disbursement of SBI Bank.	0.830386043	0.00642095
Ho12: There is no significant impact of NPA on the Total deposit of SBI BANK	0.937560868	0.00531
Ho13: There is no significant impact of NPA on operating Expenses of AXIS Bank.	0.946361476	0.006341593
Ho14: There is no significant impact of NPA on the Total Loan disbursement of AXIS Bank.	0.86625257	0.000787698
Ho15: There is no significant impact of NPA on the Total deposit of AXIS BANK	0.855873428	0.000534896

Source: Results from SPSS

TABLE 2: OPERATING EXPENSES, TOTAL LOAN & TOTAL DEPOSIT IN RELATION WITH NPA OF HDFC BANKS (₹ IN CR.)

FY. YEAR	NPA	CHG.	OP. EXP.	CHG.	TOTAL LOAN	CHG.	TOTAL DEPOSIT	CHG.
2014-15	820.03	0.43	12959	5.39	365495.03	0.21	367337.48	0.19
2015-16	896.28	0.09	15407	0.16	464593.96	0.27	450795.64	0.19
2016-17	1320.37	0.32	18999	0.19	554568.2	0.19	546424.19	0.18
2017-18	1843.99	0.28	22464	0.15	658333.09	0.19	643639.66	0.15
2018-19	2601.02	0.29	27712	0.19	819401.22	0.24	788770.64	0.18

TABLE 3: OPERATING EXPENSES, TOTAL LOAN & TOTAL DEPOSIT IN RELATION WITH NPA OF KOTAK MAHINDRA BANKS (₹ IN CR.)

FY. YEAR	NPA	CHG.	OP. EXP.	CHG.	TOTAL LOAN	CHG.	TOTAL DEPOSIT	CHG.
2014-15	820.03	0.43	12959	5.39	365495.03	0.21	367337.48	0.19
2015-16	896.28	0.09	15407	0.16	464593.96	0.27	450795.64	0.19
2016-17	1320.37	0.32	18999	0.19	554568.2	0.19	546424.19	0.18
2017-18	1843.99	0.28	22464	0.15	658333.09	0.19	643639.66	0.15
2018-19	2601.02	0.29	27712	0.19	819401.22	0.24	788770.64	0.18

TABLE 4: OPERATING EXPENSES, TOTAL LOAN & TOTAL DEPOSIT IN RELATION WITH NPA OF ICICI BANKS (₹ IN CR.)

FY. YEAR	NPA	CHG.	OP. EXP.	CHG.	TOTAL LOAN	CHG.	TOTAL DEPOSIT	CHG.
2014-15	820.03	0.43	12959	5.39	365495.03	0.21	367337.48	0.19
2015-16	896.28	0.09	15407	0.16	464593.96	0.27	450795.64	0.19
2016-17	1320.37	0.32	18999	0.19	554568.2	0.19	546424.19	0.18
2017-18	1843.99	0.28	22464	0.15	658333.09	0.19	643639.66	0.15
2018-19	2601.02	0.29	27712	0.19	819401.22	0.24	788770.64	0.18

TABLE 5: OPERATING EXPENSES, TOTAL LOAN & TOTAL DEPOSIT IN RELATION WITH NPA OF SBI (₹ IN CR.)

FY. YEAR	NPA	CHG.	OP. EXP.	CHG.	TOTAL LOAN	CHG.	TOTAL DEPOSIT	CHG.
2014-15	820.03	0.43	12959	5.39	365495.03	0.21	367337.48	0.19
2015-16	896.28	0.09	15407	0.16	464593.96	0.27	450795.64	0.19
2016-17	1320.37	0.32	18999	0.19	554568.2	0.19	546424.19	0.18
2017-18	1843.99	0.28	22464	0.15	658333.09	0.19	643639.66	0.15
2018-19	2601.02	0.29	27712	0.19	819401.22	0.24	788770.64	0.18

TABLE 6: OPERATING EXPENSES, TOTAL LOAN & TOTAL DEPOSIT IN RELATION WITH NPA OF AXIS BANK (₹ IN CR.)

FY. YEAR	NPA	CHG.	OP. EXP.	CHG.	TOTAL LOAN	CHG.	TOTAL DEPOSIT	CHG.
2014-15	820.03	0.43	12959	5.39	365495.03	0.21	367337.48	0.19
2015-16	896.28	0.09	15407	0.16	464593.96	0.27	450795.64	0.19
2016-17	1320.37	0.32	18999	0.19	554568.2	0.19	546424.19	0.18
2017-18	1843.99	0.28	22464	0.15	658333.09	0.19	643639.66	0.15
2018-19	2601.02	0.29	27712	0.19	819401.22	0.24	788770.64	0.18

Sources: Financial reports 2014-2019 and official website of banks 