Factors Affecting NPAs of Scheduled Commercial Banks : An Empirical Study Based in Punjab

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Abstract

The financial sector is always the key sector for the overall development of any country, and the banking sector is the primary sector amongst all. So, a strong banking sector is very important for the growth of the economy. This sector witnessed a lot of changes in our country after the 1991 economic reforms - popularly known as the era of "LPG," that is, liberalization, privatization, & globalization. The reforms focused on branch expansion, granting credit to the weaker sections like agriculture, SSI, education loans, housing, and so forth. However, in recent times, the banks have become very cautious in extending loans due to mounting non-performing assets (NPAs) and nowadays, managing NPAs is one of the major concerns for the banks as NPAs reflect the performance of the banks. A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks, and also erode the value of the asset. The NPA growth involves the necessity of provisions, which reduce the overall profits and shareholders' value. The present paper explored the primary reasons for the growth of NPAs in scheduled commercial banks of Punjab and also suggested the measures for controlling the same.

Keywords: **non performing assets, profitability, primary, growth, measures**

JEL Classification: G210, M210, O160, P170

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A strong banking sector is important for the flourishing of an economy. Banks are the institutions that accept various types of deposits and use these funds for granting loans. By pooling the savings of widely scattered economically surplus units, banks form a vast pool of social capital that helps in capital formation and capital accumulation. However, banks are not merely the storehouses of the country's wealth, but they are the reservoirs of resources necessary for economic development - be it building of infrastructure, setting up of basic and key industries, modernization of the agricultural sector, boosting domestic and international trade, and so on. Banking today has become more convenient and instant, with the account holder not having to wait for hours at the bank counter for getting a draft or for withdrawing money from his/her account.

The banking industry and credit management in India underwent a sea change after the first phase of economic liberalization in and after 1991. The link between the financial sector and growth was reviewed by Khan and Senhadji (2001), who concluded that there is strong empirical evidence that robust financial markets support economic growth, while there is very little work of operational relevance for improving the functioning of the financial sector.

The Table 1 clearly depicts that branch expansion gained momentum after the nationalization of major commercial banks. During 1969-2009, the number of bank branches rose from 8260 to 82485, and the population served per bank office declined from 63800 people in 1969 to 14000 in 2009. There were 31704 rural branches in

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Table 1. Branch Expansion of Commercial Banks

As on June 30	Total No. of branches	Rural Branches	Rural Branches as % of total	Population per bank office
1969	8260	1860	22	63800
1991	60650	32750	54	14150
2004	67280	32181	48	15000
2005	68355	32082	47	16000
2009	82485	31704	38	14000

Source: Economic Survey (Various Issues)

2009 ; however, these were only 1860 at the time of nationalization. The share of rural branches in total branches of scheduled commercial banks was 22% in 1968, which rose to 38% in 2009. On the whole, the Indian banking system during this period made an impressive progress, whether viewed in terms of branch expansion or in terms of greater involvement in the national economic activity.

Non Performing Assets : Concept and Prudential Norms

The banks have different kinds of assets in their books, including investments, loans & advances, and fixed assets. The NPA concept is restricted to loans and advances. As long as an asset generates the income expected from it, it is treated as a "performing asset" and when it fails to generate income, it becomes a "non-performing asset". The NPA concept was introduced in India by Reserve Bank of India with effect from April, 1, 1992, and certain norms (popularly known as prudential norms) were issued as the methods of NPA identification, asset classification, provisioning, and income recognition. The basis for identifying NPAs may vary depending on the nature of the loan asset (term loan, cash credit, bills, etc.). For example, a term loan would become a NPA if interest or loan installment is in arrears for any two out of four quarters during the year. The interest/installment is considered to be in arrears if it is "past due," that is, it remains outstanding for 30 days beyond the due date. An overdraft/cash credit account would be treated as NPA if it remains "out of order" for two quarters during a year. If any advance or credit facility granted by a bank to a borrower becomes non-performing, then the bank will have to treat all the advances/credit facilities granted to that borrower as non-performing without having any regard for the fact that there may still exist certain advances/credit facilities having performing status.

With a view to moving towards international best practices, and to ensure greater transparency, it was decided by RBI to adopt the "90 days overdue" norm for identification of NPAs, from the year ending March 31, 2004. As per the latest guidelines of RBI dated July 1, 2013 along with 90 days overdue, certain other norms had been included for the identification of NPAs (Reserve Bank of India, 2013). They are:

(1) Interest and/or installment of principal remains overdue for a period of more than 90 days in respect of a term loan.

(2) The account remains "out of order for a period of more than 90 days in respect of an overdraft/cash credit (OD/CC).

(3) The bill remains overdue for a period of more than 90 days in case of bills purchased and discounted.

(4) The installment of principal or interest thereon remains overdue for two crop seasons for short duration crops.

(5) The installment of principal or interest thereon remains overdue for one crop season for long duration crops.

(6) The amount of liquidity facility remains outstanding for more than 90 days, in respect of a securitization transaction undertaken in terms of guidelines on securitization dated February 1, 2006.

(7) In respect of derivative transactions, the overdue receivables representing positive mark-to-market value of a derivative contract, if these remain unpaid for a period of 90 days from the specified due date for payment.

Table 2. Status of NPAs in the Indian Banking Industry

(Amount in ₹ Crore)

Years	Gross NPA	Net NPAs	Total Advances	% of Gross NPAs to Total Advances	% of Net NPAs to Total Advances
1998	50815	23761	352696	14.41	6.74
1999	58722	28020	399436	14.7	7.01
2000	60408	30073	475113	12.71	6.33
2001	63741	32461	558766	11.41	5.81
2002	70861	35554	680958	10.41	5.22
2003	68717	29692	778043	8.83	3.82
2004	64812	24396	902026	7.19	2.7
2005	59373	21754	1152682	5.15	1.89
2006	51097	18543	1551378	3.29	1.2
2007	50486	20101	2012510	2.51	1
2008	56309	24730	2507885	2.25	0.99
2009	68973	31424	3038254	2.27	1.03
2010	84438	39126	3497054	2.41	1.12

Source: 1. Performance Highlights of IBA, Mumbai (1998 to 2010)

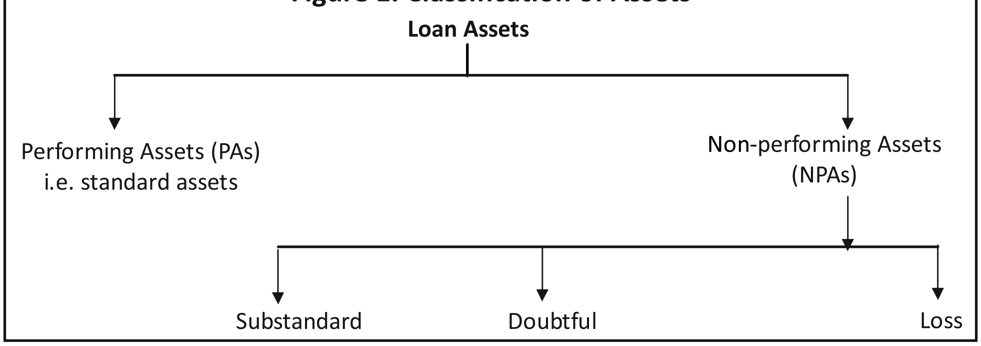
2. Report on Trends and Progress of Banking in India (1998 to 2010)

In case of interest payments, banks should classify an account as NPA only if the interest due and charged during any quarter is not serviced fully within 90 days from the end of the quarter (Reserve Bank of India, 2013).

Status of NPAs in India

The problem of NPAs is linked with the function of lending money. In India, due to the social banking motto, the problem of bad loans did not receive priority from policy makers initially. However, with the reforms in the financial sector and the adoption of international banking practices, the issue of NPAs received due focus. Thus, in India, the concept of NPA came into the reckoning after reforms in the financial sector were introduced on the recommendations of the report of the Narasimham Committee on the financial system (Narasimham Committee, 1991), and an appropriate accounting system was put in place. The Table 2 shows the figures of gross and net NPAs for the period of 1997-98 to 2010-11.

Figure 1. Classification of Assets



Asset Classification

Banks are required to classify non-performing assets further into the following categories based on the period for which the asset has remained non-performing and the realisability of the dues (Figure 1).

➯ **Standard Asset :** A standard asset is a credit facility, which is not classified as NPA, and which does not entail any problem and also does not carry more than the normal credit risk attached to a business.

➯ **Sub-Standard Asset :** With effect from March 31, 2005, a substandard asset would be one, which has remained NPA for a period less than or equal to 12 months. Such an asset will have well defined credit weaknesses that jeopardize the liquidation of the debt and are characterized by the distinct possibility that the banks will sustain some loss, if deficiencies are not corrected.

➯ **Doubtful Asset :** With effect from March 31, 2005, an asset would be classified as doubtful if it has remained in the substandard category for a period of 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as sub-standard, with the added characteristic that the weaknesses make collection or liquidation in full - on the basis of currently known facts, conditions and values - highly questionable and improbable.

➯ **Loss Asset :** A loss asset is one where loss has been identified by the bank or by internal or external auditors or by the RBI inspection, but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted, although there may be some salvage or recovery value.

Review of Relevant Studies

Suresh (2013) used a model for rating of a bank for its quality of NPA management and calculated various ratios in order to know the quality of the loan portfolio of one of these banks. The study based on secondary data was conducted for a period of 13 years from 1996-1997 to 2008-2009. The study found that the ratio of gross NPAs to total assets and gross NPAs to total advances constantly declined throughout the study period. The study also framed certain hypotheses, and proved that there is a significant difference in the mean value of sub- standard, doubtful, and loss assets. The author also considered 10 parameters to arrive at the conclusion of performance of NPAs like gross NPA ratio, net NPA ratio, problem assets ratio, depositors safety ratio, shareholders risk ratio, sub-standard asset ratio, doubtful asset ratio, loss assets ratio, provisions ratio, and slippage ratio. These were compared with the standardized benchmarks and previous year performance. The findings of the paper showed that all the ratios had a satisfactory performance.

Selvarajan and Vadivalagan (2013) found that the incidence of NPAs was more in priority sector advances. Therefore, Indian banks have to restrict their advances to the priority sector to the limit of 40% of the total advances. The study, based on secondary data, found that the level of NPAs was more in SSI advances and other priority sector advances ; whereas, they were least in case of agriculture. The study also compared the performance of Indian banks with that of public sector banks, and revealed that in case of NPA management, the performance of Indian banks was better than that of the public sector banks as a whole.

Vadivalagan and Selvarajan (2013) also examined the impact of non-performing assets (NPAs) towards the liquidity of banks in India. Their study divided the banking sector into three groups, that is, public sector banks, private sector banks, and foreign banks, and found that the advances have grown at a higher rate in all the banking sectors, and the volume of NPAs has come down, which is a good signal for the growth of the banks. The paper also focused on the components of NPAs like sub-standard, doubtful, and loss assets, and highlighted that the banks should pay more attention to the fresh NPAs as the sub-standard assets have been increasing at a higher rate ;

whereas, there is control on the amount of doubtful and loss assets. As a result of this, the net NPAs showed an increase because of less provisioning on sub-standard assets.

Shalini (2013) attempted to study the difficulties faced by Indian farmers in paying back the borrowed amount. The study was empirical in nature, and the data were collected from 100 farmers on the basis of monitoring method (use of application forms submitted by the farmers at the time of taking the loan) and the telephonic interview method. The paper studied the effect of various variables on the non- payment of loan and interest by using chi-square analysis. The study concluded that age, educational status, marital status, effect of family size, effect of wealth status, caste, money lender, guarantor, security of land, security of gold, experience, suitability of land to crop, type of farming, irrigation facility, any other source of income, and subsidy affected the performance of farmers.

Siraj and Sudarsanan (2013) highlighted the importance of GDP as a mediating variable in explaining the relationship between gross advances & NPAs of Indian scheduled commercial banks with a special focus on SBI & associates, nationalized banks, and public sector banks during the period of 2000-01 to 2011-12. The findings of the study strongly support the significance of GDP on the relationship between advances and NPA of banks.

Kumar and Singh (2012) discussed the most important factors contributing towards the problem of NPAs from the view point of top public sector banks in India and the measures to be taken for their management. The researchers found that both public and private sector banks are facing the problem of increasing NPAs in India. The recovery level is better in case of individual small borrowers, but it is slow in case of corporations and institutional borrowers.

Rama and Ramachandra (2012) examined the trends of NPAs in India, particularly of Andhra Bank in comparison with public sector banks and nationalized banks for a period of 10 years - from 2002 to 2011. The study focused on the impact of NPAs on the profitability of the Andhra Bank and other public sector banks by analyzing the data with various techniques like C.V, standard deviation, CAGR, and *R* - value. The results from the paper showed that NPAs from the banks had increased during the study period and among them, it was observed that doubtful assets form the major portion of NPAs. The study also suggested certain recommendations for reducing the level of NPAs.

Objectives of the Study

(1) To find out the factors that affect the loan repayment capacity of the bank customers.

(2) To give certain recommendations for reducing the level of NPAs in the banks.

Research Methodology

➷ **Sample Design for the Empirical Study :** This part of the study is related with the perception of bank customers regarding primary reasons for the occurrence of non-performing assets in the commercial banks. An empirical survey was conducted during 2013 - 2014 with 500 bank customers of 25 banks of Punjab state by covering its various districts like Ludhiana, Jalandhar, Hoshiarpur, Bathinda, Gurdaspur, and Chandigarh (UT) by using a well structured and pre-tested questionnaire and interviews. On the basis of the pilot survey, some questions were deleted and some were changed due to inadequate results.

➷ **Sample Selection for Banks :** The sample for this study was selected through the following stages:

➲ **Stage 1 :** From all the banks of the Indian banking industry, there are five groups - G-I represents SBI and its associates, G-II represents nationalized banks (NBs), G-III represents old private sector banks (OPSBs) (15 banks), G-IV represents new private sector banks (NPSBs) (7 banks), and G-V represents foreign banks (FBs) (32 banks) .

Table 3. Selection of Banks

G – I	G – II	G – III	G – IV	G- V
SBI & its Associates	**Nationalized Banks**	**Old Private Sector Banks.**	**New Private Sector Banks**	**Foreign Banks**
State Bank of India	Oriental Bank of Commerce	Federal Bank	ICICI Bank Ltd.	Citibank
State Bank of Patiala	Corporation Bank	The J& K Bank	Axis Bank	Standard Chartered Bank
State Bank of Indore	Bank of Baroda	The Karnataka Bank	IndusInd Bank	HSBC
State Bank of Travancore	Bank of India	ING Vysya Bank	Yes Bank	Bank of America

Table 4. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.640
Bartlett's Test of Sphericity	Approx. Chi-Square	1773.048
	Df	91
	Sig.	.000

➲ **Stage 2 :** For this case study, 25 banks were selected (Table 3), five from each bank group (as reported in Stage 1). These banks are those which were selected on the basis of the highest business per employee as per the Report of IBA on March 31, 2009.

➷ **Selection of Bank Customers :** A list of customers was collected from each selected bank. From the list, every third customer was chosen for the survey. The selected customers were those who had taken loans from these banks, and fell into the following categories - customers from business class, service class, professionals, and agriculturists.

➷ **Tools of Analysis :** In order to analyze the primary reasons behind the growth of the non- performing assets in commercial banks, exponential factor analysis was conducted by using SPSS 16.00.

Factor Analysis

Factor analysis is a very useful method for reducing data complexity by reducing the number of variables being studied. It was used to identify the reasons for the non-payment of the loan amount by the customers. To determine the appropriateness of applying the factor analysis, the KMO and Bartlett's test measures were computed, and the results are presented in the Table 4. The KMO measure of sampling adequacy was calculated by using the correlation test, to check whether the variables in the sample were adequate to correlate. The general rule of thumb is that the KMO value should be greater than 0.5 for a satisfactory factor analysis to proceed. By observing the results in the Table 4, it can be observed that the KMO value is 0.640. The Bartlett's test of sphericity was also found to be significant at the 1% level, providing evidence of the presence of a relationship between the variables, and it made a sense to continue with the factor analysis.

➷ **Total Variance Explained :** The Table 5 shows the eigen values, percentage of variance, cumulative percentage, and the total variance of the variables identified for the study. The results show that the eigen values of the first five factors alone is greater than 1, indicating that these factors alone were appropriate for inclusion in the analysis. These five factors together accounted for nearly 66% of the total variance. This is quite good as we were able to economize on the number of variables (from 14 variables to 5 factors).

The Table 6 represents the rotated component matrix. The variables - change in government policies, elections, and change in government have a high loading of 0.749, 0.783, and 0.803 respectively on Factor 1 representation. Thus, the Factor 1 is named as Role of Government. On Factor 2, it is evident that the variables - loan is taken

Table 5. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.906	20.754	20.754	2.906	20.754	20.754	2.065	14.750	14.750
2	2.408	17.202	37.956	2.408	17.202	37.956	1.959	13.996	28.746
3	1.680	12.001	49.957	1.680	12.001	49.957	1.917	13.692	42.437
4	1.187	8.481	58.439	1.187	8.481	58.439	1.752	12.511	54.948
5	1.020	7.283	65.722	1.020	7.283	65.722	1.508	10.774	65.722
6	.849	6.065	71.787						
7	.717	5.124	76.911						
8	.636	4.545	81.456						
9	.581	4.150	85.605						
10	.551	3.934	89.539						
11	.499	3.565	93.104						
12	.418	2.986	96.090						
13	.287	2.052	98.142						
14	.260	1.858	100.000						

Extraction Method: Principal Component Analysis.

Table 6. Rotated Component Matrix (VARIMAX)

Variables	Component				
	1	2	3	4	5
1 Loan is taken beyond capacity	-.006	**.734**	.243	.092	-.164
2 Business failures	.065	.303	**.667**	.136	-.262
3 Industrial recession	.241	.032	**.479**	.361	-.314
4 Fast changing technology	.095	-.019	.046	**.888**	.055
5 Exchange rate fluctuation	.270	-.143	.010	**.693**	.155
6 Funds diversification	-.076	.077	**.726**	-.305	.174
7 Project not completed in time	.014	.010	**.759**	.108	.171
8 Change in government policies	**.749**	.228	-.030	.050	-.108
9 Elections	**.783**	-.097	.145	.254	.189
10 Change in government	**.803**	-.205	-.011	.143	.136
11 For building image in society	.296	.204	-.157	.293	**.622**
12 Passing the burden of loan repayment on the future generation	.035	.047	.169	.047	**.797**
13 Willful default	-.079	**.721**	.003	-.189	.357
14 Habitual nature of borrower	.014	**.796**	.046	-.096	.108

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
[a]. Rotation converged in 8 iterations.

beyond capacity, willful default, and habitual nature of the borrower loaded as 0.734, 0.721, and 0.796. So, we can name Factor 2 as Character of the Borrower. On Factor 3, the variables - business failures, industrial recession, funds diversification, and project not completed in time have loadings of 0.667, 0.479, 0.726, and 0.759 respectively, and therefore, the factor is named as Business Failure. The Factor 4 consists of variables like fast changing technology and exchange rate fluctuation having factor loadings of 0.888 and 0.693, and we can name this factor as Technological Factors. Finally, Factor 5 consists of variables like building image in society and passing the burden of loan repayment on the future generation with loadings of 0.622 and 0.797. This factor is named as Behaviorism.

➭ **Results of the Factor Analysis :** The purpose of factor analysis is the reduction of data. The perception of the customers regarding factors that affect the loan repayment by the bank customers was measured using 14 variables, which were reduced to 5 underlying factors. These five factors are Role of Government, Character of the Borrower, Business Failure, Technological Factors, and Behaviorism. Our study has revealed that these five factors affect the loan repayment capacity of the borrowers.

Recommendations

Although RBI has set up very tight norms for assets classification, and a number of measures have been introduced in the recent past like CDR mechanism, SARFAESI Act, setting up of ARCIL, and so forth ; still, a lot needs to be done for the successful implementation of these measures. The following are the recommendations for solving the the issue of NPA in banks :

(1) Evaluation of Credit Risk and its Effective Management : Credit risk is defined as the possibility that a borrower will fail to meet its obligations, that is, payment of the loan or its installments in accordance with the agreed terms. So, the banks need to manage this risk, which involves focusing on two main components :

(i) Default, that is, a situation where the bank is not receiving the amount due from the customer as per the terms and conditions mentioned in the contract.

(ii) Credit quality, which means change in the value of the assets, where specifically, the risk will arise when there is deterioration in the value of the asset.

As per the guidelines of RBI, the banks need to put in place appropriate risk management system that measures these risks.

(2) Strong Credit Monitoring : Credit monitoring is an important component of credit management. It states that the banks should establish a healthy relationship with the clients to whom they have granted financial assistance. The banks should follow certain credit monitoring tools like physical verification of stock with its statements, stock audit by chartered accountants, review of quarterly and half yearly statements, annual reviews, and so forth. This process is quite complicated and involves a lot of decision making because a bank has a large number of loan accounts that are to be dealt with. So, the key challenge for the banks is to have a large force of employees who have thorough knowledge and understanding of the environment where the unit is working.

A strong credit monitoring process not only involves the above formalities, but it also includes taking effective steps on those accounts that are giving alarming signals and are slipping into the category of NPAs. These signals can be:

(a) Death of the client ; (b) Inability of the borrower to meet its commitment on the said time period ; (c) poor financial statements ; (d) recession in that particular area of business ; (e) poor record of income statement that shows decline in sales ; (f) rise in bad debts ; (g) increase in long- term debt ; (h) frequent changes in the bank balances.

So, these warning signals indicate the banks need to take preventive measures, and they should follow a proactive approach rather than a reactive approach.

(3) Timely and Frequent Reminders : The banks should send timely reminders to the clients before the loan installment is due. This can be done by sending SMS or by personally calling the concerned person as it is the cheapest mode of recovery. A special team can also be appointed for this task, especially in those branches where the amount of loan and advances is very high.

(4) Recovery Melas : The banks can organize recovery melas, particularly in the villages where the farmers can repay their installments. These can be organized during the harvest season as the farmers can easily pay their loan installments at that time.

(5) Database Management System : RBI has given clear instructions to the banks that they must automate their data bank and should complete all their records of NPAs and report them periodically. The banks and financial institutions should always refer to CIBIL Report as it maintains the database of all the borrowers. Moreover, the central bank is also taking key steps to create a central server that will maintain the database of all the banks.

(6) Use of Technology : Banks should make effective use of technology as it will help in conducting a finer analysis of the data and give them early warning signals so that they can take precautionary measures in advance. Moreover, the use of technology can put a stop to the manipulation of NPAs, which is commonly done in the manual system.

(7) Appointment of Professional Agencies for Recovery : The banks can undertake the help of outside professional agencies for the recovery of the loan amount. But the banks need to be careful in taking this step as it can sometimes create an unhealthy relation between the client and the bank. The banks should ensure that the clients are not harassed in any way to pay up the loan.

(8) More Focus on the Compromise Method : The banks should focus more on the compromise method rather than on other legal measures. The branch manager should bear in mind the time value of money and should try to solve the case by use of quick repayment methods. Moreover, through this method, the lender comes to know about the problem of the borrower as to why he is not repaying the loan installments on time.

(9) Assistance to the Borrowers : Assisting and providing necessary help to the borrowers in developing his/her entrepreneurial skills will not only establish a good relation between the borrowers and the lenders, but this will also help the bankers to keep a track of their funds.

(10) Awareness Camps : The banks should organize special awareness camps that educate the customers regarding the problems faced by the banks due to increasing levels of NPAs. They should motivate the borrowers for timely payments of their dues and expose them to the threat that the economy will face because of their dreadful problem (increase in NPAs).

Conclusion and Implications

This paper provides various implications and shows that due diligence and prudence should be used by the loan officers and bank managers before sanctioning loan to their clients. There are various factors that affect the loan repayment capacity of the borrower. The bankers should keep a check on all these factors.

As we have seen in the entire research work, the profitability of the banks is directly affected by the rising NPA levels, and banks need to be more alert and cautious in selecting the customers for lending. Increasing competition and varied customers' demands have become a challenge for the Indian banks. For this, the banks have to offer value added services to their customers along with taking care of their own objectives. So, it is indeed challenging for the entire banking industry to obtain its twin objectives: customer satisfaction and profit maximization.

Limitations of the Study and Scope for Future Research

The limitations of this research work are : The study was carried out with a statistically significant response rate of only 25 selected banks in Punjab. However, the results cannot be generalized for a big country like India. Also, the respondents were reluctant to give the full information, which affects the accuracy of the obtained results.

The present study can be extended in the future to include more banks over a larger period of time. Researchers can make a deep analysis of the primary reasons for NPAs by studying the responses of the account holders whose accounts have become NPAs.

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