Czech University of Life Sciences Prague

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Diploma Thesis

Bank loans and their role in the economy of India

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Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

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Economics Policy and Administration

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Thesis title

Bank loans and their role in the economy of India

Objectives of thesis

The research, "Bank Loans and their role in the economy of India" aims to examine the impact of lending carried out by financial institutions on a microscopic as well as a macroscopic level on the economy of India. Further, the study will also understand the impact loans cause on a wide range of economic indicators such as Job Creation, Inflationary tendencies and core sector outputs. The research will also study "Non-performing Assets" and how avoiding paying loan dues can cause a large-scale impact on banking institutions and their functioning.

Methodology

The research on the topic "Bank loans and their role in Indian Economy" studies a variety of parameters, organisation and underlying data to understand the impact of credit by financial institutions. Data from various Public Sector Banks such as the Punjab National Bank, State Bank of India, and Industrial Development Bank of India (IDBI) is gathered and parameters like lending rates and amounts are studied. Further, the research also tries to gauge the impact caused by Non-Performing Assets on the economy on the broader level. At its core, the paper is exploratory in nature and utilizes secondary sources as the key source of information.

The proposed extent of the thesis
60-80

Keywords

Credit Score, Secured and Unsecured Bank Loans, Non-Performing Assets, Indian Economy, Financial Institutions, Indian Economy Crisis

Recommended information sources

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Declaration

I, Rajviben Naimishkumar Raval, declare that I have worked on my diploma thesis titled "Bank loans and their role in the economy of India" by myself and I have used the data and sources mentioned in the thesis. I declare that the thesis does not break copyrights of any person.

Date: _____

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Bank loans and their role in the economy of India

Abstract

The research, "Bank Loans and their role in the economy of India" targets to examine the impact of lending carried out by banks on a microscopic as well as a macroscopic level on the economy of India. It majorly illustrates a study on credit system of banks, classification of the bank loans focusing on scheduled commercial bank loans. The study also reveals a clear picture of Indian economy. There were many incidents in the history of India which highly affected Indian Economy and the banking sector. Those incidents and effects were also studied and discussed in this research. Variety of parameters, namely, inflation, job creation, GDP vs. credit from organized financial sector were taken under consideration. The study is conducted on secondary data collected mainly through Reserve bank of India official statistical outline. Further, the collected data has undergone variety of statistical tools and explicated thoroughly. Apart from that, the researcher also tried to understand the impact of credit by financial institutions in India. The underlying study has also elucidated to gauge the impact caused by Non-Performing Assets (NPA) on the economy on the broader level.

Keywords: Credit Score, Secured and Unsecured Bank Loans, Non-Performing Assets, Inflation, job creation, prime lending rates, monetary policy, repo rates and Economic Crisis.

Bankovní úvěry a jejich role v indické ekonomice

Abstraktní:

Výzkum „Bankovní půjčky a jejich úloha v indické ekonomice" se zaměřuje na zkoumání dopadů úvěrů poskytnutých bankami na mikroskopickou i makroskopickou úroveň na indickou ekonomiku. Zejména ilustruje studii o úvěrovém systému bank, klasifikaci bankovních úvěrů se zaměřením na pravidelné úvěry komerčních bank. Studie také odhaluje jasný obraz indické ekonomiky. V historii Indie došlo k mnoha incidentům, které vysoce ovlivnily indickou ekonomiku a bankovní sektor. Tyto incidenty a účinky byly také studovány a diskutovány v tomto výzkumu. Byla zohledněna řada parametrů, konkrétně inflace, tvorba pracovních míst, HDP vs. úvěry z organizovaného finančního sektoru. Studie se provádí na sekundárních údajích shromážděných hlavně prostřednictvím oficiální statistické osnovy Reserve Bank of India. Shromážděná data dále prošla různými statistickými nástroji a důkladně vysvětlena. Kromě toho se výzkumník pokusil také pochopit dopad úvěru finančními institucemi v Indii. Podkladová studie také objasnila, jak posoudit dopad způsobený nevýkonnými aktivy (NPA) na ekonomiku na širší úrovni.

Klíčová slova: Úvěrové skóre, zajištěné a nezajištěné bankovní půjčky, nevýkonná aktiva, inflace, tvorba pracovních míst, sazby hlavních úvěrů, měnová politika, repo sazby a hospodářská krize.

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1. Introduction

India was an example of the use of development banking as a tool of late industrial development. The emphasis on development banking after the time of independence of India is elucidated by two features characterizing the Indian economy at that point in time: one was the inadequate gathering of own capital in the hand of local industrialists; and the other was the nonattendance of a market for long span finance (such as active equity markets or bond), which corporations could access to part finance capital-intensive industrial asset.

The economic structure at Independence replicated the underdeveloped nature of the economy with low levels of local saving and investment. The financial structure was improperly diversified as a result of that. The Reserve Bank of India (RBI) dominated, with 47 percentage of the total share, followed by the commercial banks as a cluster with 26 percentage share and the Imperial Bank with 8 percentage share, in terms of the share of financial assets. The continuing deterioration of the exchange banks, which were established to finance overseas trade, had taken their share in assets down to 5 percentage. Cooperatives, Postal savings and Insurance Companies accounted for 4 percentage share each and pension funds for only 2 percentage. Consequently, exclusive of the central bank, banks devastatingly dominated the financial structure (Raymond, 1983).

To take on the responsibility of financing long-standing investments, there are confines to which banks could be called upon. From many small and medium depositors, Banks attract deposits. Who have relatively short savings prospects, would prefer to abnegate income and capital risk, and anticipate their savings to be comparatively liquid, so that they can be without difficulty drawn as cash. Giving loan to industrial investors making lumbering investments, on the other side needs giving large sums to single borrowers, with the lending being uncertain and significantly illiquid. Accomplishing banks to be main lenders for industrial investment and infrastructural investment, hence, results in significant risk, maturity and liquidity mismatches, limiting the role that banks can play in financing long standing industrious investment.

In the 1980s, the pattern of financing of investment commenced to change when the availability of foreign finance from the private financial market unwrapped, largely for the

reason that of alterations in the global financial system. That access was seen as giving a chance to pursue a further outward oriented development strategy based on versatile deregulation and liberalization. That transition was triggered because of the balance of payments crisis of 1991. Financial liberalization that provided for a growing role for local and international firms in the financial sector, and offered all financial institutions greater elasticity in mobilizing resources and loaning and investing them was a significant element of the resulting "economic reform". It was at the point that these local and international private organizations felt bitter about the ability of the development finance institution (DFIs) to get concessional finance to accomplish their order, and by this means compete with them and keep them out of regions that they were before least fascinated in entering, but were now seeing to go into.

The resultant burden to generate a 'level playing field', to which the government capitulated not for the reason that that was obligatory but for the reason that of its own assurance to liberalization (Narasimham, 1998), prompted the procedure of makeover of top development financial associations into commercial banks, initiating in 2002 with the Industrial Credit and Investment Corporation of India (ICICI) and the IDBI (Industrial Development Bank of India) in 2004. Though the era since then is comparatively small, India's experience for the period of the peak of development banking and all through its initial stage of decline offers much to advise the discussion on the role that specialized organizations can play in the development procedure. (Chandrasekhar, 2014)

1.1 Types of Retail Loans

There are different types of loan to the individual customer for their various requirements offered by retail banks. The various kinds of lending offered by a retail banks to an individual customer like education loans, loans against property, gold loans, home loans, personal loans, credit card loans, business loans and many more.

Depiction of many loan categories provided by retail banks is given underneath:

1.1.1 Personal loans: A bank provides personal lending to meet personal needs. A bank lets a customer take care of all manner of expenditures at a short notice. A loan can be used to

fund travel, honeymoon, marriage, holidays, medical expenses or for some other personal use. Defense pensioners or pensioners do have access to it.

To home / flat / plot buyers a loan is also available to Earnest Money Deposits. A bank loans to a client as a creative combination of a loan and over draft facility with flexible repayment options against the client's immovable property protection. Benefits of this loan are an optimal use of idle property-generating additional income from idle property, extracting money from customers according to their needs and saving on interest rates, regular income or salary or depositing surplus money and saving interest, versatility to withdraw earlier deposited capital. Banks often provide loans either as overdraft or on demand, as required by the customer. (Itoo, Selvarasu, & Filipe, 2015)

1.1.2 Education Loan: It is the most significant investment for a life. Additional financial support in a timely manner is very much needed in specialization in certain fields or higher studies. The bank also provides loan whether customers are planning schooling for their kids (from nursery to 12th standard), pursuing a graduate degree or post-graduate degree to fulfill their dreams.

1.1.3 Home Loan: It is available for buying construction of a house, private house unit and buying a plot of land for construction of a house. NRI or PIO can also get the benefits of taking a loan from banks. Flexi Rate plan is mostly opted by customers to hedge the interest rate risk by dividing a loan into two individual accounts, personal accident insurance and free property insurance. Borrower does not pay pre-payment charges for a portion as well as full forestallment (when paid back by the borrower from own sources).

1.1.4. Auto/Car loan: A vehicle is common need in contemporary era. Owning car is now a dream of everyone's life. It is also a status symbol in our society to have a comfortable and personal means of transport. It is believed that everyone be worthy of having a vehicle in modern world. There are many benefits for this kind of lending, available up to 15 Lakhs rupees for any car model which also includes vehicles with gas-kit, loans can be availed for new and second-hand automobiles which are not more than 3 years old. Settlement period of a loan is as long as 7 years or more. A two-wheeler is as much a benefit to a car owner, for the individuals who like better to get to their destinations faster or travel more

conservatively. The choices available to the customer are both convenient as well as attractive because every year new models are coming out. All salaried people, resident Indians, self-employed, farmers, professionals and businessmen can apply for this kind of lending.

1.1.5 Trader's Loan: Loan facilities for traders enable individuals, ownerships, entities such as partnership firms and cooperative societies to take advantage of working capital or to pursue shop creation by way of overdraft or loan. Loans for the modernization or renovation or extension of existing premises are also available.

1.1.6 Equipment/Machinery Loan: These loans are structured primarily to meet the professional's financial needs. For example, banks lend loans to professionals such as doctors or engineeINR As per the preference of the consumer a loan can be used as a demand / term loan or overdraft. The loan is used to buy office equipment, such as computers, air conditioners, faxes, furniture etc.

1.1.7 Jewelry Loan: Silver or Gold jewelry dealers can benefit from a loan. The loan is issued against the form of land (not agricultural property) mortgage and construction, against the provision of tangible collateral securities. If the family has a wedding there or perhaps a person who likes to amaze the partner with a priceless gift. People might only like spending an extended holiday pampering their families. These are situations for which a person may need a helping hand.

1.2 Credit Scoring

Risk evaluation is one of the most important steps in risk management decisions for banks. This method involves the selection, review and classification of different credit elements and variables to determine the credit decisions. Bank loan efficiency is a primary determinant of productivity, sustainability and profitability. Credit scoring is one of the most critical packages for classifying bank clients as part of the credit appraisal process to reduce the actual and anticipated risk of a client becoming bad credit. Financial institutions 'method of modeling creditworthiness is called credit scoring. More examples of the credit score are also useful. (Hand & Jacka, 1998)

The word should be broken down into two parts, credit and scoring, to describe the credit rating. First, the word credit literally means "purchase now, pay later." It comes from the Latin word 'credo,' meaning 'I believe' or 'I trust in.' Furthermore, the term "scoring" refers to "the use of a numerical instrument to identify cases according to any actual or perceived standard to discriminate between them and to ensure fair and clear decisions." Consequently, ratings may be presented as "numbers" to reflect a single attribute, or "grades" to reflect one or more values, which may be presented as "labels" or "letters". (Anderson, 2007)

Accordingly, credit scoring can be described simply as using statistical models to translate relevant data into numerical measures that direct credit decisions. This is the industrialization of trust; a rational future development of arbitrary credit ratings first given by the credit bureau of the nineteenth century, motivated by the need for quick and reliable decisions on goals, and made possible by technical advances. (Beynon, 2005)

In addition, credit rating is the use of mathematical models to assess the likelihood a prospective borrower will default on a loan. Models of credit scoring are commonly used for evaluating business, real estate, and consumer loans. (Gup & Kolari, 2005). Credit scoring is also the collection of decision models and their underlying techniques which enable lenders to grant consumer credit. These techniques determine who should receive credit, how much credit they will get and what operating methods can boost the lenders 'profitability

Credit scoring models are some of the most popular research modeling systems in finance and banking, reflected in the industry's number of scoring analysts, which is continuously growing. Credit scoring has, however, been critical in facilitating the exponential growth in consumer credit over the past five decades. Without credit scoring techniques, consumer credit lenders could not have effectively extended their loan as an accurate and automatically controlled risk assessment method. (Thomas, Edelman, & Crook, Credit Scoring and Its Applications, 2002).

1.3 The methodology of credit scoring

Credit scoring was largely dedicated to evaluating current and new consumers that had been given loans. Credit analysts have analyzed the credit history and creditworthiness of consumers based on predetermined ratings to reduce the risk of delinquency and default.

Basically, credit scoring is a method that can be used to classify or quantify the risk factors relevant to the ability and willingness of a borrower to repay that loan. Credit rating helps borrowers to forecast possible outcomes of loans based on the use of statistical tools, making accurate judgments as to whether a loan would produce good or poor results. Credit scoring may be used either on a stand-alone basis or as part of the credit evaluation process. If used on a stand-alone basis, credit scoring helps to identify applicants into good / bad credits or accept / reject classes or; when used as part of the credit evaluation process, credit scoring may help quantify applicants' credit risk (Bhatia, 2006).

To differentiate between good and poor loans one may use the same techniques (Durand, 1941). Credit scoring is simply a way of identifying the various groups within a population when the feature that distinguishes the groups is not seen. Commercially, the credit rating was first created by Bill Fair and Earl Isaac in the 1950s but has only increased in usage in the last two decades (Thomas, A survey of credit and behavioural scoring: forecasting financial risk of lending to consumers, 2000). The main goal of the credit scoring model is to establish a single aggregate risk measure for a collection of risk factors from the review of data that is indicative of the previous lending experience of the lender (Bhatia, 2006).

The credit scoring for personal loans is performed in compliance with the RBI guidelines, according to the information collected from the bankeINR Quick all banks follow the rules of BASEL II and III. Based on the bankers 'experience, the method of credit scoring involves gathering, reviewing and classifying different credit elements and variables to determine credit decisions. Bank loan efficiency is the main determinant of productivity, sustainability and profitability. Classification of a bank's customers as part of the credit appraisal process is one of the most critical kits to reduce a customer's actual and anticipated risk as a bad credit.

The goal of credit scoring models is to allocate either good credit or bad credit to loan customers, or to predict bad creditors Thus, the scoring issues are related to the study of the

classification. The earliest use of statistical scoring was possibly made by Durand to differentiate between "good" and "poor" applicants. Bankers must allocate a certain weight age to the borrower filled out loan application form. Every bank has its own cut points for credit score, which will cluster the customer into various risk classes. In building scoring models a broad variety of statistical techniques are employed. Some of these models are statistical, some of which are non-linear; models are applicable to create an efficient and accurate system of credit scoring that is used successfully for predictive purposes. Techniques such as weight calculation of data, regression analysis, discriminant analysis, probit analysis, logistical regression, linear programming, Cox's proportional hazard model, vector supporting machines, decision trees, neural networks, k-nearest-neighbour, genetic algorithms and genetic programming are all commonly used in credit scoring models by credit analysts, bankers, borrowers and producers and suppliers of computer applications.

1.3.1 Advanced statistical approaches compared to traditional statistical methods

Advanced statistical techniques, such as neural networks and genetic programming, offer an alternative to standard statistical techniques, such as discriminating analysis, Probit analysis and logistic regression. The point in using advanced methods, such as neural networks, is their ability to model highly complex functions, and this compares, in course, with conventional linear methods such as linear regression and linear differential analysis. Probabilistic neural networks usually train cases faster than multi-layer feed-forward networks and classify them in the same or better way than multi-layer feed-forward networks, even with multi-layer feed-forward networks, excellent classifiers have been shown (Palisade Corporation, 2005) (Irwin, Warwick, & Hunt, 1995). However, a number of sophisticated algorithms for neural net training have become available-making them an enticing alternative to more traditional techniques (Masters, 1995) (Palisade Corporation, 2005). Genetic programming is perhaps one of the most promising alternatives to conventional approaches that have been used in this field recently. Genetic programming is used to evaluate the appropriate discriminating functions and features at the same time automatically. Specific neural networks can only fit massive datasets, but genetic programming can work well even with small data sets (Nath, Rajagopalan, & Ryker, 1997).

2. Objective and Methodology

2.1 Introduction:

This chapter details all about the research methodology for the research. It reveals the research objectives and an appropriate methodology to achieve the objectives. The prime objective of the study is to analyze the impact of lending in India on various parameters. The research includes the comprehensive study of the status of formal loans and its impact in the country. This study is based on quantitative method of data analysis. Furthermore, the analysis is done on secondary data only. It reflects the factors affecting both directly or indirectly on bank loans. The secondary data is sourced through reliable government portals. The chapter includes the methodologies, data collection and the data analysis for the study. The study is descriptive, quantitative and exploratory.

2.2 Importance of Study

This section of the study elucidates the research methods, methods and analytical strategy of the current study. In order to meet up the desired results research methods are framed to apt the research objectives. As the most promising and desired segment of the banking sector is found to be lending, it is analyzed thoroughly, with respect to certain specific parameters. As per the last five years data it was decided to conduct a research affecting major areas impacted by bank loans in India. However, this study will help to understand the necessity of policy interventions in transforming the present lending system in India.

2.3 Sources of Data

The current study is completely based on secondary data. The collected data is gathered from many reliable resources, namely, RBI Bulletin, Government reports, Ministry of Statistics and Program Implementation (MOSPI), NSSO, CSO, IDBI Bank Annual Report, State Bank of India's Annual Report and Punjab National Bank Annual Report. The data was also taken bank wise and sector wise in order to analyze the objectives at a very narrow perspective.

2.4 The Statistical Techniques used:

The gathered data was properly analyzed with the help of various statistical tools. To analyze the relationship between parameters correlation and linear regression was used. In order to find fit the regression model and to find out autocorrelation and collinearity, Durbin Watson and Collinearity Diagnostic analysis were also conducted respectively. Moreover paired sample t-test was also applied in order to find out the difference in means of dependent factors. All these are performed using the software SPSS. And meaningful conclusions were drawn by constructing data tables sand graphs through MS-Excel.

2.5 Objectives:

1. To analyse the impact of loans from organised sector on gross output in India.

2. To understand the relationship between bank loans and inflation in India.

3. To observe the role of non-payment of loans on banking institutions performance

4. To find out the effect of bank loans on job creation in India.

2.6 Hypothesis:

Hypothesis 1:

H_0: There is no significant impact of Bank Loans on Gross Domestic Product in India.
H_1: There is a significant impact of Bank Loans on Gross Domestic Product in India.

Hypothesis 2:

H_0: There is no significant relationship between bank loans and inflation in India.
H_1: There is a significant relationship between bank loans and inflation in India.

Hypothesis 3:

H_0: There is no significant difference between Gross Advances and NPA's in India.

H_1: There is a significant difference between Gross Advances and NPA's in India.

Hypothesis 4:

H0: There is no significant relationship between gross advances and NPAs in India.

H1: There is a significant relationship between gross advances and NPAs in India.

Hypothesis 5:

H_0: There is no significant impact of bank loans on job creation in Banks in India.

H_1: There is a significant impact of bank loans on job creation in Banks in India.

2.7 Period of Study

The period taken for the present study is from 2009-10 to 2017-18.

2.8 Research Design

The type of research design used here is exploratory and descriptive. Exploratory research is the one when the researcher does not know anything about the actual cause of the problem. Here the problem is regarding bank loans and its repayment. As it is often believed that the credit can enhance the level of productivity, but it's just an assumption. Thus, hypothesis was framed for the study. So, to understand the problem and its actual cause exploratory research fits the best. Moreover, this study is descriptive too. As whatever data collected, trends and broad description of that big data is described in the research. However, this study is then quantitatively analyzed for each set of secondary data.

2.9 Limitations

The research has certain constraints and limitations under which it was conducted:

1. The study has time and cost restrictions and due to which only few parameters were taken under consideration.

2. The entire study was based on secondary data and no direct data was collected primarily.

3. Due to non-availability of some data, research was limited.

4. Focus of entire research was based only on scheduled commercial banks.

5. In few objectives due to time- series data insufficiency only five years of data was analyzed.

2.10 Chapter Planning

The entire study is divided into five chapters as follows:

Chapter-1 - Introduction

This chapter reveals that the detailed information regarding bank loans and their types in India and it also broadly discuss about Credit Scoring.

Chapter-2 –Objectives and Methodology

This chapter delineates the research techniques and strategies used in the said research. Further, the collected data was analyzed using SPSS and MS excel. It also includes limitations for the study.

Chapter-3- Literature Review

The study is conducted based on literature reviews. Such as Government reports, journal articles, doctoral thesis, newsletters, books and magazines, etc. So far more than 30 articles

were reviewed. On various issues reflecting Indian lending system through organized sector Non-Performing Assets (NPA), agency wise institutional credit flow was also studied. It also discuss about impact of bank loans on growth of production in India, inflation and job creation. Further the impact of non- performing assets on banking sector performance was also discussed.

Chapter-4 Practical Part

This study is based on the research data collected and the objectives and hypothesis made. The analysis of the data and developing solutions were discussed in this chapter. Moreover, the tables and graphs were well interpreted here. It also includes limitations for the study.

Chapter-5-Results and Recommendations

The chapter summarizes the findings, conclusions and suggestions of the study.

3. Literature Review

There has been plethora of studies exploring various aspects of banking sector mechanism and its lending sector. A very few of the studies have focused on to examine impact of institutional credit. A brief review of literature on various issues reflecting bank loans and various parameters associated with it. The following is the literature review to approach those for the current study. This chapter has included various previous literatures, mainly, academic journals, research articles, government reports, websites, books and many more.

3.1 Introduction

India is one of the top 10 economies in the world, with enormous potential for growth for the banking sector. The last decade saw ATM, internet and mobile banking customers accepting it. India's banking sector is estimated at Rupees 81 trillion (US$ 1.31 trillion) today. It has the ability to become the world's fifth largest banking industry by 2020 and the third by 2025, an industry report says. Indian banking has changed face over the yeaINR Banks are now reaching out to the masses with technology to make communication simpler, and transactions are being done through the Internet and mobile devices. (Manikyam, 2014)

A bank is a financial institution supplying its customers with the banking and other financial services. A bank is commonly considered to be an entity that offers basic banking services, such as taking deposits and lending. There are also non-bank institutions which provide some banking services without meeting a bank's legal definition. Banks are a part of the financial services market. A banking industry also referred to as the bank's system that provides cash management services to customers throughout the day, reporting their accounts and portfolios transactions. (Manikyam, 2014)

The Indian banking industry saw more changes during the nineties than any other sectors of the Indian economy. Interest rates were deregulated and banking sector entry was liberalised. The cash reserve ratio and the regulatory liquidity ratio are at their historic lows, thereby giving the banks greater leverage over their deposit base. Banks are also permitted to invest in contraband assets such as bonds, which have been foregone so far. In addition, non-

interest income is gradually becoming a significant part of banks 'profits through fees and off-balance-sheet operations. Eventually, banks regularly follow market positions for dynamic instruments such as derivatives. Nevertheless, at the same time, these financial intermediaries are required to maintain a capital adequacy ratio at the stipulated minimum level, label assets by sector, classify assets to identify questionable and risk loans, and make provisions for non-performing assets. Notwithstanding the spate of reforms, the Indian banking industry continues to face many challenges: several banks, mainly in the public sector, remain underperforming in terms of return on assets; the amount of non-performing assets remains at an alarmingly high level; and the issue of deposit insurance remains hostage to the fact that about 80 per cent of the country's deposits remain in the nation. (Macmillan, Richter, & Banerjee, 2002)

The economic reforms introduced by India's government about two decade ago changed the landscape of many Indian economy sectors The Banking industry in India is no exception. As a consequence of economic reforms this sector is experiencing significant changes. The changes affect the ownership structure of banks, the supply of funds, the cost of funds as well as earnings opportunities, the variety of services (fee-based and fund-based), and priority sector lending management. As a result of interest-rate liberalization, the banks run on reduced spread. Financial institutions for growth will have less of an impact on the Indian economy. (Kamath, et al., 2003)

The emerging competition has created new expectations from both existing customers and new ones. The urgency to launch new products is urgent. Existing goods need to be produced in a creative and cost-effective way using new technologies to their maximum potential. The new market laws require consideration of customer value and the imperative of meeting needs through creative goods enabled by advanced technology. The strategic problems arising from competition include market segmentation, product positioning, new distribution platforms, cross-selling, etc. At an organization level, elaborate systems need to be evolved to manage, assess, and contain risk (including portfolio, client, and exchange rate). Elaborate structures need to be built at an organizational level to control, evaluate, and contain risk (including portfolio, consumer, and exchange rate). For their side, the Government of India and the Reserve Bank of India (RBI) will reinforce established standards in regulating and guiding the functioning of those banks. Banks need to improve its audit feature. They'd be

judged on the basis of their market place results. It is in this sense that we have invited Indian banks 'chief executive officers to address the above-mentioned questions. (Kamath, et al., 2003)

3.2 Benefits to priority sector due to loan

The classification of loans according to their focus on priority sector lending is described beneath:

3.2.1   Agriculture sector

Direct financing for agriculture includes short, medium and long-term loans that are issued directly to individual farmers, self-help groups or joint liability groups to collect crops, farming and related activities and pre and post-harvest activities. Moreover, indirect funding is offered to businesses, partnership companies and organizations engaged in farming. This requires loans for agriculture, as well as related operations. (Rani & Garg, 2015)

To measure the achievement of the sub-target, Small and Marginal Farmers must include the following:

• Farmers with up to 1 hectare of landholding (Marginal Farmers). Farmers with more than 1 hectare of land owned and up to 2 hectares (Small Farmers).

• Agricultural landless labourers, owners, oral lessees and shareholders whose share of the land is below the limits specified for small and marginal farmers;

• Loans to Self-Help Groups (SHGs) or Joint Liability Groups (JLGs), i.e., groups of individual Small and Marginal Farmers directly engaged in Agriculture and Related Activities, provided that banks maintain disaggregated data on these loans.

• Loans to individual farmers 'farmers' producers and farmers 'cooperatives directly engaged in Agriculture and Allied operations, where the membership of Small and Marginal Farmers is not less than 75% by amount and where the share of land holdings

is not less than 75% of the total land holdings. (Master Direction - Priority Sector Lending – Targets and Classification, 2016)

3.2.2. Manufacturing Enterprises

The Micro, Small and Medium Enterprises are engaged in the manufacture or export of products to any industry specified in the first Industries (Development and Regulation) Act, 1951 and as notified from time to time by the Government. The Manufacturing Enterprises are explained in terms of investment in plant and machinery.

3.2.3 Small scale industries

Direct financing for small-scale enterprises includes loans given to units engaged in the manufacturing, distribution or storage of products and whose investment in plant and machinery (original cost) except land and building does not exceed INR 5. Indirect finance is provided by supplying inputs to artisans, village and cottage industries as well as marketing the production to those citizens who support the decentralized sectors (Rani & Garg, 2015)

The limits set by the Ministry of Micro, Small and Medium Enterprises, vide S.O.1642(E) of 9 September 2006 for investment in plant and machinery or equipment for manufacturing or service enterprises are as follows:

Table 1 the limits for investment in plant and machinery/equipment for manufacturing/service enterprise

Manufacturing Sector	
Enterprises	**Investment in plant and machinery**
Micro Enterprises	Does not exceed twenty-five lakh rupees
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees

Service Sector	
Enterprises	**Investment in equipment**
Micro Enterprises	Does not exceed ten lakh rupees
Small Enterprises	More than ten lakh rupees but does not exceed two crore rupees
Medium Enterprises	More than two crore rupees but does not exceed five crore rupees

Source: Reserve Bank of India

Bank loans to micro, small and medium-sized enterprises, both in the manufacturing and service sectors, are eligible for priority sector classification in accordance with the following norms (Master Direction - Priority Sector Lending – Targets and Classification, 2016).

3.2.4 Service Enterprises

Bank loans up to 5 crores per unit to Micro and Small Enterprises and 10 crore to Medium Enterprises engaged in the provision or rendering of services as specified by the MSMED Act, 2006 in terms of investment in equipment.

3.2.5 Khadi and Village Industries Sector (KVI)

All loans to the units of the KVI sector will be eligible for classification under the sub-target of 7 percent or 7.5 percentage considered for Micro Enterprises under priority sector.

3.2.6 Other Finance to MSMEs

(i) Loans to companies engaged in assisting the decentralized sector in the procurement and marketing of artisanal, village and cottage industries inputs.

(ii) Loans to autonomous producer cooperatives viz. The artisans, the village industry and the cottage industry.

(iii) Loans issued to MFIs by banks for on-lending to the MSME sector under the conditions laid down in paragraph IX of this circular.

(iv) Credit outstanding under General Credit Cards (including the new Artisan Credit Card, the Laghu Udyami Card, the Swarojgar Credit Card and the Weaver's Card etc.) and catering to individuals 'non-farm credit needs).

(v) Bank overdrafts expanded after April 8, 2015 to a limit of 5,000/- under Pradhan Mantri Jan DhanYojana (PMJDY) accounts given that the annual household income of the borrower does not exceed $100,000/- for rural areas and $1,60,000/- for non-rural regions. Such overdrafts would count as an attainment of the Micro Enterprises lending cap.

(vi) Exceptional deposits with SIDBI and MUDRA Ltd. on account of shortfall in the priority sector. (Master Direction - Priority Sector Lending – Targets and Classification, 2016)

3.2.7 Export Credit

For domestic banks Incremental export credit over the corresponding date of the previous year, up to 2% of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher, effective April 1, 2015, subject to a permitted cap of up to 25 crore per borrower for units with a turnover of up to 100 crore.

For foreign banks with more than 20 branches, Incremental export credit over the corresponding date of the preceding year, up to 2% of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher, effective April 1, 2017. Foreign banks with 20 branches and above are allowed to count those percentages of the export credit cap as priority se according to their approved plans.

3.2.8 Education Sector

Education loans include loans and improvements to individual for education including vocational courses up to INR 10 lakh for studies in India and INR 20 lakh for studies in abroad. (Rani & Garg, 2015)

3.2.9 Housing Sector

(i) Loans of up to 28 lakhs in metropolitan centers (with a population of 10 lakhs and above) and loans of up to 20 lakhs in other centers for the purchase / construction of a dwelling unit per family shall not exceed 35 lakhs and 25 lakhs respectively for the total cost of the dwelling unit in the metropolitan center and in other centres. It would restrict mortgage loans to the banks 'own workeINR Since housing loans backed by long-term bonds are excluded from ANBC, banks can either provide these housing loans to individuals up to 28 lakh in metropolitan centers and 20 lakhs in other priority sector centers or benefit from ANBC exemption, but not both.

(ii) Repair loans for damaged family residences up to 5 lakh in metropolitan centers and up to 2 lakh in other centres.

(iii) Bank loans to any government agency for the construction of residential units or slum clearance and rehabilitation of slum residents subject to a limit of up to 10 lakh per residential unit.

(iv) Bank loans for housing projects for the sole purpose of building houses for economically weaker sections and low-income classes, the overall cost of which does not exceed 10 lakh per household. To recognize the economically disadvantaged sections and low income classes, a family income cap of approximately 2 lakh per year is recommended irrespective of venue.

(V) Bank loans to Housing Finance Companies (HFCs), authorised by the NHB for refinancing, on loans for the purchase / construction / reconstruction of individual residential units or for slum clearance and rehabilitation of slum residents, subject to an aggregate loan cap of ₹ 10 lakh per borrower.

3.2.10 Social infrastructure

3.2.10.1 Bank loans for the development of social infrastructure for activities such as hospitals, health care facilities, drinking water facilities and sanitation facilities including the development / refurbishment of household toilets and household water improvements in Tier II to Tier VI centers up to a limit of 5 crore per borrower.

3.2.10.2 Bank loans extended to Micro Finance Institutions (MFIs) for loans to individuals and also to members of SHGs / JLGs for water and sanitation facilities would be eligible for classification as a priority sector under 'Social Infrastructure,' according to the requirements set out in paragraph IX of this Circular.

3.2.11 Renewable Energy Sector

Bank loans to developers for purposes such as solar power generators, biomass-based power generators, wind farms, micro-hydropower plants and non-conventional energy-based public utilities up to a maximum of 15 crore. Street lighting, and remote electrification of the village. The loan cap will be approximately 10 lakh per borrower for individual households.

3.2.12 Others

3.2.12.1 Loans not exceeding the average of 50,000/- per borrower issued directly by banks to individuals and their SHG / JLG, given that the annual household income of the individual borrower in rural areas does not exceed 100,000/- and does not exceed 1,60,000/- for non-rural areas.

3.2.12.2 Loans to distressed persons [other than farmers included under III (1.1) A (v)] not exceeding ₹ 100,000/- per borrower to prepay their debt to non-institutional lendeINR

3.2.12.3 Loans given to State Funded Organizations for Scheduled Castes / Scheduled Tribes for the purpose of purchasing and distributing inputs and/or selling the products of those organizations 'beneficiaries. (Master Direction - Priority Sector Lending – Targets and Classification, 2016)

3.3 Economic Indicators

3.3.1 Financial development and economic growth

There are three major perspectives on the relationship between financial sector development and economic growth. First, there is the supply-leading principle where financial development contributes to economic growth. It was argued that by encouraging the mobilization of resources, the financial system played a vital role in fostering industrialisation in England (Bagehot, 1873). Three decades later, (Schumpeter, 1911) accepted Bagehot's opinion and pointed out that financial developments are very actively promoted by financial institutions by defining and financing decisions for potential growth in profitable investments. (McKinnon, 1973) McKinnon acknowledged the financial sector's role in mobilizing the savings and accentuating capital accumulation, thereby fostering economic growth.

Secondly, the demand-following response hypothesis asserts that economic growth drives financial sector development. Robinson contended that economic growth accompanies the advancement of the financial sector. (Robinson, 1952) The third view establishes a causal relation between financial development and economic growth at the same time. Patrick found that the causal relationship between the two had not been unchanged over the phase of creation (Patrick, 1966). As economic growth occurs, the supply leading response is governed by the demand following response. But this sequential process was not standardized across the sectors or industries. Empirical findings support the three theories, as well. Odhiambo analyzed the complex causal relationship between Kenya's financial complexity and economic growth and found a distinct unidirectional causal relationship between financial stability and economic growth. The report also concluded that any argument that unambiguously leads financial development to economic growth should be viewed with severe caution (Dhal, Kumar, & Ansari, 2011)

3.3.2 Financial stability and economic growth

Until Kindleberger, most studies on the financial sector's position in economic growth emphasized the degree of financial development, typically calculated in terms of the

financial institutions 'scale, scope, transparency and competitiveness. Institutions 'stability and productivity did not receive much consideration, likely due to the assumption that financial institutions' profitability and development is due to their operational and resource allocation performance and optimum risk management (Kindleberger, 1978). Kindleberger and later Minsky put forward a view of financial instability which indicates a negative impact on economic growth by the financial sector. Kindleberger argued that institutional loss of trust and confidence could fuel disintermediation and institutional closures, and that, when confidence falls, investment is likely to fall too. (Kindleberger, 1978) (Minsky, 1991) Structural instability can also affect financial sector organization and therefore increase transaction costs and trigger problems within the payment system. Such transaction costs, which are real resources, contribute to resource misallocation and thus the rate of economic growth will suffer. A sound financial structure builds trust between savers and investors so that capital can be mobilized efficiently to improve productivity in the economy (Ang, 2008). According to the "financial instability theory" (Minsky, 1991), economic development allows financial institutions to follow a riskier action and risky economic activity. Such an overleveraged environment offers congenial conditions for a crisis triggered by business default events due to increased financial expenses on their loan repayments. As a result, higher financial costs and lower revenue will lead both to higher delinquency levels and thus to economic recession. Eichengreen and Arteta analyzed 75 emerging market economies for the period 1975–1997 (Eichengreen & Arteta, 2000).

3.4 Financial Access data as per RBI (Acharya, 2018)

3.4.1 Institutional arrangement for financing MSMEs

MSMEs need access to adequate and timely credit at reasonable cost for sector growth. Reserve Bank-regulated institutions lending to MSMEs in India include Scheduled Commercial Banks (Public Sector Banks, Private Sector Banks including Small Finance Banks, Foreign Banks, Co-operative Banks, and Regional Rural Banks), and Non-Banking Financial Companies including NBFC-MFIs. The Indian Securities and Exchange Board (SEBI) also regulates certain organizations that provide or mediate capital to MSMEs such as SME Exchanges, Angel Investors, Venture Capital and Private Equity. Apex institutions

like SIDBI and MUDRA provide sectoral assistance and come within the pure view of the Central Government.

3.4.2 Status of MSME Financing

In India, the total flexible demand for external funding is estimated at approximately $37 trillion6, while the overall availability of financing from formal sources is estimated at approximately $14.5 trillion. Accordingly, the overall credit gap in the MSME sector is estimated at $20-25 trillion.

Given that MSMEs reflect such a heterogeneous set of firms, the analysis of credit dynamics by segment is important.

Table 2 Overall Credit Exposure

Overall Credit Exposure					
(in ₹ lakh crore)					
	Micro <₹1 Cr	SME ₹ 1 Cr-25 Cr	MID ₹25 Cr-100 Cr	Large >₹ 100 Cr	Overall
Sep'16	3.0	7.5	4.8	34.1	49.4
Dec'16	2.9	7.5	4.9	34.3	49.6
Mar'17	3.1	7.8	4.9	34.1	50.0
Jun'17	3.3	8.1	5.0	34.4	50.8
Sep'17	3.5	8.5	5.2	34.7	51.8
Dec'17	3.7	8.9	5.4	36.4	54.5
Mar'18	4.0	9.6	5.5	37.8	57.0
Jun'18	4.2	10.0	5.5	38.3	58.1
Sep'18	4.3	10.0	5.5	38.9	58.7
Y-o-Y growth (From Sep'17-Sep'18)	22.3%	18.4%	7.2%	12.0%	13.5%
Source: TransUnion CIBIL					

From the above, it can be concluded that Micro (credit exposure less than 1 Crore) and SME (credit exposure between1-25 crore) segments aggregated ₹14.3 lakh crore as on September 2018 Micro and SME accounted for 24.3 percent of outstanding commercial credit, with Y-o-Y (Sep 17-Sep 18) 22.3 percent and 18.4 percent growth respectively. Chart VI showing the NPA pattern in the above segments over the same time is as follows:

Figure 1Segment Wise NPA
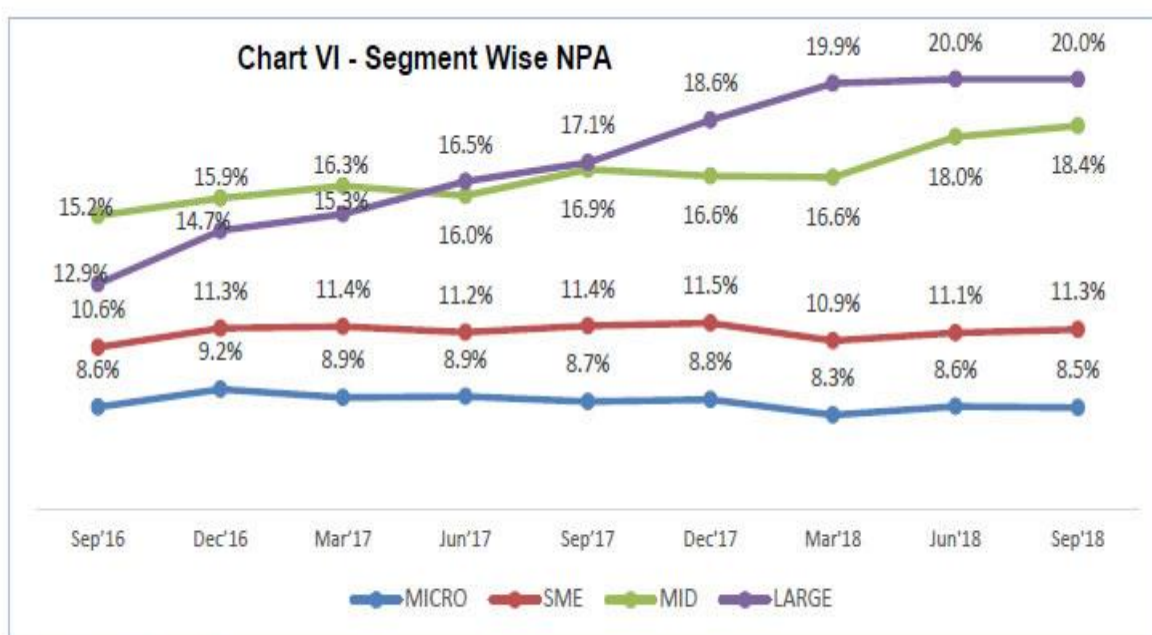
Source: TransUnion CIBIL

1. The main trends which emerge from the data above are as follows: i. The micro segment (< dependent 1 crore) is the fastest growing segment and accounts for some 4.3 lakh crore out of the total outstanding MSME credit of some 14.3 lakh crore. This category grew in 2018 to 22 per cent y-o-y. This section also shows the lowest NPAs, while still high at 8.5 per cent in absolute terms.

2. According to RBI numbers, in March 2019, NBFCs 'share of outstanding credit to MSME was 9.3 per cent. With FinTech (typically registered as NBFCs) based on this market, this trend is expected to accelerate.

3. The share of NBFCs has also been important in outstanding credit to medium-sized enterprises. As of March 2018, NBFCs credit was 17 per cent of the total credit provided to medium-sized enterprises by SCBs and NBFCs, as per RBI reports.

3.4.3 Lending to MSMEs under Priority Sector lending

Banks and NBFCs constitute the predominant formal source of credit to MSMEs with all these loans by PSL-qualified banks. Company strategies currently have no distinction pursued by banks in lending to MSMEs. The rigid nature of the PSL goals (40 per cent of their ANBC) may lead to this. 7.5 per cent of the bank's ANBC will go to micro-enterprises under PSL guidelines.

One issue within the banking sector is that approaches to origination still tend to be homogeneous and establish associated credit actions and outcomes. The following charts indicate that whether it is the case of agricultural credit (Chart A) with a target of 18% of the total PSL, or the case of MSME credit (Chart B) without a target, an overwhelming 88% and 84% of the banks surveyed did not exceed 21% (of PSL) for agricultural credit and 25% (of PSL) for MSME credit respectively within the ove. There appears to be very consistent bank-wide origination approaches and it appears that none of the banks follow MSME lending as a core business strategy.

Figure 2Distribution of outstanding Agriculture Credit and MSME Credit as a % of PSL
(March 2017)

**Chart VII: Distribution of O/s Agriculture Credit and MSME Credit as a % of PSL
(Mar 2017)[7]**

Chart A

Chart B
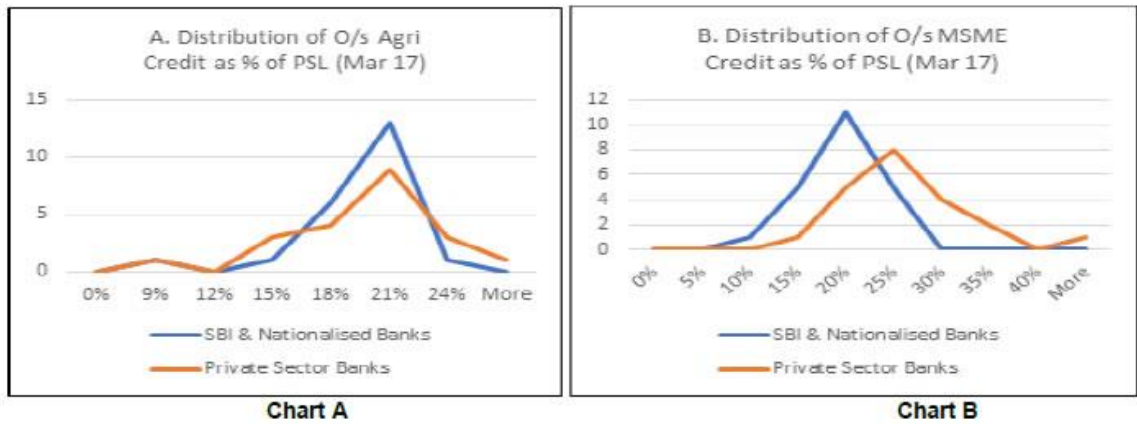
Source: https://www.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=17879

Globally, there are examples of SME-focused banks in Kenya, such as Equity Bank, that
have been able to significantly innovate because of their customer focus. Getting these banks
also would be useful in the Indian landscape. One challenge is that current PSL guidelines
allow all banks to lend to all segments (farming, MSMEs and weaker sections) making it
difficult to specialise. Once comparing the PSL Credit to State GDP, PSL outreach has been
sectorally and geographically biased Local inequalities in PSL credit become clearer.

Figure 3Variations in PSL Credit to NSDP. 2016-17 (at Current Prices)

Chart VIII Variations in PSL Credit to NSDP, 2016-17 (at Current Prices)
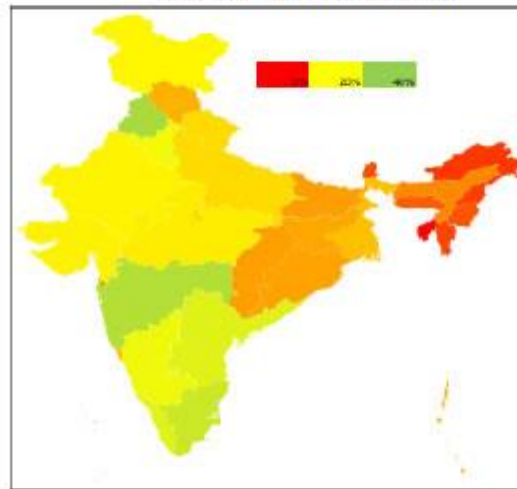
Source: https://www.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=17879

As district level inequalities are observed, these inequalities are more pronounced. The presence of these inequalities points to substantial design and distribution differences that prevent institutional credit from reaching a wider swathe of geographies and may actually be a factor in holding back growth.

3.6 Impact of Global Crisis on Indian Economy

The effect of the global crisis has been transmitted through three distinct channels to the Indian economy, namely, the financial sector, exports and exchange rates. The financial system including the banking sector, stock markets, foreign commercial borrowings and remittances did not remain unscathed though, luckily, the Indian banking sector was not excessively exposed to the subprime crisis. Just one of the larger banks, ICICI, had been partially affected but managed to thwart a crisis due to the government's solid balance sheet and prompt intervention, which effectively guaranteed its deposits. The stock markets have seen an index fall of nearly 60 percent and a wiping-off of about USD 1.3 trillion in market capitalization since January 2008 when the Sensex peaked at around 21,000. It is largely attributed to the international portfolio investors withdrawing some USD12 billion from the market between September and December 2008. Global creditors removed the assets to

boost their parent corporations 'balance sheets. Export credit has essentially dried up, both for export financing and medium-term loans from international banks. These had to be replaced with domestic bank credit lines but at higher interest rates and caused the Rupee to depreciate increasing the cost of existing foreign credits. Eventually, although the latest figures are not yet available, remittances from overseas Indians have reportedly declined as oil-producing economies in the Gulf and West Asia are starting to suffer from a decline in oil prices. The second transmission to the Indian economy of the global downturn has been through the sharp decline in demand for India's exports in its major markets. The first sector to be hit was the gems and jewellery which felt the impact in November itself and where more than 300,000 workers have lost their jobs. The first sector to be affected was the jewelry and gems that felt the impact in November itself and where over 300,000 employees lost their jobs. Many export-oriented industries have also offset the negative effect of garments and textiles, footwear, handicrafts, and auto parts. The February 2009 export decline of 21 per cent is the steepest export decline over the last two decades. Exports are unlikely to recuperate during this year. Although exports of goods and services constitute just about 22 per cent of Indian GDP, Its multiplier impact on economic activity is very significant, because the value of imports is not as high as, for example, for Chinese exports. Hence, this year's export downturn would bring down the rate of GDP growth.

The third transmission mechanism is the exchange rate, as the Rupee has been placed under pressure with the outflow of portfolio investments, higher demand for foreign exchange by Indian businessmen trying to substitute external commercial borrowing with domestic funding, and the consequent fall in foreign reserves. This is likely to continue as the current account will remain in deficit and the capital account, which in the second and third quarters of 2008-09 was in deficit, does not produce the surplus needed to offset the current account deficit. This will mean further curtailment of foreign reserves and further downward pressure on the exchange rate. Nonetheless, with foreign exchange reserves standing at 110 per cent of total external debt at the end of December 2008, short-term investment expectations should not be unduly affected. The Rupee's exchange rate has partly depreciated nearly 25 per cent.

Nullified the gains of declining global oil and gas prices, and rising commercial borrowing costs. The weaker Rupee will encourage our exporters, and with imports falling as sharply

as exports, the country's trade deficit can actually improve in the short run and the balance of the external sector will remain stable and present no major policy problem.

Overall, it would be fair to say the timing of the external shock from the slowdown in the global economy was very unfortunate. Coming right on the heels of a policy-induced downturn in economic activity, its initial effects, as reflected in GDP growth dropping to 5.3 percent in the third quarter and the sharp decline in exports, may have been exaggerated. This negative effect has been ameliorated to some degree by both the RBI and the central government's rapid policy response. By cutting the CRR, raising the SLR, and unwinding the MSS, the RBI has injected around USD 80 billion as additional liquidity. The RBI has also indicated its expansionary preference by cutting its repo rate from nine to five per cent in less than six months, by lending funds to commercial banks. The reverse-repo rate was also reduced to 3.5 per cent to deter banks from overnight parking with the RBI funds. From November 2008 through February 2009, three fiscal stimulus were announced. Those constitute roughly 1.3 per cent of GDP. Nevertheless, we can also add to these stimulus packages the fiscal outlay of steps reported in the February 2008 Budget 2008-09. This included a range of steps that indicated a strong transfer of buying power to the farmers and to the rural sector. These included waivers of farm loans, funds allocated to the National Rural Jobs Guarantee Scheme (NREGS), Bharat Nirman (targeted at improving rural infrastructure), the Rural Road Program of the Prime Minister, and a substantial increase in subsidies due to fertilizers and electricity supplied to the farmeINR All these steps, taken more from political considerations and not in reaction to the global crisis, have nevertheless helped to shore up rural demand for both long-lasting and non-sustainable products. (Dhal, Kumar, & Ansari, 2011)

3.7 A study regarding NPA on SBI, IDBI and PNB

According to RBI's 2017 annual results, public sector banks now have a dominant role in terms of enterprises. As at 31 March 2017, they contributed to 70.5 percent of reserves, 73.9 percent of deposits, 72.7 percent of advances and 69.9 percent of all planned commercial banks 'investments. The 21 nationalized banks 'had 85018 branches throughout the country. In recent years' regional rural banks have been set up in different parts of the country to meet

the credit needs of weaker sections, craftsmen, small and marginal farmers, etc. Their branches were numbered to 24,524 on 30 June 2017.

Public sector banks (PSBs) in India have made major contributions to nearly all Indian economy sectors such as agriculture, various category manufacturing, trade, employment, and infrastructure. The ever-increasing trends in deposits and credits are indicative of bank success in India. Of over INR 7573085 crores as deposits and over INR 5237045 crores as loans on March 2017, the heights of the Indian economy are regulated by the public sector banks.

However, Non-Performing Assets (NPA) has been a major problem in credit portfolios in PSBs over the last two decades. NPA not only affected banks 'competitiveness and profitability but also harmed the Indian banking reputation and drain on the society's valued network. Consequently, the all-round cry is over the amount of NPA that rose to an unprecedented level above INR 330322 crores in March 2017 and this was triggered primarily by the borrowers 'wilful defaults. (RBI, 2017-18)

3.7.1 Impact of NPA on public sector banks' (2015-16 to 2016-17)

During this time the quality of the assets in PSBs has declined. Doubtful-3 assets declined badly as 86.77 percent from INR 53370 crores to INR 99681 crores, followed by Doubtful-2 assets as 73.84 percent from INR 366671 crores to INR 637426 crores, Doubtful-1 assets as 34.87 percent from INR 384113 crores to INR 518077 crores, Loss assets as 13.87 percent from INR 46617 crores to INR 53087 crores and Substandard assets as 0.87 percent from INR 46509 crores.

Accordingly the situation of the NPA has become more appalling. Gross NPA increased as 20.02% from INR 519778 crores to INR 623867 crores, Gross NPA %) (Increased as 2.81% from 9.51 to 12.32, Net NPA increased as 17.79% from INR 280419 crores to INR 330322 crores, Net NPA%) (Increased as 1.62% from 6.08 to 7.7. Provisions for NPA were increased as 6.48 per cent from INR 143110 crores to INR 152386 crores because of these bad loans. All of this hindered the overall functioning of PSBs as a credit-deposit ratio (percent) decreased by -3.31 percent from 79.9 to 70.59, gross advances decreased by -4.15 percent

from INR 5464223 crores to INR 5237045 crores, net interest income decreased by -7.42 percent from INR 457790 crores to INR 423802 crores, net interest income (percent) decreased by -0.85 percent from 8.25 to 7.4, Net interest margin (%) reduced as -0.06% from 2.34 to 2.28, Yield average on advances (%) diminished as -0.74% from 10.23 to 9.49, Average return on assets (%) declined as -0.15% from 0.24 to 0.09.

Overall, due to these negative impacts, overall PSB expenditure increased by 2.46 percent from INR 622502 crores to INR 637823 crores, adversely impacting the income per employee as INR -0.51 lakes. Net income, however, has increased from INR-16133 crores to INR 3435 crores as 121.29 percent, but keeping in mind these large transactions made by these 21 public sector banks, such a low cumulative net profit is not appropriate and this shows a image of bad impacts of NPA on public sector banks in India.

3.7.2 Impact of NPA on Punjab National Bank (2015-16 to 2016-17)

The Bank's performance was very comfortable compared to other banks in the public sector, as it was effective to maintain the NPA at desired rates. However, the bank had gross NPA (percentage) during 12.53 percent and during this time it was higher than the average PSBs of 12.32 percent compared to Net NPA (percentage) which was higher than the average PSBs of 7.7 percent in 2016-17.

Net interest income decreased by -0.31 percent (PSBs -7.42 percent) during this time, net interest income (percent) decreased by -0.95 percent (PSBs -0.85 percent), credit-deposit ratio (percent) decreased by -7.08 percent (PSBs-3.31 percent), net interest margin (percent) decreased by -0.22 percent (PSBs -0.06 percent) and yield rate (percent) decreased by advances. It all represents the NPA's poor effect on Punjab National Bank's operations.

3.7.3 Impact of NPA on IDBI (2012-13 to 2016-17)

The Net Profit of IDBI Bank can be seen to have declined drastically. In the year 2012-13 its Net Profit was INR 1,882 crores and its profits has drastically declined since then at a rate of -40% in the year 2013-14, - 22% in the year 2014-15 and -520% in the year 2015-16 which amounted to INR -3,665 crores which is the biggest loss over the 5 years of study.

The compound growth rate of -354% shows how much loss has been caused due to improper management of NPAs.

Since 2012-, the Gross NPA has shown an upward trend from INR 6,450 to INR 44,753 crores in 2016- at a compound growth rate of 883%. This can be seen, as compared with Total Advances that it was in a growing pattern from 2 percent in 2012- to 13 percent in 2016-. This indicates that the number of defaulters has risen from 2/100 to more than 1/10 in the study year. Compared to Net Income, it can be seen that it has been in a rising pattern from 343 percent in 2012- to -868 percent in 2016-. This indicates that NPAs have affected profitability.

Since 2012-, the Net NPA shows an upward trend from INR 3,100 to INR 25,206 crores in 2016- at a compound growth rate of 766%. It can be seen, as compared with Overall Advances that it was in a growing pattern from 3 percent in 2012- to 23 percent in 2016-. It indicates that the number of defaulters has risen from 3/100 to more than 1/5 in the study year. According to Net Profits, it can be seen that the trend from 165 per cent in 2012- to -489 per cent in 2016- has been growing. This shows that NPAs have impacted profitability.

From the above data we can see the IDBI Bank's downward results. We can see that overall advances have increased since 2012-13 but have been reduced in 2016-17 due to the bank's steps to reduce its NPAs. It can be seen that since 2012-13, Net Profits have been gradually decreasing, which indicates that bank performs poorly and is dropping dramatically on a consistent basis. Both Gross NPA & Net NPA are rising sharply indicating a decline in performance due to bank mismanagement.

3.8 Liberalization of Interest Rates

Interest rate liberalization was one of committee's key recommendations. Since interest rates were the key source of income for banks to properly address the same would help increase the banks 'operating performance. In October 1994, the lending limit for loans exceeding INR 200,000 which represents over 90 percent of total advances was abolished. At the same time, banks were expected to announce a prime lending rate (PLR) which, according to RBI guidelines, would have to take into account the cost of funds and transaction costs. For the

remaining advances, interest rates up to INR 200,000 can be set freely so long as they do not exceed the PLR. (RBI, 2004)

On the deposit side, the prices of all term deposits have been completely liberalized, accounting for 70 per cent of total deposits. Liberalization of the deposit rate began in 1992 by first setting a maximum cumulative limit for term deposits. From October 1995, interest rates were liberalized for term deposits with a two year maturity. The minimum maturity was eventually reduced to 15 days in 1998, from two yea INR in 1997, the term deposit rates were fully liberalised. As of 2004, the RBI set only the savings rate and the Indian non-resident deposit rate. Banks are free to set their own interest rates on all other deposits over 15 days. (RBI, 2004)

3.9 Inflationary tendencies, employment and core sector output:

Annual inflation rate: Inflation is an economic concept that refers to a situation where the prices of goods and services within a given economy are typically increasing. Annual inflation rate is the rate at which prices increase over a year, resulting in a fall in the value of money purchased.

Evaluation of it provides link for Indian SCBs between macroeconomic variables and GNPA (Gross Non-Performing Asset). This shows that GNPA has a negative association with the rate of GDP growth and annual rate of inflation. Yet GNPA correlates favorably with the unemployment rate and real interest rate. M.B. (Saikrishna, 2020)

Saikrishna's Correlation study shows that GNPA declines as GDP growth and annual inflation rate rises and vice versa. GNPA will also rise as unemployment rate and real interest rate increase. It is a simple indication of the link between the different macroeconomic determinants and the amount of GNPA. (Saikrishna, 2020)

Maintenance of price stability, described as low and stable inflation, is the best way to contribute to sustained, fast growth through monetary policy. It is now recognized, in the wake of the recent global financial crisis, that price stability may not, however, guarantee financial stability. Although price stability is a prerequisite, the financial stability is not a

sufficient condition. But price stability remains a crucial prerequisite for financial stability and development. (Kapur, 2012) (Director, Monetary Policy Department, Reserve Bank of India)

High inflation has negative effects on growth in a number of ways. Firstly, high inflation results in uncertainty that affects investment and development. Investment decisions, as they are, are subject to a great many uncertainties. High and unpredictable inflation adds to those risks further. Second, high inflation makes bank deposits less attractive, and promotes investment in real assets and speculative activities, resulting in savings being redirected away from traditional sources of financial savings such as bank deposits. Such innovations result in reduced financial savings. High inflation therefore has a detrimental effect both on savings and on investment. Finally, high inflation in emerging economies like India, with high rates of poverty, has a particular more extreme effect on poor and other marginalized segments of the population. And from a variety of viewpoints low and steady inflation is desirable. (18) (Kapur, 2012)

Therefore, low and stable inflation remains a primary monetary policy priority for central banks, be they targeting inflation or otherwise. But it is very difficult to maintain low and steady inflation. It is well-known that lagging production and prices influence monetary policy, which are both long and complex. Monetary policy must also be forward-looking, i.e. monetary policy must function today in expectation of potential growth and the pace of inflation. Growth and inflation forecasts therefore play a critical role in monetary policy behavior and formulation, and their ultimate performance in maintaining price stability. This, in effect, relies on modeling performance and forecasting inflation and growth.

In India, low and stable inflation, alongside development and financial stability, remains a key priority of monetary policy. However, inflation dynamics in emerging economies such as India are relatively more complex than developed economies provided frequent supply shocks and large weights of volatile components such as food products in the various price indices. That makes inflation more difficult to model and forecast in countries like India.

Inflation in India has remained persistently strong since the beginning of 2010, with headline WPI rising from 9-10% to October 2011, well above its average of about 5% reported in the

2000s. Inflation of non-food manufactured goods, a indicator of underlying inflation, also rose during 2011 and moved in a range of 7-8 per cent during 2011. (Kapur, 2012)

4. Practical Part

The study was conducted on the basis of four major objectives and the hypothesis developed on those. Statistical tools were used to analyse the collected time-series secondary data. The inference was drawn by comparing significance value of the test performed. This segment of the thesis has included the analysis of each of those. The analysis was executed through both graphs and statistics, as required.

4.1 Objective-1

To analyse the impact of loans from organised sector on gross output in India.

Table 3 GDP vs. Bank Loans in India (2013-19) (in crores)

Scheduled Commercial Bank Loans vs GDP (in Crores)		
Year	Bank Loans	GDP
2009	23139.92	4516071
2010	28925.27	4918533
2011	33521.01	5247530
2012	44258.48	8106946
2013	48907.83	8546275
2014	50948.27	9063649
2015	63916.76	9719023
2016	64835.62	10490514
2017	62296.16	11185440
2018	69124.36	11871320

Source: Reserve Bank of India, table prepared by the researcher

Table 4 Credit vs. GDP India (2010-19)

Credit vs GDP India (2010-19)									
Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17^	2017-18	2018-19

Credit-GDP Ratio$	51.6	52.8	52.9	53.4	52.4	52.6	51.0	50.5	51.4

Source: Reserve Bank of India, table prepared by the researcher

Figure 4 Credit -GDP ratio-India
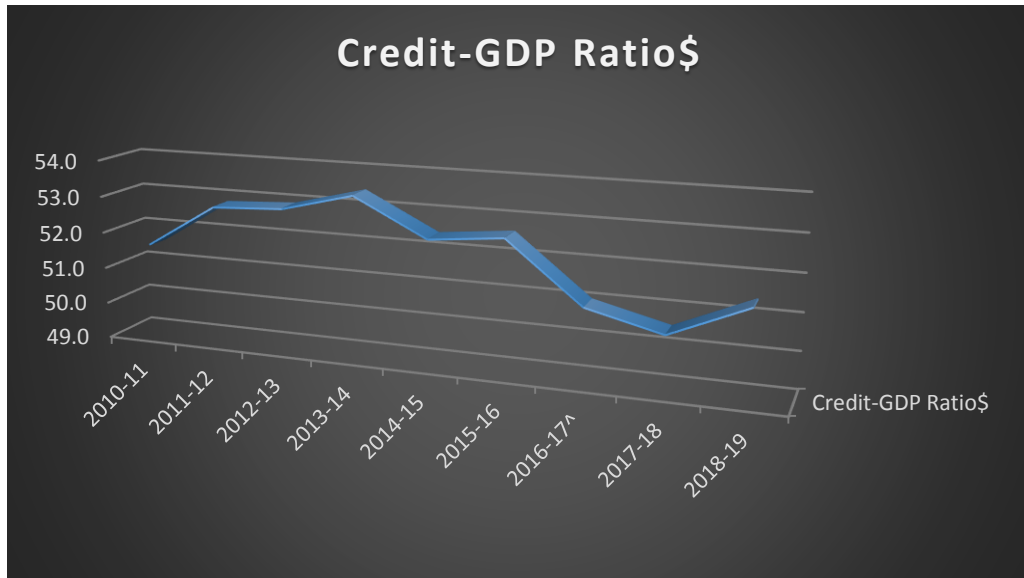
Source: Reserve Bank of India, chart prepared by the researcher

Interpretation: Table-4, figure-4 depicts that the credit GDP ratio in India is a fluctuating trend. It was revealed that the ratio was almost rising till 2013-14. Then with continuous fluctuations it seems to be falling till 2017-18. However, in the recent times is was observed to be recovering.

Figure 5 GDP vs. Bank Loans in India (2013-2019) (in 'Crores)
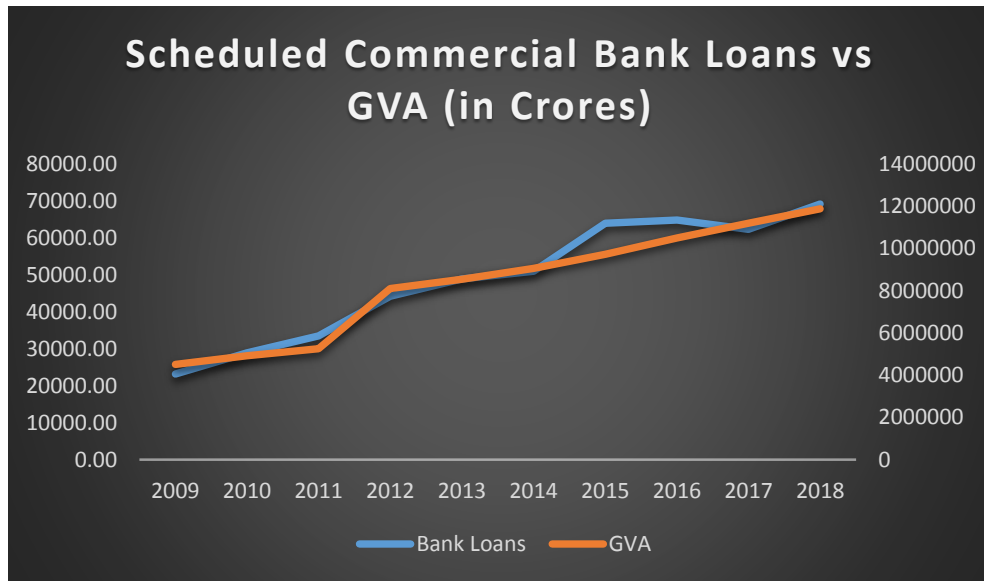
Source: Reserve Bank of India, chart prepared by the researcher

H0: There is no significant impact of Bank Loans on Gross Domestic Product in India.

H1: There is a significant impact of Bank Loans on Gross Domestic Product in India.

Explanation for the Test:

The stated objective is to analyse the impact of variable 'Bank loans' on the country's GDP. In order to do so linear regression test is performed on the sample of size 10, it is further analysed with the help of SPSS software. Assumptions to check whether regression model fits or not, collinearity diagnostic was observed for its tolerance and accordingly, a suitable regression statistic is run.

Table 5 Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation	N
GVA	8366530.1000	2658297.23529	10
Bank Loans	48987.3680	16304.99803	10

Table 6 Correlation Matrix

Correlations

		GDP	Bank Loans
Pearson Correlation	GDP	1.000	.978
	Bank Loans	.978	1.000
Sig. (1-tailed)	GDP	.	.000
	Bank Loans	.000	.
N	GDP	10	10
	Bank Loans	10	10

Table 7 Variables taken under study- Bank loans and GDP

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Bank Loans[b]	.	Enter

a. Dependent Variable: GDP

b. All requested variables entered.

Table 8 Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.978[a]	.956	.951	589722.54153	2.025

a. Predictors: (Constant), Bank Loans

b. Dependent Variable: GVA

Table, shows R value as 0.978, which is showing a positive and very strong correlation between the said parameters. However, Durbin Watson test was also conducted, and autocorrelation was found to be more than 2, which indicates that the values are negatively auto correlated and hence it can be said that there is an inverse relationship between previous year's GVA and Bank loans in India.

Table 9 ANOVA Table- (Bank Loans and GDP)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60816716312483.900	1	60816716312483.900	174.875	.000[b]
	Residual	2782181407953.007	8	347772675994.126		
	Total	63598897720436.910	9			

a. Dependent Variable: GDP

b. Predictors: (Constant), Bank Loans

Interpretation: The table above depicts that the significant value p is less than 0.05, hence it is found that null hypothesis is rejected, however, alternative hypothesis is accepted. Which clearly indicated that the

Table 10 Coefficients-Bank Loans and GDP

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	Collinearity Statistics

		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	556484.230	619338.214		.899	.395	-871712.253	1984680.713		
	Bank Loans	159.430	12.056	.978	13.224	.000	131.628	187.231	1.000	1.000
a. Dependent Variable: GDP										

Regression Model: $y = b_0 + b_1 x + e$

Here, b_0 = 556484.230

b_1 = 159.430

x - Independent variable (Bank Loans)

y - Dependent variable (GDP)

$y = 556484.230 + 159.430x$

Thus it can be observed that the value of GDP is 556484.230 plus 159.430 times of bank loans.

Table 11 Collinearity Diagnostics- Bank Loans and GDP

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Bank Loans
1	1	1.954	1.000	.02	.02
	2	.046	6.488	.98	.98
a. Dependent Variable: GDP					

Table 12 Residual Statistics-Bank Loans and GDP

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4245677.0000	11576967.0000	8366530.1000	2599502.43770	10
Residual	-1027696.93750	697091.93750	.00000	555995.74418	10
Std. Predicted Value	-1.585	1.235	.000	1.000	10
Std. Residual	-1.743	1.182	.000	.943	10

a. Dependent Variable: GDP

Interpretation: As revealed from the above table that the significance level is less than 0.05, it found that there is a significant impact of GDP on bank loans in India. Moreover, it was also observed that the correlation between bank loans and GDP is 0.985, which is a strong correlation. Hence, there is very strong positive relationship between bank loans and gross output in India.

Sector-Wise GVA India (2011-12)

India is a diverse country with three major core sectors. Contribution of each sector to gross value added was considered as a parameter for the study. The data was collected from Basic statistical returns of Reserve Bank of India for the period 2011-2018 respectively.

Table 13 Sector wise VA India (2011-12) (in crores)

Sector wise GVA India (2011-12) (in Crores)					
Year	**Primary Sector**	**Secondary Sector**	**Tertiary Sector**	**Banking and Finance**	**Social Sector**	**Total GVA**
2011-12	1762983	2458558	1413116	1530877	1025982	8106946
2012-13	1786897	2561081	1551143	1680031	1069646	8546275
2013-14	1872305	2741451	1652062	1867407	1110794	9063649
2014-15	1899961	2976344	1800919	2075549	1201143	9719023

2015-16	1941948	3155185	1989161	2298798	1284263	10490514
2016-17 (PE)	2026660	3298102	2143956	2429638	1430002	11185440
2017-18 (FAE)	2072343		2329801	2606602	1564473	11871320

Source: Basic Statistical Tables-RBI, Chart prepared by the researcher

Figure 6 Sector wise GVA India (2011-12)
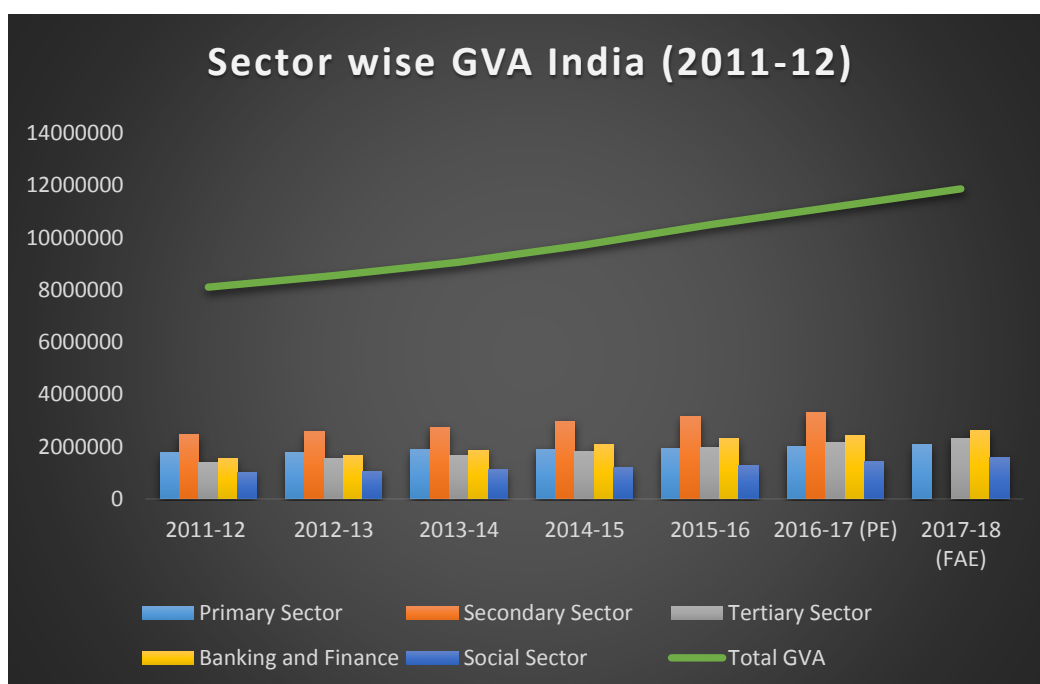
Source: Basic Statistical Tables-RBI, Chart prepared by the researcher

As per table-13 and Figure 6, it was observed that the secondary sector was found to be the highest among all other sectors followed by banking and primary sector respectively. However, the GVA in India is continuously rising annually.

4.2 Objective-2

To understand the relationship between bank loans and inflation in India.

Hypothesis:

H_0: There is no significant relationship between bank loans and inflation in India.

H_1: There is a significant relationship between bank loans and inflation in India.

Consumer price index is considered as ideal measure to calculate inflation in India, hence to identify the annual inflation in India, CPI (Base-2012=100) data was collected. However, to compare it with Bank loan growth rates, difference between two consecutive CPI values were taken for the study. This is then compared with bank loans through graphical method. Graphs were plotted by the researcher on MS-excel.

Table 14 CPI Annual Growth Rate vs. Bank Loans India

CPI Annual Growth rate vs. Bank Loans		
Year	**Bank Credit**	**CPI Growth**
2012-13	14.1	9.2
2013-14	13.9	9.7
2014-15	9.0	6.65
2015-16	10.9	5.85
2016-17^	4.5	5.625
2017-18	10.0	4.675
2018-19	13.3	4.6

Source: RBI Data, Table Prepared by the researcher

Figure 7 CPI Annual Growth rate vs. Bank Loans
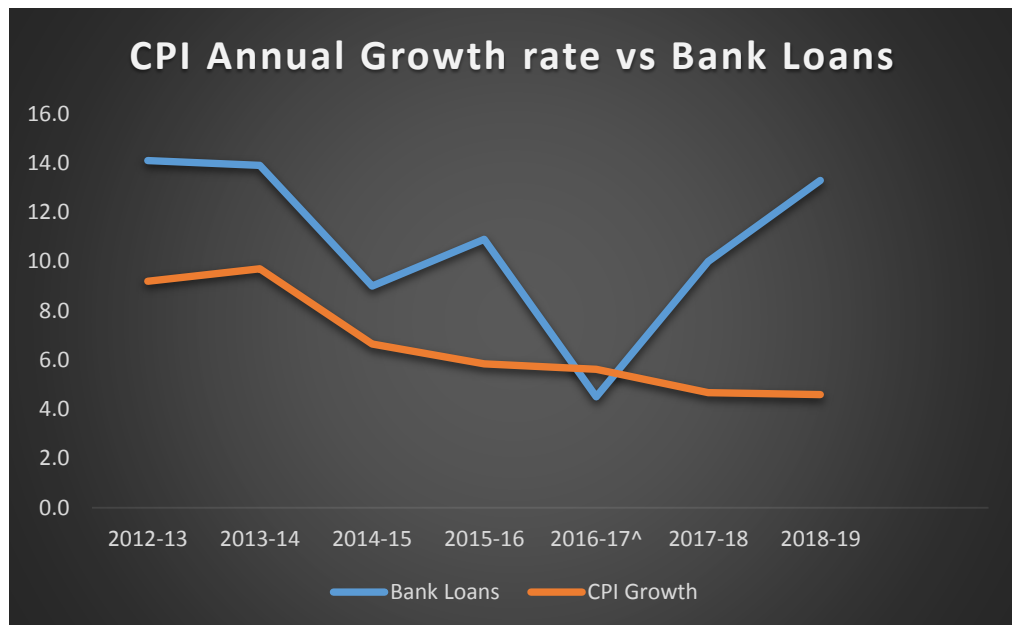
Source: RBI Data, chart Prepared by the researcher

Interpretation: Table-14 and Figure 7 depict that the annual rate of CPI was rising initially and was going in pace with the growth of bank loans. Further, both started falling simultaneously till 2014-15. Then thereafter, bank loans suddenly rose till 2015-16 followed by an abrupt fall in the next year, on the contrary to which CPI was falling slowly and gradually till 2018-19. However, bank loans were fluctuating with fall and rise in the following years respectively. Hence, the percentage growth of inflation was falling with fall in bank loans till 2016-17, but suddenly after that it started rising in contradiction to that CPI was falling gradually.

Table 15 Correlation between Inflation rate and Bank Loan rate

Correlations			
		CPI (2011=100)	Bank Loan Rate
CPI	Pearson Correlation	1	.749[*]
	Sig. (1-tailed)		.010
	N	9	9
Rate	Pearson Correlation	.749[*]	1

Sig. (1-tailed)	.010	
N	9	9

*. Correlation is significant at the 0.05 level (1-tailed).

Interpretation: Table-15 shows the relationship statistics between bank loan rate and rate of rising general prices in India. It was found that the Karl Pearson's correlation coefficient was found to be 0.749, which was a quite good correlation. However, the one tailed significance level was also less than 0.05. Hence, the null hypothesis s rejected and alternative hypothesis was accepted. Therefore, there is significant relationship between bank loan rate and inflation in India.

Bank Loans in India (Scheduled Commercial Banks)

4.3 Objective -3

To observe the role of non-payment of loans on banking institutions performance.

Hypothesis:

H_0: There is no significant difference between Gross Advances and NPA's in India.
H_1: There is a significant difference between Gross Advances and NPA's in India.

Bank Loan Data according to their types:
Priority Sector Loans

A: Public Sector Loans
B: Nationalized Banks
C: Private Sector Banks
D: SBI Group
E: All Scheduled Commercial Banks

The below tables are elucidating the proportion of gross bank loans and its NPAs in various bank types under different heads of Reserve Bank of India's loan categories in India. In order

to simplify it, time-series data for only last five years was taken under consideration. So that it should reflect a clear picture of the current situation in the country.

Table 16 Gross Advances vs NPAs (Priority Sector- Public Sector Bank)

Priority Sector			
Year	Gross Advances	Gross NPAs	Gross NPAs as Per Cent of Total
Public Sector Banks			
2013	12,79,000.00	66,900.00	42.9
2014	15,19,297.93	79,192.41	36.5
2015	16,85,954.00	93,685.00	35.7
2016	18,73,748.00	1,28,116.00	25.5
2017	19,59,915.00	1,54,276.00	24.1

Source: Reserve Bank of India

Figure 8 Priority Sector Loans, (Public Sector Banks) vs. NPAs
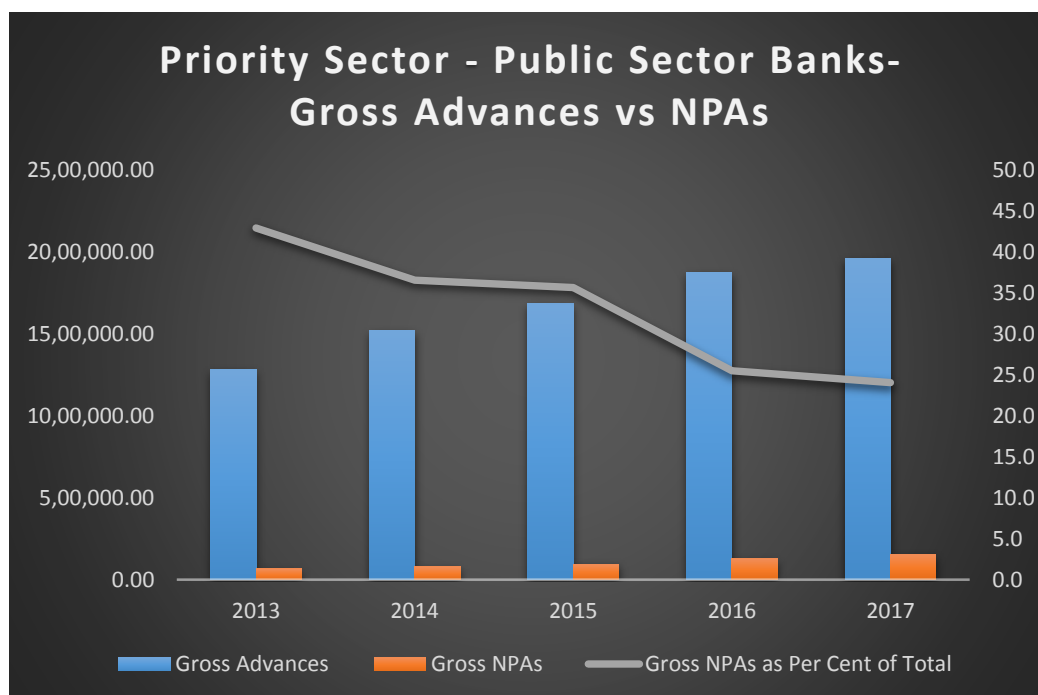
Source: Reserve Bank of India, Chart Prepared by the researcher

Table 17 Priority Sector Loans (Nationalized Banks) vs. NPAs

Priority Sector			
Year	Gross Advances	Gross NPAs	Gross NPAs as Per Cent of Total
Nationalised Banks**			
2013	8,89,100.00	40,500.00	42.2
2014	10,71,141.01	53,043.50	37.7
2015	12,50,658.00	67,961.00	35.4
2016	13,41,772.00	98,869.00	25.5
2017	14,06,151.00	1,24,183.00	26.4

Source: Reserve Bank of India, Table prepared by the researcher

Figure 9 Priority Sector Loans (Nationalized Banks) vs. NPAs

Source: Reserve Bank of India, Prepared by the researcher

Table 18 Priority Sector Loans (SBI Group) vs. NPAs

Priority Sector

Year	Gross Advances	Gross NPAs	Gross NPAs as Per Cent of Total
SBI Group			
2013	3,89,900.00	26,400.00	44.1
2014	4,48,156.92	26,148.91	34.4
2015	4,35,296.00	25,724.00	36.3
2016	5,31,977.00	29,247.00	25.6
2017	5,53,764.00	30,093.00	17.6

Source: Reserve Bank of India, Prepared by the researcher
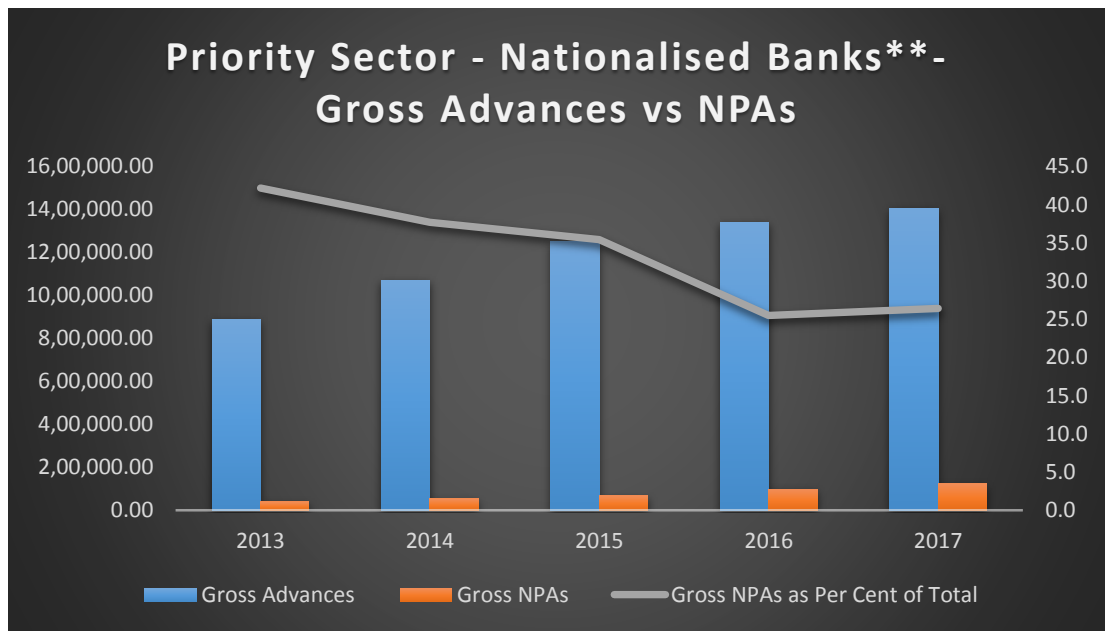
Figure 10 Priority Sector Loans (SBI Group) vs. NPAs
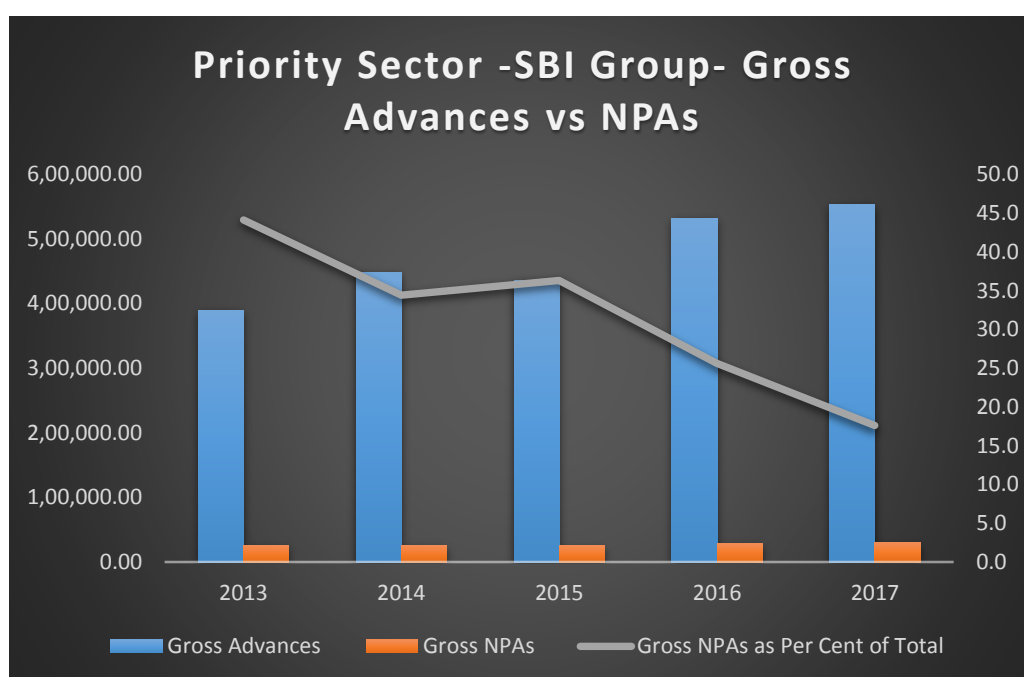
Source: Reserve Bank of India, Prepared by the researcher

Table 19 Priority Sector Loans Private Sector Banks vs. NPAs

Priority Sector			
Year	Gross Advances	Gross NPAs	Gross NPAs as Per Cent of Total

Private Sector Banks		
2013	3,15,700.00	5,200.00	26.0
2014	3,83,055.48	6,054.75	26.6
2015	4,42,762.00	7,211.00	22.8
2016	5,61,977.00	10,139.00	21.0
2017	6,52,004.00	13,293.00	18.0

Source: Reserve Bank of India, Prepared by the researcher

Figure 11 Priority Sector Loans Private Sector Banks vs. NPAs

Source: Reserve Bank of India, Prepared by the researcher

Table 20 All SCBs (Excluding Foreign Banks) vs. NPAs

Priority Sector		
Year	**Gross Advances**	**Gross NPAs**	**Gross NPAs as Per Cent of Total**
All SCBs (Excluding Foreign Banks)			
2013	15,94,700.00	72,100.00	41.0
2014	19,02,353.41	85,247.16	35.6
2015	21,28,716.00	1,00,896.00	34.3

2016	24,35,725.00	1,38,255.00	25.1
2017	26,11,919.00	1,67,569.00	23.4

Source: Reserve Bank of India, Prepared by the researcher

Figure 12 All SCBs (Excluding Foreign Banks) vs. NPAs

Source: Reserve Bank of India, Prepared by the researcher

Interpretation: Table 16-20 and Figure 8-12 depicts that the amount of gross advances was observed to be rising year on year, however, NPA's are also ascending simultaneously. While, in terms of percentage change, proportion of NPA's with every following year was found to be falling gradually.

Non –Priority Sector

Table 21 Non-Priority Sector Loans (Public Sector Banks) vs. NPAs

Non-Priority Sector			
Year	**Gross Advances**	**Gross NPAs**	**Gross NPAs as Per Cent of Total**

	Public Sector Banks		
2013	27,76,900.00	89,000.00	57.1
2014	30,71,160.45	1,37,546.78	63.5
2015	31,59,315.00	1,69,060.00	64.3
2016	32,08,408.00	3,73,952.00	74.5
2017	31,82,309.00	4,86,780.00	75.9

Source: Reserve Bank of India, Prepared by the researcher

Figure 13 Non-Priority Sector Loans (Public Sector Banks) vs. NPAs

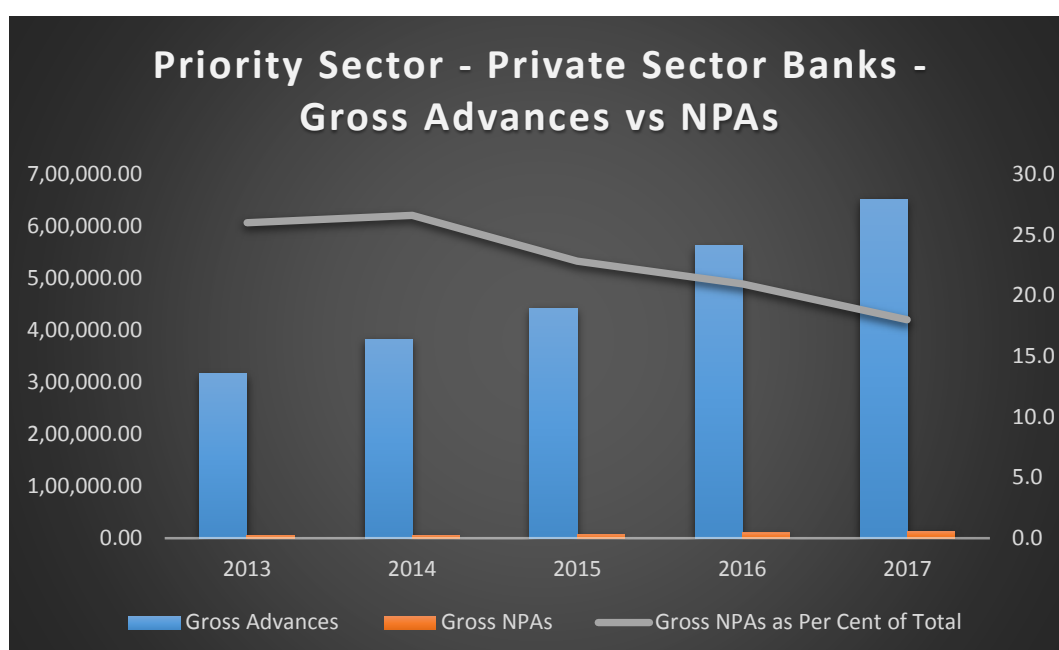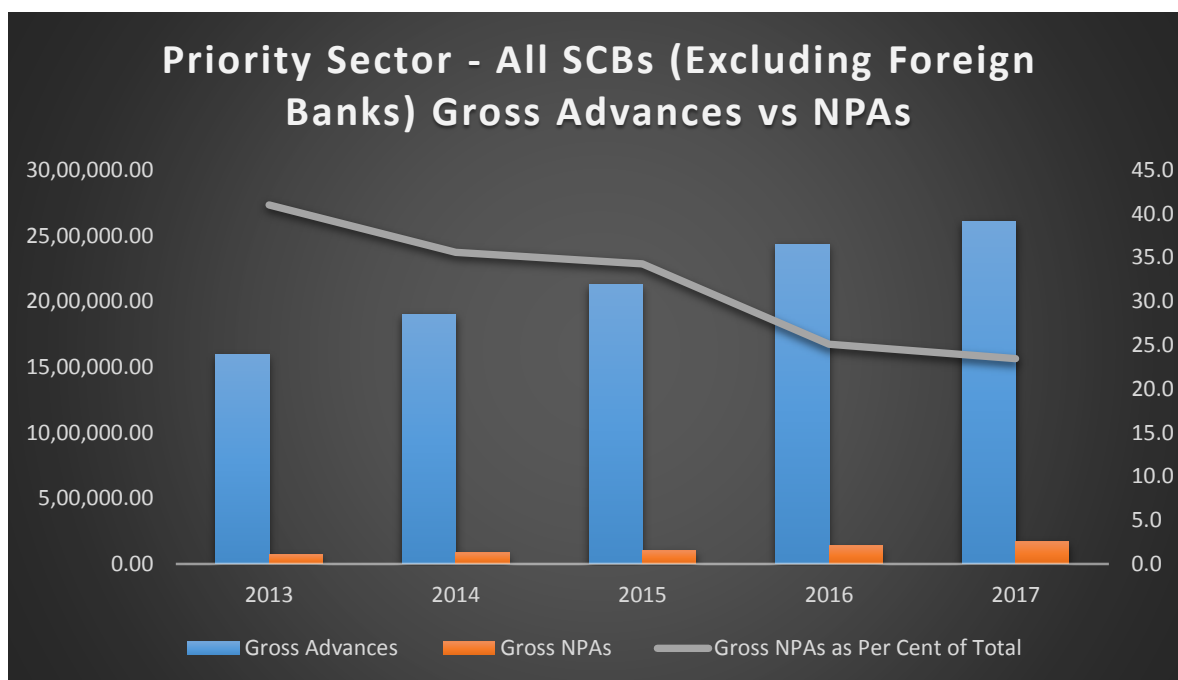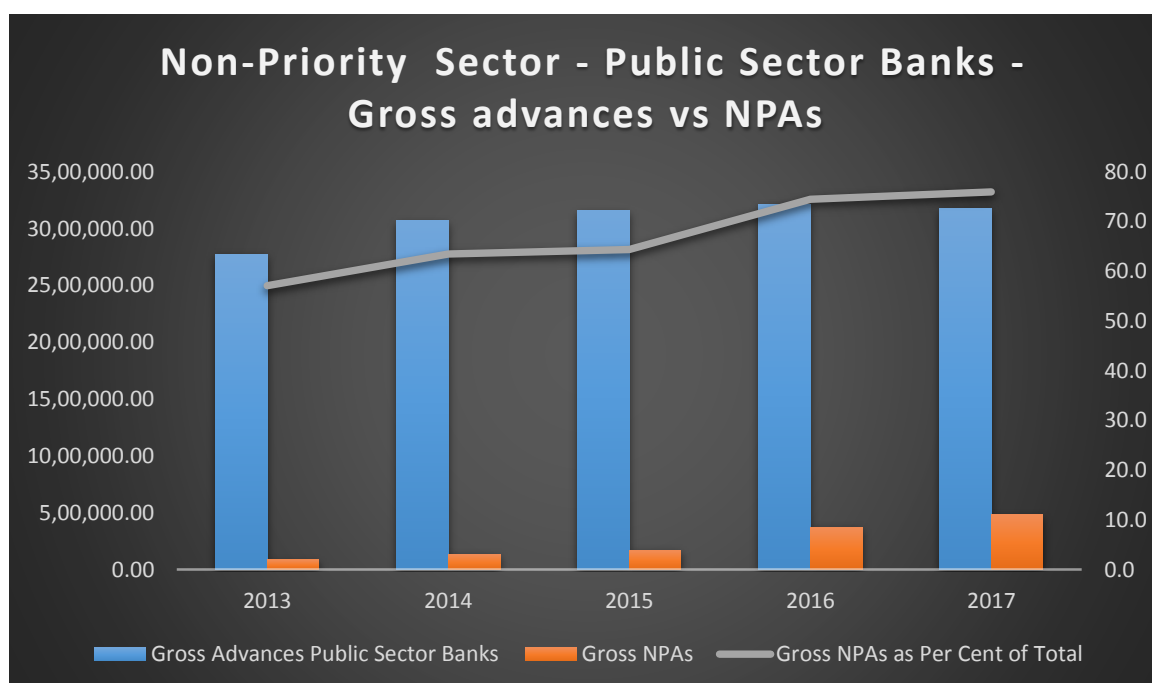Source: Reserve Bank of India, Prepared by the researcher

Table 22 Non-Priority Sector Loans (Nationalized Banks) vs. NPAs

Non-Priority Sector			
Year	**Gross Advances**	**Gross NPAs**	**Gross NPAs as Per Cent of Total**
	Nationalised Banks		

2013	19,17,000.00	55,400.00	57.8
2014	21,24,882.13	87,665.84	62.3
2015	21,71,787.00	1,23,925.00	64.6
2016	21,00,028.00	2,89,016.00	74.5
2017	20,70,361.00	3,45,857.00	73.6

Source: Reserve Bank of India, Prepared by the researcher

Figure 14 Non-Priority Sector Loans (Nationalized Banks) vs. NPAs

Source: Reserve Bank of India, Prepared by the researcher

Table 23 Non-Priority Sector Loans (SBI Groups) vs. NPAs

Non-Priority Sector			
Year	**Gross Advances**	**Gross NPAs**	**Gross NPAs as Per Cent of Total**
		SBI Group	
2013	8,59,900.00	33,500.00	55.9
2014	9,46,278.32	49,880.94	65.6
2015	9,87,527.00	45,135.00	63.7
2016	11,08,379.00	84,936.00	74.4

2017	11,11,948.00	1,40,923.00	82.4

Source: Reserve Bank of India, Prepared by the researcher

Figure 15 Non-Priority Sector Loans (SBI Groups) vs. NPAs

Source: Reserve Bank of India, Prepared by the researcher

Figure 16 Non-Priority Sector Loans (Private Sector Banks) vs. NPAs

Non-Priority Sector			
Year	**Gross Advances**	**Gross NPAs**	**Gross NPAs as Per Cent of Total**
Private Sector Banks			
2013	7,30,900.00	14,800.00	74.0
2014	8,28,675.91	16,689.11	73.4
2015	9,94,577.00	24,365.00	77.2
2016	12,29,704.00	38,241.00	79.0
2017	14,52,876.00	60,549.00	82.0

Source: Reserve Bank of India, Prepared by the researcher

Figure 17 Non-Priority Sector Loans (Private Sector Banks) vs. NPAs

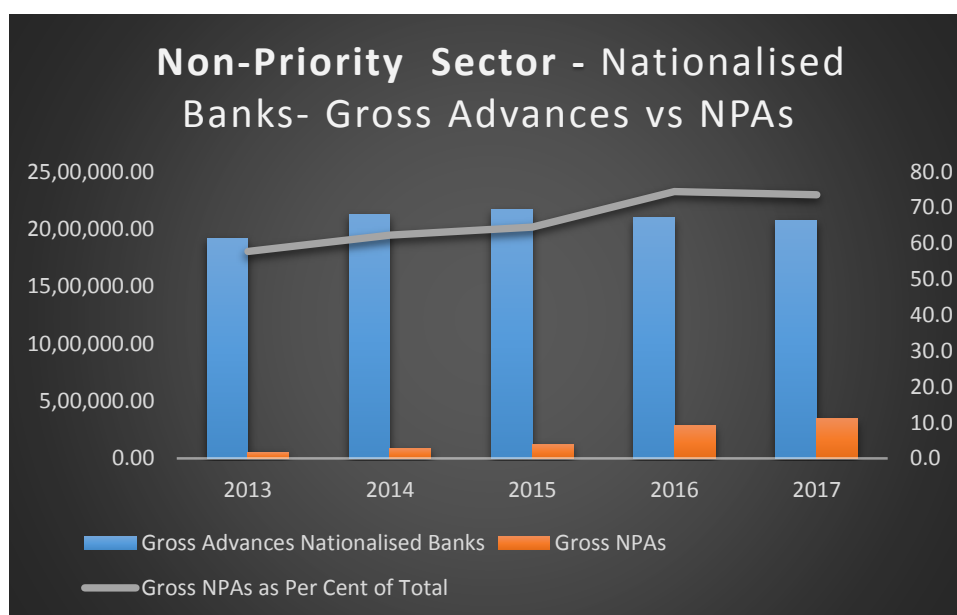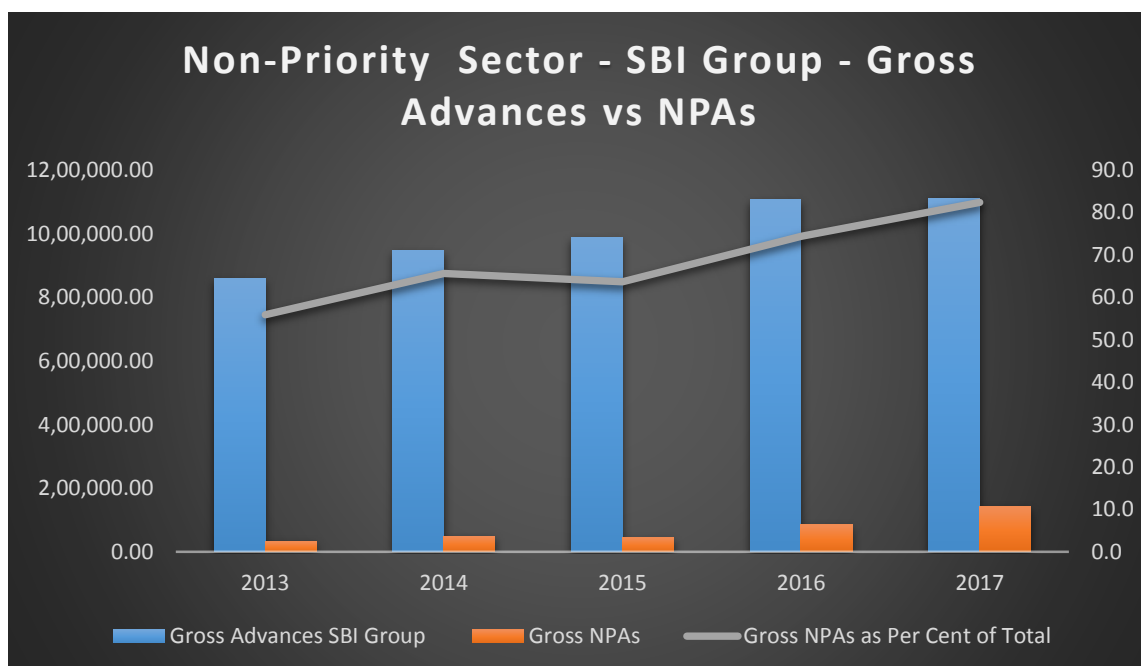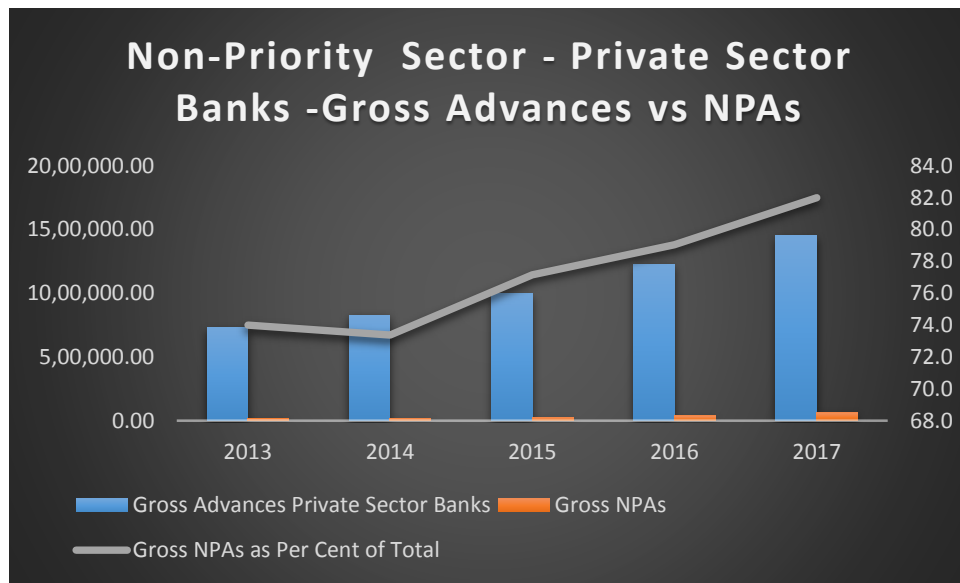Source: Reserve Bank of India, Prepared by the researcher

Table 24 Non-Priority Sector - All SCBs (Excluding Foreign Banks) Gross Advances vs. NPA

Non-Priority Sector			
Year	Gross Advances	Gross NPAs	Gross NPAs as Per Cent of Total
	All SCBs (Excluding Foreign Banks)		
2013	35,07,800.00	1,03,800.00	59.0
2014	38,99,836.36	1,54,235.89	64.4
2015	41,53,892.00	1,93,425.00	65.7
2016	44,38,111.00	4,12,193.00	74.9
2017	46,35,185.00	5,47,329.00	76.6

Source: Reserve Bank of India, Prepared by the researcher

Figure 18 Non-Priority Sector - All SCBs (Excluding Foreign Banks) Gross Advances vs NPA
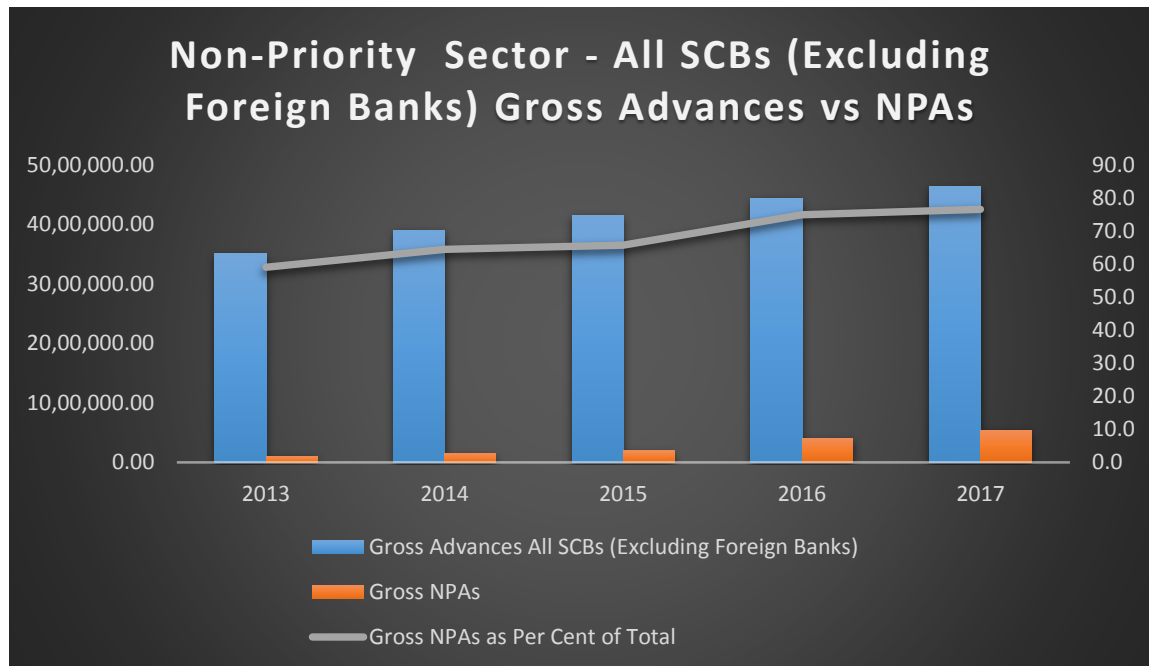
Source: Reserve Bank of India, Prepared by the researcher

Interpretation: Table-21-24, Figure- 13-18, reveals that the amount of gross NPAs were found to be rising with rising advances. However, in contradiction to priority sector lending, non-priority sector lending NPA's percentage with total advances was found to be rising year on year.

Total Bank Loans in India

Table 25 Public Sector Banks- Gross Advances vs. NPAs

Year	Public Sector Banks	
	Gross Advances	**Gross NPAs**
2013	40,55,900.00	1,55,900.00
2014	45,90,458.38	2,16,739.19
2015	48,45,269.00	2,62,745.00
2016	50,82,156.00	5,02,068.00
2017	51,42,224.00	6,41,056.00

Source: Based on off-site returns –RBI Data

Figure 19 Public Sector Banks- Gross Advances vs. NPAs
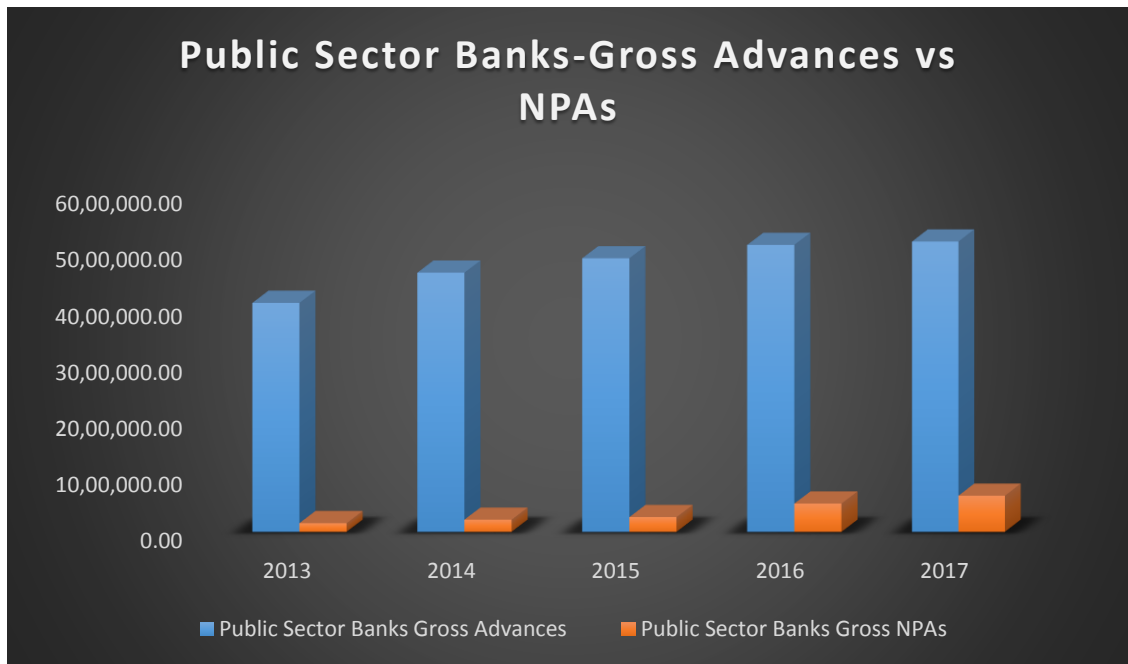
Source: Reserve Bank of India, Prepared by the researcher

Table 26 SBI Group -Gross Advances vs. NPAs

Year	SBI Group	
	Gross Advances	Gross NPAs
2013	12,49,800.00	59,900.00
2014	13,94,435.24	76,029.85
2015	14,22,823.00	70,859.00
2016	16,40,356.00	1,14,183.00
2017	16,65,712.00	1,71,016.00

Source: Reserve Bank of India, Prepared by the researcher

Figure 20 SBI Group -Gross Advances vs. NPAs
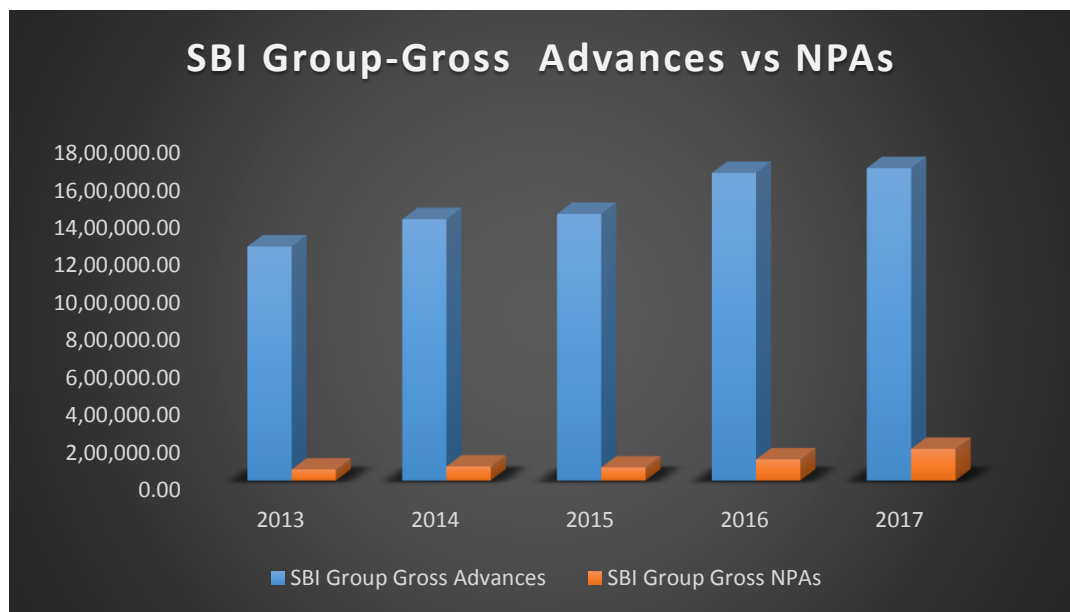
Source: Reserve Bank of India, Prepared by the researcher

Table 27 Private Sector Banks- Gross Advances vs. NPAs

Year	Private Sector Banks	
	Gross Advances	Gross NPAs
2013	10,46,600.00	20,000.00
2014	12,11,731.39	22,743.86
2015	14,37,339.00	31,576.00
2016	17,91,681.00	48,380.00
2017	21,04,880.00	73,842.00

Source: Reserve Bank of India, Prepared by the researcher

Figure 21 Private Sector Banks- Gross Advances vs. NPAs
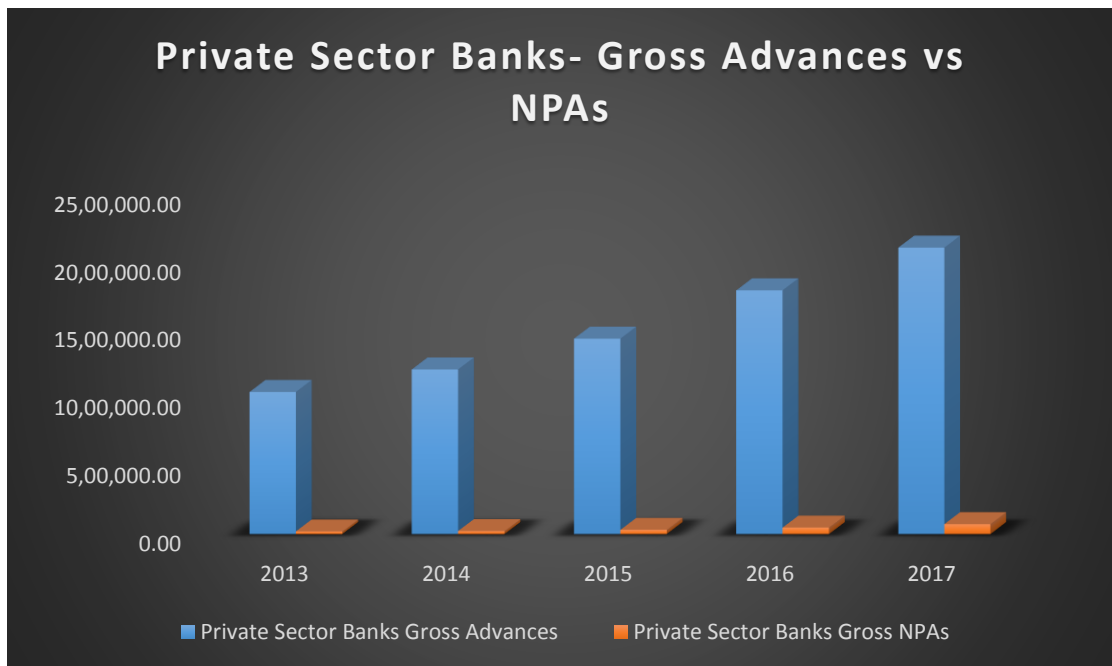
Source: Reserve Bank of India, Prepared by the researcher

Table 28 Nationalized Banks- Gross Advances vs. NPAs

Year	Nationalised Banks**	
	Gross Advances	Gross NPAs
2013	28,06,100.00	95,900.00
2014	31,96,023.14	1,40,709.34
2015	34,22,445.00	1,91,886.00
2016	34,41,771.00	3,87,884.00
2017	34,76,512.00	4,70,040.00

Source: Reserve Bank of India, Prepared by the researcher

Figure 22 Nationalized Banks- Gross Advances vs. NPAs
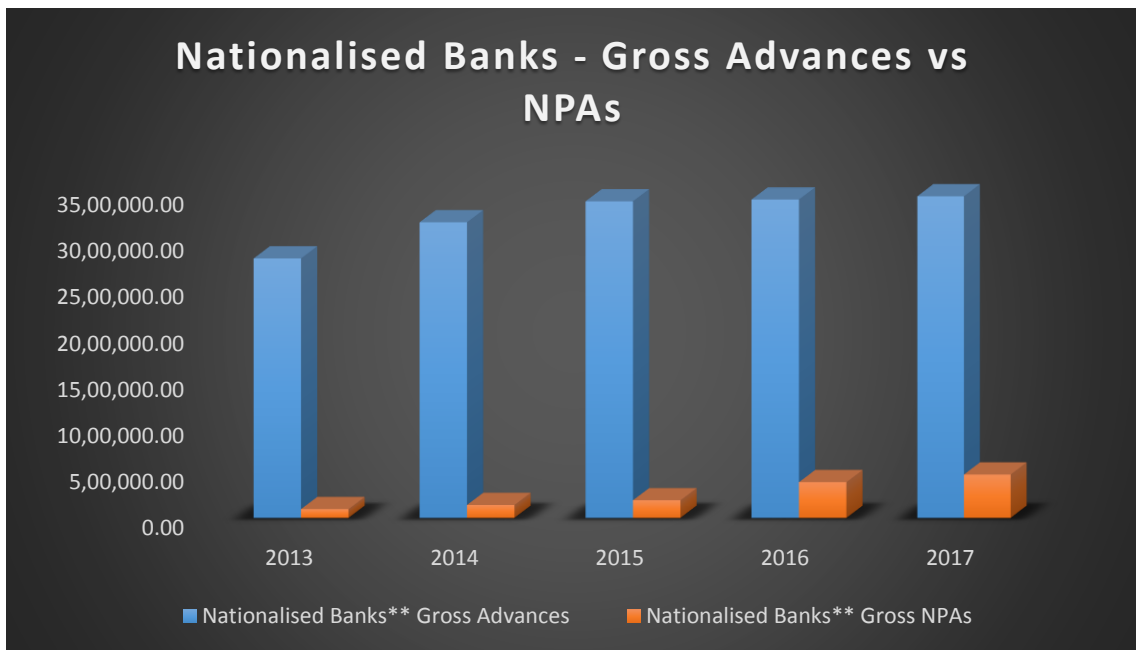
Source: Reserve Bank of India, Prepared by the researcher

Table 29 All SCBs (Excluding Foreign Banks)-Gross Advances vs. NPAs

Year	All SCBs (Excluding Foreign Banks)	
	Gross Advances	Gross NPAs
2013	51,02,500.00	1,75,900.00
2014	58,02,189.77	2,39,483.05
2015	62,82,608.00	2,94,321.00
2016	68,73,837.00	5,50,448.00
2017	72,47,104.00	7,14,898.00

Source: Reserve Bank of India, Prepared by the researcher

Figure 23 All SCBs (Excluding Foreign Banks)-Gross Advances vs. NPAs
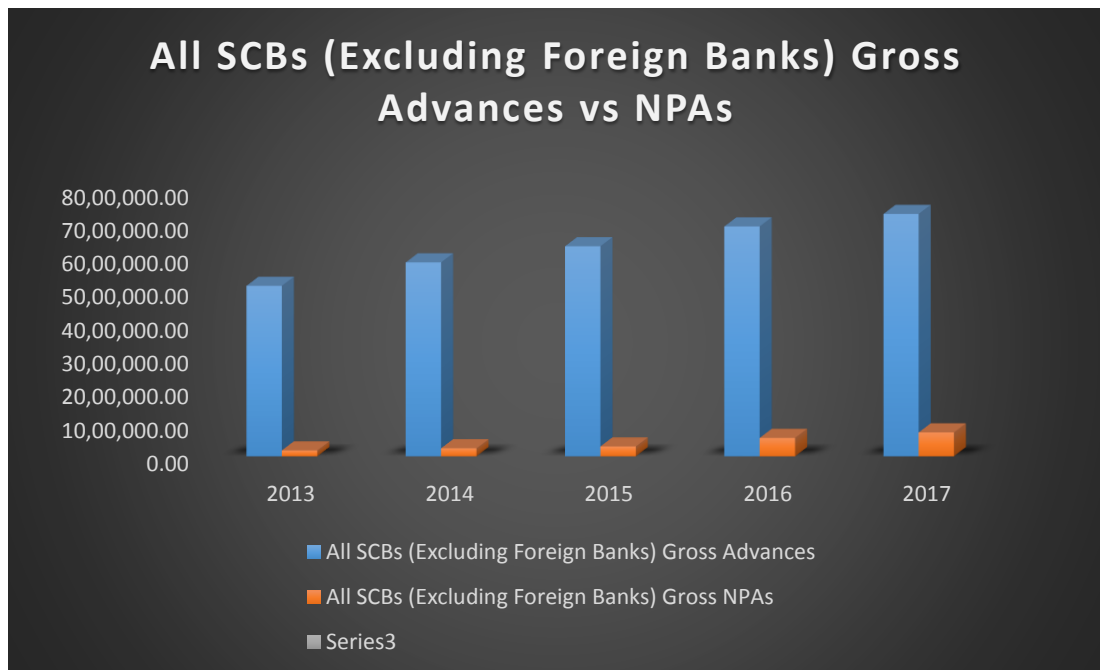
Source: Reserve Bank of India, Prepared by the researcher

Interpretation: In total it was observed that proportion of NPAs to total gross advances was observed to be rising in India. Levitating NPAs with ascending bank loans is a question mark on lending procedure in India, This leads to monitor central government policy measures and hence their implementation.

Hypothesis

H0: There is no significant relationship between gross advances and NPAs in India.
H1: There is a significant relationship between gross advances and NPAs in India.

Explanation to the test: The researcher has performed paired sample t-test, as the samples taken are dependent. The data was taken from RBI portal and it was for 10 consecutive years. The performed test was then inferred with the help of hypothesis testing. The statistical tools were conducted with the help of SPSS and were interpreted accordingly.

Table 30 Gross Advances vs. NPAs in Last 5 years- India (2013-2017)

Gross Advance, Gross NPAs and Gross NPAs to Advances ratios (SCB) (in 'crores)

Year	Gross NPAs	Gross Advances	Gross NPAs to Gross Advances Ratio (%)
2009	69953.75	3024651.79	2.31
2010	81718.11	3262078.80	2.51
2011	93996.88	3995981.51	2.35
2012	136968.30	4648807.80	2.95
2013	192768.80	5971819.89	3.23
2014	263015.17	6875747.91	3.83
2015	322916.12	7560665.84	4.27
2016	611607.45	8171114.24	7.48
2017	790268.00	8476705.25	9.32
2018	1036187.19	9266209.56	11.18

Source: Based on off-site returns (Domestic)-RBI Data

Figure 24 Gross Advances vs. NPAs in Last 5 years- India (2009-2018)
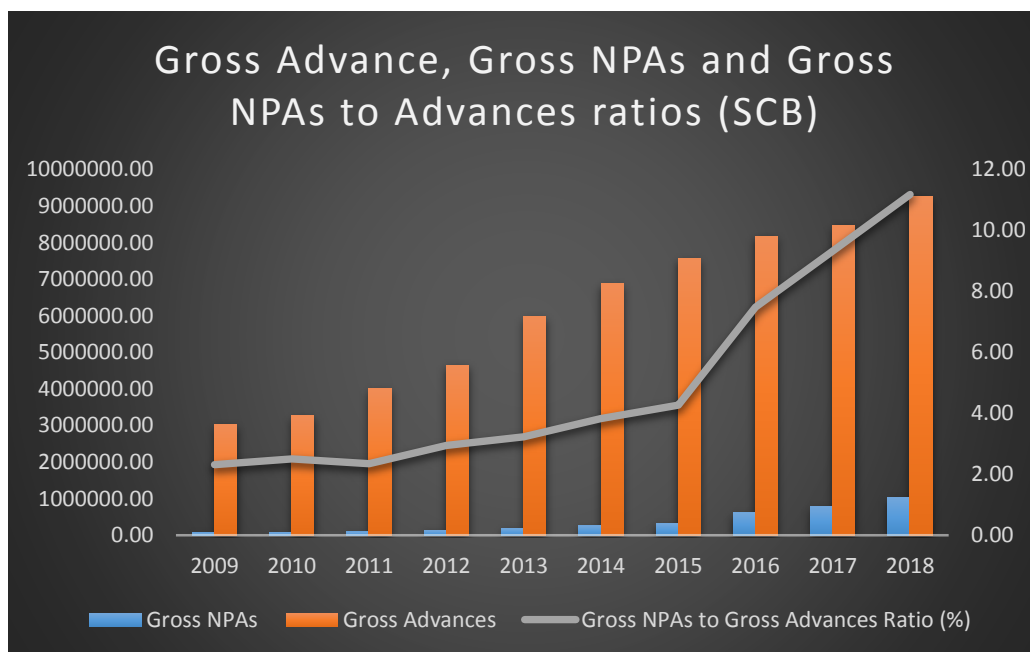
Table 31 Paired Samples Statistics- Gross Advances and NPAs

Paired Samples Statistics			

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Gross Advances	6125378.2590	10	2279202.10387	720746.98961
	Gross NPAs	359939.9770	10	337718.14724	106795.85524

Table 32 Paired Sample Correlations- Gross Advances and NPAs

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Gross Advances & Gross NPAs	10	.887	.001

Table 33 Paired Sample Test- Gross Advances and NPAs

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Gross Advances - Gross NPAs	5765438.28200	1985943.49351	628010.47439	4344779.88905	7186096.67495	9.180	9	.000

Interpretation: The above tables depict the results of the analysis. It shows that the paired sample t-statistics between Gross Advances and NPAs is found to be highly correlated with Karl Pearson's correlation coefficient of 0.887. Further the p value is less than 0.05, hence the null hypothesis is rejected, which leads to accept the alternative hypothesis. Therefore, it was found that there is a significant proportion of NPAs among the gross advances in scheduled commercial banks in India. This is showing a stressed situation in loans in major

proportion of loans in India. Which then delineates a policy intervention towards structural changes in overall credit disbursement system in India.

Figure 25 Gross Advances vs. NPAs in Last five years
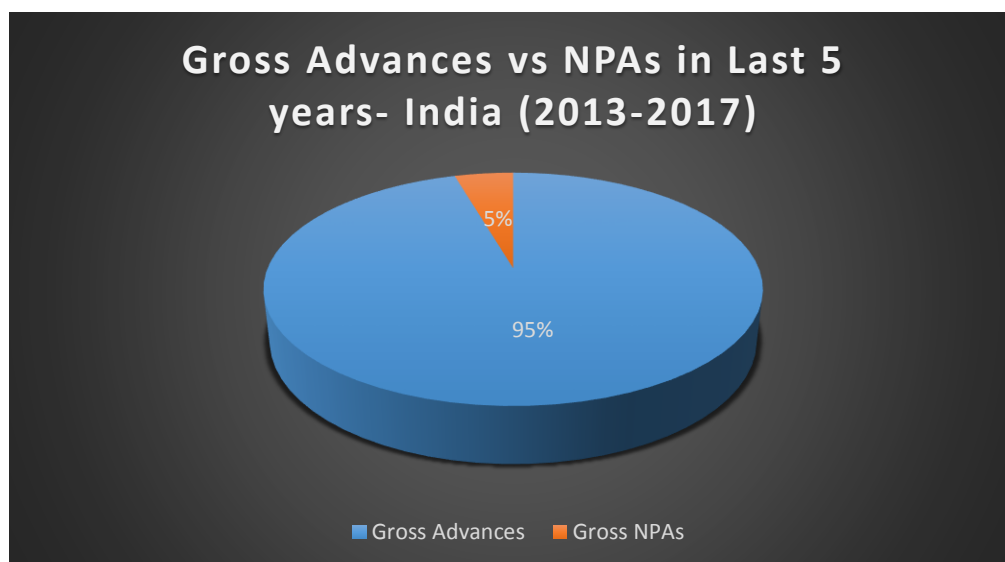
Source: Based on off-site returns (Domestic)-RBI Data, chart prepared by the researcher

Table 34 Paired Samples Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Gross Loans	17266490.9840	5	2136779.70711	955596.93561
	Gross NPAs	815640.9120	5	549201.77472	245610.50033

Table 35 Paired Samples Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Gross Loans & Gross NPAs	5	.923	.025

Interpretation: Table reveals that the Karl Pearson's correlation between Gross Advances and Gross NPAs in India is 0.923, which if found to be very strong positive correlation. Also, as the significance level is more than .05, the null hypothesis is accepted and it was observed that there is a no significant difference between gross advances and Non-performing assets in India. This shows that the percentage of non-performing assets is significant and has to be recovered.

4.4 Objective -4

To find out the effect of bank loans on job creation in India.

Bank loans vs. Job Creation

The analysis was also performed on number of bank employees and is compared with bank loans in India. This was conducted on the data collected from reserve bank of India. The data was collected through only scheduled commercial banks. While, the Cooperative banks, Regional rural banks and Non-banking financial institutions were excluded. The classification of banks was mainly, public sector banks, private sector banks, foreign banks, Small Finance banks. The analysis was performed with the help of graph plotted by the researcher.

Table 36 Bank Employees in India with Bank Types

Year	Bank Name	Total
2018-19	PUBLIC SECTOR BANKS	806983
	PRIVATE SECTOR BANKS	477495
	FOREIGN BANKS	23249
	SMALL FINANCE BANKS	55781
	ALL SCHEDULED COMMERCIAL BANKS	1363508
2017-18	PUBLIC SECTOR BANKS	844163
	PRIVATE SECTOR BANKS	420534

	FOREIGN BANKS	24388
	SMALL FINANCE BANKS	44320
	ALL SCHEDULED COMMERCIAL BANKS	1333405
2016-17	NATIONALISED BANKS	577585
	PRIVATE SECTOR BANKS	403461
	STATE BANK OF INDIA & ITS ASSOCIATES	279915
	SMALL FINANCE BANKS	14179
	ALL SCHEDULED COMMERCIAL BANKS	1300008
	FOREIGN BANKS	24868
2015-16	FOREIGN BANKS	25220
	NATIONALISED BANKS	571908
	PRIVATE SECTOR BANKS	374794
	STATE BANK OF INDIA & ITS ASSOCIATES	284163
	ALL SCHEDULED COMMERCIAL BANKS	1256085
2014-15	FOREIGN BANKS	25572
	NATIONALISED BANKS	561535
	PRIVATE SECTOR BANKS	310043
	STATE BANK OF INDIA & ITS ASSOCIATES	282919
	ALL SCHEDULED COMMERCIAL BANKS	1180069
2013-14	FOREIGN BANKS	24826
	NATIONALISED BANKS	538048
	PRIVATE SECTOR BANKS	294968
	STATE BANK OF INDIA & ITS ASSOCIATES	292439
	ALL SCHEDULED COMMERCIAL BANKS	1150281
2012-13	FOREIGN BANKS	25375
	NATIONALISED BANKS	503122
	PRIVATE SECTOR BANKS	273070

	STATE BANK OF INDIA & ITS ASSOCIATES	**295413**
	ALL SCHEDULED COMMERCIAL BANKS	**1096980**
2011-12	**FOREIGN BANKS**	**25907**
	NATIONALISED BANKS	**494520**
	PRIVATE SECTOR BANKS	**248284**
	STATE BANK OF INDIA & ITS ASSOCIATES	**279809**
	ALL SCHEDULED COMMERCIAL BANKS	**1048520**

Source: Reserve Bank of India, Prepared by the researcher

Figure 26 Bank Employees in India
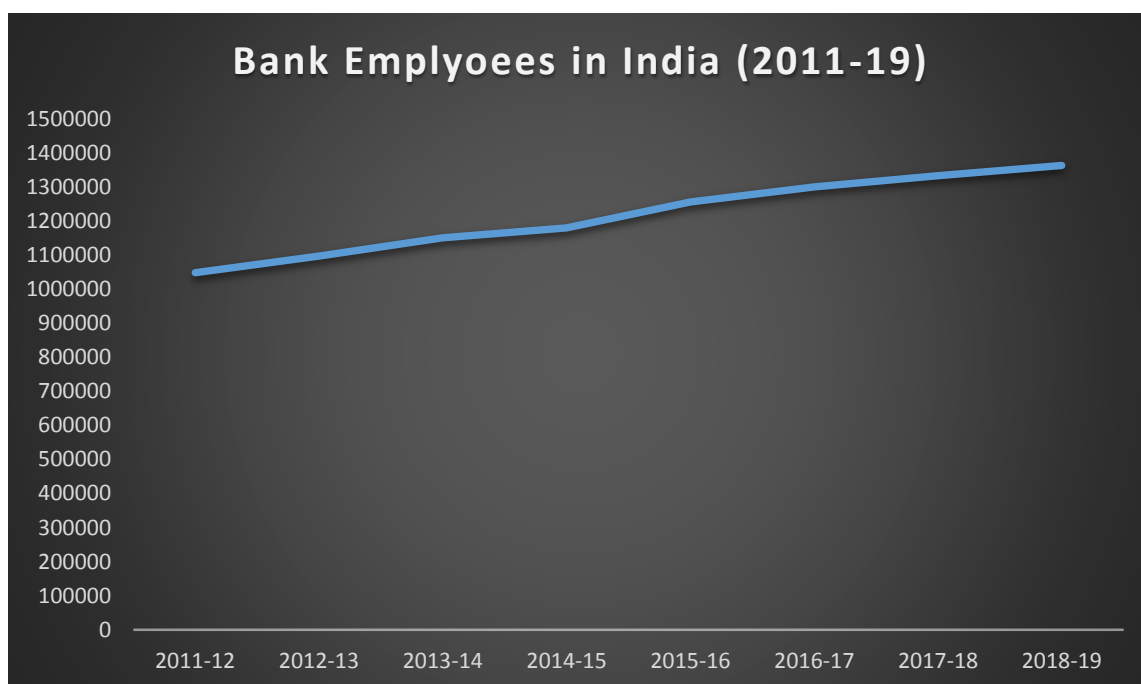
Source: Reserve Bank of India, Prepared by the researcher

Table 37 Bank Employees in India (2013-2019)

Bank Employees in India (2013-2019)						
	Year					
Banks	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
PUBLIC SECTOR BANKS	830487	844454	856071	857500	844163	806983

PRIVATE SECTOR BANKS	294968	310043	374794	403461	420534	477495
FOREIGN BANKS	24826	25572	25220	24868	24388	23249
SMALL FINANCE BANKS			14179	14179	44320	55781
ALL SCHEDULED COMMERCIAL BANKS	1150281	1180069	1300008	1300008	1333405	1363508

Source: Reserve Bank of India, Prepared by the researcher

Figure 27 Bank Employees by Bank Names (2013-2019)
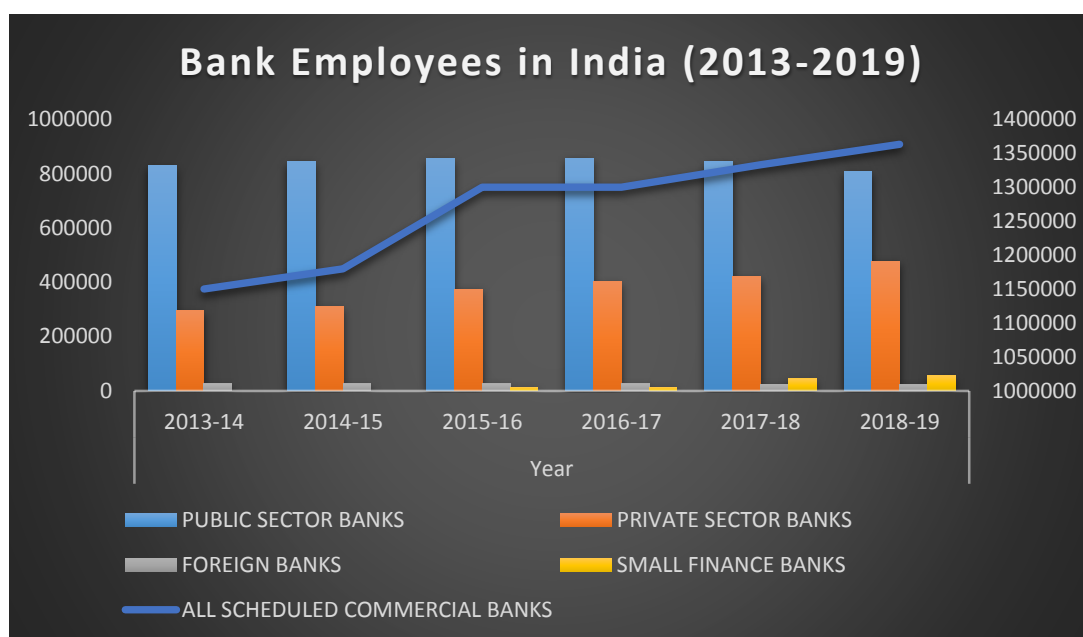
Source: Reserve Bank of India, Chart prepared by the researcher

Table-36, 37 and Figure-26 and 27 reveals that the number of bank employees in scheduled commercial banks are rising year on year. The major proportion of bankers is from Public sector or nationalised banks followed by private banks. However, foreign and small finance banks are minorities.

Table 38 Employees of Scheduled Commercial Banks- Category Wise

EMPLOYEES OF SCHEDULED COMMERCIAL BANKS				
Year	Officers	Clerks	Sub-Staff	Total
2018-19	898782	325653	139073	1363508

81

2017-18	849034	339073	145298	1333405
2016-17	804940	348608	146460	1300008
2015-16	750847	350265	154973	1256085
2014-15	669217	350989	159863	1180069
2013-14	641893	357230	151158	1150281
2012-13	565561	377692	153727	1096980
2011-12	527417	364899	156204	1048520
2010-11	490101	327580	153101	970782
2009-10	470547	318636	160995	950178

Source: Statistical Tables RBI, table constructed by the researcher

Figure 28 Employees of Scheduled Commercial Banks- Category -wise
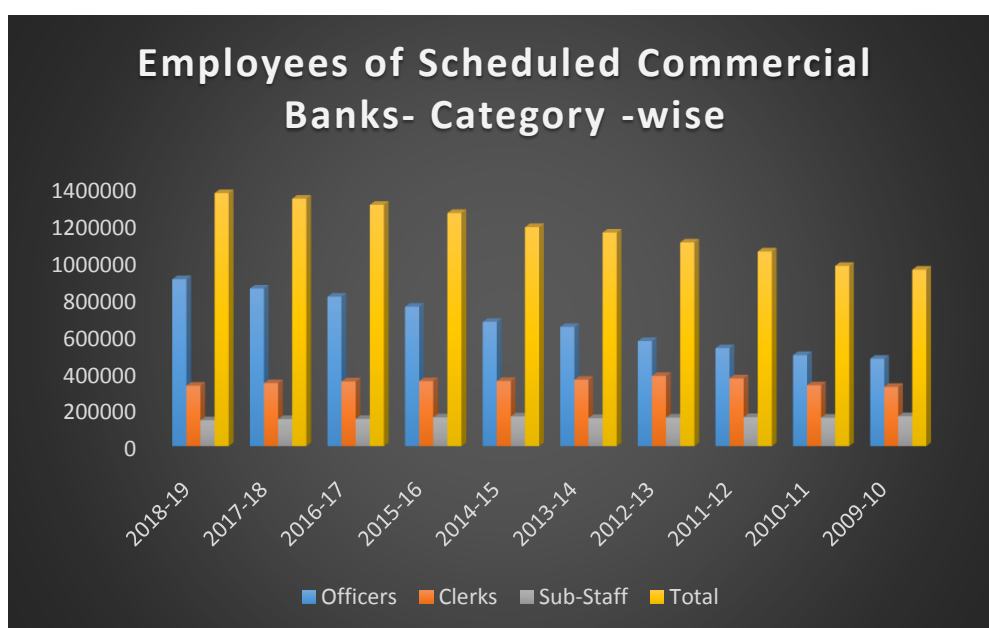
Source: Statistical Tables RBI, Chart prepared by the researcher

Hypothesis:

H_0: There is no significant impact of bank loans on job creation in Banks in India.

H_1: There is a significant impact of bank loans on job creation in Banks in India.

Explanation for the test: The researcher has compiled the 10 years' time series data into a single table and depicted the same into a bar graph too. Apart from that, in order to study the

inference, hypothesis was framed. Ergo, to analyse it statistically, linear regression was conducted by the researcher. However, in order to test the applicability various other tests like, Durbin Watson test for autocorrelation and collinearity diagnostics for checking the linearity in the data collected from statistical tables of reserve bank of India.

Table 39 Bank Loans vs Employees (in crores and No.s)

Bank Loan vs. Employees in India		
Year	Bank Employees	Bank Loans
2009-10	950178	23139.92
2010-11	970782	28925.27
2011-12	1048520	33521.01
2012-13	1096980	44258.48
2013-14	1150281	48907.83
2014-15	1180069	50948.27
2015-16	1256085	63916.76
2016-17	1300008	64835.62
2017-18	1333405	62296.16
2018-19	1363508	69124.36

Source: Reserve Bank of India, Prepared by the researcher

Figure 29 Bank Loans vs Employees (in crores and No.s)
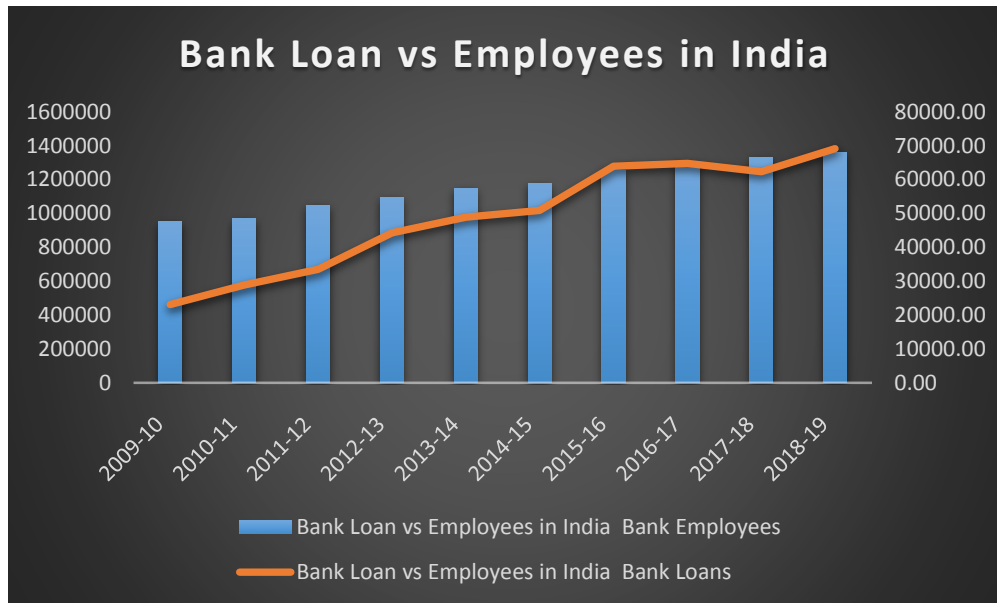
Source: Reserve Bank of India, Prepared by the researcher

Interpretation: Table-39 and Figure-29, revealed that with the number of jobs created in the scheduled commercial banks in India are rising year on year. Moreover, it can be said that with the rise in bank loans, number of employees are also accelerating annually.

Table 40 Descriptive Statistics- Bank loans and Employees India

Descriptive Statistics

	Mean	Std. Deviation	N
Bank_Employees	1164981.6000	147872.49076	10
Bank_Loans	48987.3680	16304.99803	10

Table 41 Correltaion between Bank Loans and Employees

Correlations

		Bank_Employees	Bank_Loans
Pearson Correlation	Bank_Employees	1.000	.983
	Bank_Loans	.983	1.000
Sig. (1-tailed)	Bank_Employees	.	.000

		.000	.
	Bank_Loans		
	Bank_Employees	10	10
N			
	Bank_Loans	10	10

Table 42 Model Summary - Linear Regression between Bank Loans and Employees

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.983ᵃ	.967	.963	28392.81305	1.824

a. Predictors: (Constant), Bank_Loans

b. Dependent Variable: Bank_Employees

The above table shows a highly positive correlation between bank loans and employees. Furthermore, the value of Durbin Watson's coefficient is also less than 2 which means the auto correlation between the dependent and the predictors is positive, which means with the rising values of the previous year succeeding years values were also predicted to rise accordingly.

Table 43 ANOVA - Bank Loans and Employees

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	190347247059.556	1	190347247059.556	236.118	.000ᵇ
	Residual	6449214662.844	8	806151832.856		
	Total	196796461722.400	9			

a. Dependent Variable: Bank_Employees
b. Predictors: (Constant), Bank_Loans

The above statistical tables revealed that the relationship between Bank Loans and employees is found to be a strong and positively correlated with Karl Pearson's correlation coefficient 0.0983. Moreover, it was observed that the significant value p is less than 0.05,

which leads to reject null hypothesis and accept alternative hypothesis. Therefore, it was found that there is a significant impact of bank loans on number of bank employees in India.

Table 44 Coefficients of Linear Regression and Collinearity Statistics

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	728048.042	29818.691		24.416	.000		
	Bank_Loans	8.919	.580	.983	15.366	.000	1.000	1.000
a. Dependent Variable: Bank_Employees								

Hence, the regression model $y = b_0 + b_1x + e$

Where y = Dependent Variable (Bank Employees)

x = Independent Variable (Bank Loans)

$b_0 = 728048.042$

$b_1 = 8.919$

is, $y = 728048.042 + 8.919x$

This means that number of bank employees varies 728048.042 + 8.919 times Bank loans in India. Also, the significance value p is less than 0.05, which indicates that there is significant impact of bank loans on umber of bank employees in India.

Table 45 Collinearity Diagnostic - Bank Employees and Loans

Collinearity Diagnostics[a]

Mod el	Dimensi on	Eigenval ue	Condition Index	Variance Proportions	
				(Constant)	Bank_Loans
1	1	1.954	1.000	.02	.02
	2	.046	6.488	.98	.98
a. Dependent Variable: Bank Employees					

Interpretation: The results of coefficient and collinearity diagnostic matrices show that the values of variance inflation factor is 1 which shows no multi-collinearity, hence a linear regression test was performed between the variables. Moreover, the Eigen values are also contributing the same results.

5. Results, Conclusion and Recommendations:

Results and Conclusion:

- The research was conducted based on bank loans, for the purpose of understanding whether the bank loans are impacting key economic indicators are not? To perform the study secondary data was gathered from the authentic and reliable source i.e. statistical tables of reserve bank of India. This data has undergone statistical analysis with appropriate tools, namely, descriptive statistics, correlation, t-test and linear regression analysis. The inference drawn has shown significance of the test. To understand and explicate the SPSS software and MS-excel were used profoundly.

- The researcher has observed that the bank loans are playing a major role in all respects. It was observed that GDP is highly correlated with bank loans and the credit GDP ratio is almost around 50% in India. The linear regression model has depicted that the impact of rise in loans is ultimately leading to rise in money supply in the market and hence the output generated is hence ascending accordingly.

- However, this rise then created a rise in general price levels. The same is revealed in the study, that the bank loans through scheduled commercial banks are highly related to country's inflation indices. Ergo, it can be said that the rise in bank loans leads to rise in inflation.

- Moreover, the study also revealed that the number of bank employees are also in pace with the advances through banks. Which reveals that with the rise in amount of loans, number of bank employees are also levitating.

- Furthermore, the study has also elucidates the impact of non-performing assets on bank's performance. It was observed that the percentage of non-performing assets is very much significant in the overall percentage of bank loans. While the percentage of NPA in gross advances differs in priority and non-priority sector loans. In priority sector lending percentage of non-performing loans are falling with the following years in contradiction to non-priority sector loans.

- Since the first step of economic liberalization, the banking industry experienced a major change; hence the value of credit management has emerged. Because of the mounting of NPA, banks are very careful in extending loans recently. Indian banks are doing their utmost to reduce NPA and will certainly succeed in finding the right legislative and diplomatic ways to recover it.

- NPAs contribute significantly to the country's numerous aspects of banks 'workings. The 1992 and 1998 reforms of the banking sector ensured the better functioning of public sector banks in the country. Different business divisions of banks related to financial performance, profitability, measuring quality, asset-liability management and risk management, etc. NPAs deal with certain aspects of the role of banks as NPAs have effects on the profitability of banks. NPAs are derived from under-recovery or from inability to recover loans and advances, i.e. credit facilities of banks. (RBI)

- Looking at the rising inflation due to increased bank loans in the economy, demand for bank loans is increasing year on year. This then leads to levitating write-offs and the overburdened economy. . However, in long term this may lead to even terrible impact and can be pre-math of some economic crises.

Recommendations:

- Indian Banking system should be better able to take lessons from past crises. Banks should be very vigilant to keep the same situation from happening again. They should behave like business companies when interacting with their clients and government agencies, while other operating operations such as recruitment, surveillance, running projects, and HR policies should behave. Banks should follow standard trends of consumer lending undertakings.

- Bank productivity should be accurately assessed. Bench profitability calculations can be made by evaluating interest income, non-interest income, interest expenses, and operating costs etc. in relation to total bank assets. In this regard, portfolios of income

recognition, capital adequacy criteria, asset classification, provisioning, and expenditure should be part of the prudential norms suggested in the RBI guidelines by the Reforms Committees to improve NPA conditions in banks.

- Necessary policy interventions are to be taken in order to mitigate the impact of over-leveraged businesses. Government has to implement strategic structural changes in the economy. Mere monetary policy changes will not be sufficient enough to manage the economic slowdown in India.

- Currently Covid-19 outbreak drastically changes human life and economy of the world. As this tragedy would affect whole economy and human-kind, further research and study can be carried out on the impact of banks and economy due to Covid-19.

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