

## Banking Sector Reforms and the Goals of Nationalised Commercial Banks in India

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**Abstract.** *The main aim of the study is to analyse the role of Nationalised Commercial Bank (NCB) on economic growth and development in India during pre and post-reform periods (Restrictive and liberalised regime). The study also aims to analyse the performances and associations of nationalised commercial banks with the RBI in the same period. For this purpose, the study first uses Augmented-Dickey Fuller unit root test. After assessing stationary conditions, the study uses Engel-Granger Causality test and Trend line analysis. Based on the empirical results, the study found that the role of NCB on economic growth is higher in the post-reform period compared to the pre-reform period. But their role in poverty eradication and employment generation is less in the post-reform period even though the average GDP growth rate is high in the post-reform period. Similarly, the performances of NCBs are also declining due to the increasing trend in their NPAs. The study also found that the monetary policy is not much effective in India, especially after 2000 where fall in the interest rate failed to influence GDP. So the study strongly recommended frequent interference and instructions of RBI to enhance the performances of NCBs and the effectiveness of monetary policy to achieve macroeconomic goals.*

**Keywords:** monetary policy, non-performing asset, money supply, granger causality, poverty, unemployment, GDP growth.

**JEL Classification:** E31, E51, E52, E58, O11.

## 1. Introduction

For the past seven decades, Indian Economy experienced radical changes on almost all spheres. Among all the changes, policy's relating to inwardness to openness occupies significance not only in social science research also on the operation and functions of various sectors of the economy. Of which, the banking sector plays a network role in impelling all the sectors of the economy and promoting overall economic growth (GDP) and development (standard of living) of the nation.

Structural changes and gradual improvements take place in the banking sector since the nationalisation of the Reserve Bank of India in 1949. Next two decades until 1969, the role of commercial banks in economic growth and development were too limited, less focused and neglected the objectives of the planning commission. From 1949 to 69, most of the banks were controlled by big business houses and politicians. The agriculture sector, small-scale industries, rural and semi-urban areas were totally neglected. Banks were operated neither focusing on growth nor on economic development.

To achieve the objectives of the planning commission and to promote balanced development, sixteen banks were nationalised in 1969 and six more were nationalised in 1980. Since then, the nationalised banks were controlled and regulated by the RBI in accordance with the objectives of the planning commission. Due to which, the performances of the overall banking system were dropped down and many banks were eroded. This downfall in the banking system continues until the faced BOP crisis in 1991.

To come out from the economic crisis, the government of India had initiated reforms in almost all the sectors in 1991, so-called structural adjustment measures popularly known as Liberalisation, Privatisation, and Globalisation (LPG). Even though the reform measures emphasised on all the sectors, the GOI mainly focused on four major grounds, namely; Industrial Sector Reforms, Financial Sector Reforms (incl., Banking sector Reforms), Reforms in Foreign Investment and Reforms in Foreign Trade.

A substantial part of the agenda for reforms of the Indian financial sector since 1991 has related to the problems facing the public sector banks, which have dominated commercial banking in India for the past several decades. Despite impressive widening and deepening of the financial system, there was no denying fact that the banks had not grown into sound, vibrant financial institutions, so much so that by 1990 there was serious concern about the poor financial condition of public sector banks most of which had become unprofitable, under-capitalised and burdened with unsustainable levels of non-performing advances on their book (Patel, 1997).

To promote and strengthen banking institution in India, a lot of initiatives were taken under economic reforms. Especially Government of India set up a committee under the Chairmanship of Narasimham in 1991 (The Committee on Financial System) and 1998 (Banking Sector Reforms). Narasimham Committee on financial system submitted its report to the finance ministry in 1991 and most of the recommendations are implemented under financial sector reforms. Again in 1998, the government of India set up a committee on Banking Sector Reforms under the Chairmanship of Narasimham. To review the outcome of financial sector reforms and recommended further improvements

in the banking system. Major recommendations of both the committees to the government are to:

- Develop two or more banks to be international in character.
- Reduce SLR and CRR as less as possible.
- Provide more autonomy and flexibility to commercial banks.
- Deregulate interest rate and removal of concessional interest rate.
- Reduce priority lending from 40 percent to 10 percent.
- Diverse banking activities into non-banking functions.
- Liberalise Banking License.
- Access to raise funds from capital markets.
- Merge strong banks and closing weak banks and unviable banks.
- Introduce new and higher norms for capital adequacy.
- Strengthen the legal framework for recovery.
- Abandon budgetary support.
- Permit foreign banks for competitive service.

To promote profitability, efficiency and competitiveness in the banking system, Government of India (GOI) has accepted almost all the above recommendations and was implemented in 1991 and 1998. Against these background, the present study attempts to analyse the role and performances of nationalised commercial banks in India on three major grounds. Firstly, Role of nationalised banks on economic growth and development during pre (before 1991) and post banking/financial sector reforms (after 1991). Secondly, Assessing the performances of nationalised commercial banks during pre and post banking sector reforms using three major indicators like NPAs, profitability and loans and advances. Finally, exploring the effectiveness of monetary policy in achieving the goals of RBI during pre and post banking sector reforms.

## 2. Literature review

It is observed from the background that there are two main issues needs to be addressed in the literature review. One is the trends in NPA and performances of nationalised commercial banks during pre and post financial sector reforms in India. The other is the effectiveness of monetary policy and the banking system in India after banking sector reforms, especially after adequate autonomy was given to public sector banks in India since the 90s.

Many of the well-established nationalised banks suffer from a severe identity crisis and require business, not restructuring or just financial support from the government. Finance ministry must ascertain the best use of public money and also they have to clarify the role and purpose of nationalised public sector banks (Roy et al., 2018). Over the last few years, the asset situation of nationalised banks in India was totally distressed and the NPA levels have reached an all-time high.

Bhattacharya and Sivasubramanian (2001) examined the consequences of the banking sector reforms in India which were an integral part of the liberalisation process of the economy in 1991. The study observed that, in the post-reform period, investment in

government securities by banks has remained persistently high and there has been a significant reduction in the flow of credit (as a proportion of deposits) to the real sectors of the economy. The study also found that the significant changes in the flow of credit to various groups and sectors within the economy, some of which might be thought not to be in conformity with the stated social goals of the government.

Rajeshwari and Harsh Vardhan (2017) compared the banking crisis in India during the 90s with the global financial crisis in 2008. They found that the delay in recognition and late action to control NPA and credit boom causes the financial crisis. The study suggested appropriate legal framework and good governance can solve the problem of nonperforming assets in India.

Roy and Samantha (2017) examined the causes and consequences of NPA in public sector banks in India. The study found an inverse relationship between NPA and profit of PSBs. Due to which, the PSBs are not interested to offer credit for priority lending purposes. For stability of PSBs, the study suggested careful consideration before granting loans through adequate repayment capabilities of the borrowers.

Rathore, Sangeetha and Sunitha (2016) analysed the impact of NPA in the Indian Economy. The main aim of this study was to observe the causes of NPA of scheduled commercial banks in India and suggest suitable policies to resolve the issues in the banking system. The study observed that the ineffective recovery methods, failure in recognising the growth of NPA and failure in prompt action against the defaulters aggravated NPAs in India. To resolve this issue, the study strongly recommended compromise proposal, technical write off, one-time settlement scheme and setting proper dispute recovery tribunals.

Oliver Wyman (2017) observed that the extent of NPAs of nationalised banks in India is worse than those seen in Italy, Greece and Portugal at the height of the global financial crisis of 2008-10. The annualised growth rate of NPAs over the last six years has been nearly 30 percent. NPAs have been mostly concentrated in the nationalised banks whose gross non-performing assets have grown from 1 trillion Rupees in 2012 to 6.2 trillion in 2017.

Public sector banks are investing disproportionately huge sums of their investment in government securities, which is more than the requirements of SLR. This steered to misuse of banking sector resource to crowd out investors in the real sector. This also created an accumulation of liquidity in the banking system, stagnation in the real sector and starvation in credit creation (Majumdar, 1998). Since the 1990s, India has experienced severe problems in the financial system. In India, it is the fiscal budgetary system that is locked in a debt-trap and inflexible commitments that lay large claims on the funds of the banking system (Swamy, 2005).

Saibal Ghosh (2006) gave two important implications from his empirical analysis of monetary policy and bank behavior in India. The first implication pointed out that the prudential role in influencing the lending decisions of the bank. Specifically, the capital adequacy ratios have made banks more focus on the risk-return profile of loans, since additional lending permits additional capital to adhere to the stipulated capital adequacy

norms. The implication indicated that the bigger banks are able to protect their loan portfolio from monetary contraction. The flip side of banking sector reforms has overstated its impact by neglecting unfair practices of banking services. Only strong and high net worth corporates in the organised sector are good enough for raising funds from nationalised banks at low-interest rates and the small borrowers are neglected in the liberalised investment. There is no doubt that the banking sector reforms gave more autonomy of nationalised banks, also it creates deficiencies in terms of productivity, proper staging, controlling over dues and NPAs. So the aims and the larger objectives of commercial banking in India appear to have gone haywire (Joshi, 1999).

Hutchison, Rajeswari and Nirvikar (2010) investigated the applicability of the discretionary monetary rule of the Reserve Bank of India in relation to Taylor-type rule. The study estimated an exchange-rate-augmented Taylor rule for India for a period of 28 years from 1980 to 2008. The study compares monetary policy effects during the pre- and post-liberalisation periods in order to capture the potential impact of macroeconomic structural changes on the RBI's monetary policy conduct. The study found that the output gap appears to be important to RBI rather than consumer price inflation and exchange rate changes.

Ray, Joshi and Saggur (1998) explored the monetary transmission mechanism in the liberalisation era in the context of financial sector reforms. The study tried to examine the role of interest rate and exchange rate in the conduct of monetary policy. The long-run relationship between money, prices, output, and the exchange rate is observed. The study found that the Interest rates and exchange rates are seen to be endogenously determined since financial sector reforms and it increases the possibility of the change in transmission mechanism following the advent of financial sector reforms.

Numerous measures were taken to enhance the effectiveness of monetary policy in India under economic reforms and these include improvement in the payment and settlement systems, improvement of a secondary market in government securities with portfolio diversification in the interest of the investor, reduction in non-performing assets and reduction in the overall transactions costs. In recent times, the RBI initiated several steps to develop the money market. Financial sector reforms and banking sector reforms may not have the desired results with commendable fiscal adjustment (Reddy, 1999)

Kanagasabapathy (2001) observed monetary policy underpinnings in India over several decades. He also points out the limitations and constraints in pursuing monetary policy objectives and throws light on current mainstream economic thinking and perspective in the context of the changing economic environment worldwide. The study found that the emergence of the interest rate as an efficient variable in the transmission mechanism, the RBI has begun placing greater reliance on Liquidity Adjustment Facility (LAF), especially OMO, Repo, Bank rate, etc., instead of the dependence on CRR alone. Another issue debated in the context of Central Bank autonomy is the separation of debt management and monetary management functions. At the same time, it would require a co-ordinated operation with monetary management to achieve a stable interest rate environment and market condition.

Monetary policy is increasingly focused on Dreze and Sen's view of growth mediated security helps to achieve monetary objectives including price stability and GDP growth will lead to alleviate poverty indirectly. Monetary and financial sector policies in India should perhaps be focusing increasingly on both inflation and GDP growth (Reddy, 2002).

Acharya, Shankar (2002) witnessed that the practice of monetary policy has clearly undergone a sea change during the nineties but it was more sophisticated later by giving further autonomy to money market institutions. However, several earlier problems and dilemmas were persisted even after the 90s. In particular, the effectiveness of monetary policy continued to be defective due to expansionary fiscal policy as well as an insufficiently responsive financial system.

Fathima and Iqbal (2003) tested the effectiveness of monetary policy and fiscal policy for economic growth in five Asian economies which includes India, Pakistan, Thailand, Malaysia and Indonesia. The study found unidirectional causality between monetary policy and economic growth in India.

Finally, the study has observed from the literature that almost all the scholastic work recommended several criteria's and rigidities to offer loans to their customers. Similarly, the majority of the studies recommended a strong legal framework to recover NPAs in India which is against the objectives of nationalised banks whose main aim is to enhance national welfare. The second part of the literature focuses on the effectiveness of monetary policy and the performances of banks after adequate autonomy via financial sector reforms in 1991 and banking sector reforms in 1998. It is also observed from the literature that there is no evidence that supports nationalised banks eradicated poverty, unemployment or GDP enhancement which are the prime objectives of nationalised banks in India. So the present study tries to fill the gap by analysing the role of nationalised commercial banks on economic growth and development during pre and post banking sector reforms in India. The study also tries to differentiate the effectiveness of monetary policy in achieving monetary goals during pre and post-reforms in the banking sector. The reason is to analyse how nationalised banks performed during restrictive and liberalised regime; how they contribute to the development and how effective the monetary policy in both the periods.

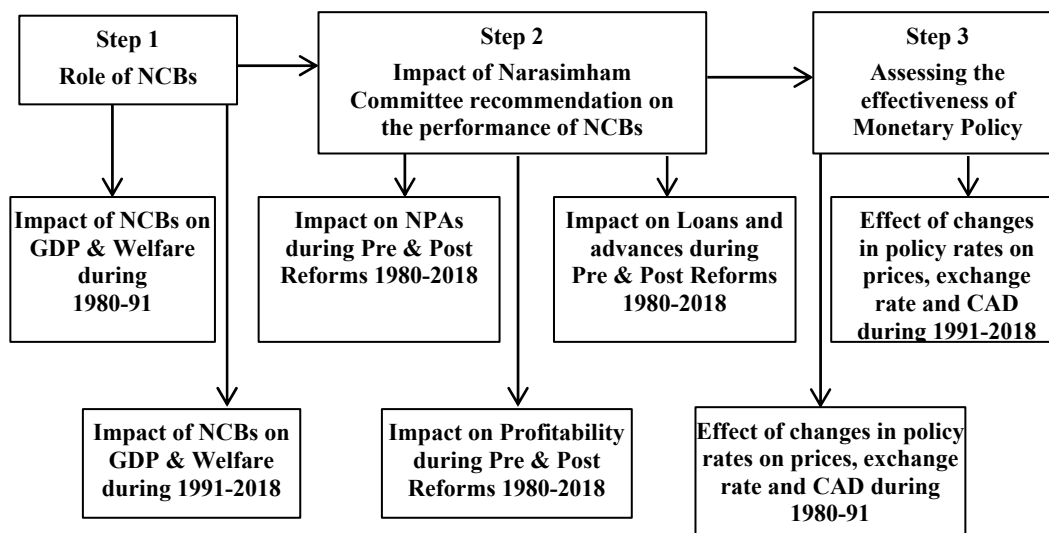
### 2.1. Significance of the study

Observation from oodles of past studies and present incidences, it is clear that the performance and operation of nationalised commercial banks in India failed to achieve the major objectives of neither monetary policy nor the fiscal policy. Recent studies and debates among the academicians raised doubts on the progressive role of nationalised commercial banks in influencing economic growth, economic development (domestic welfare) and achieving the objectives of the Central bank. Therefore, it is necessary to evaluate the impact of banking sector reforms on the performances of nationalised commercial banks in optimising their efficiency (reducing over dues and NPAs) and achieving social goals like reduction in unemployment, poverty, inequality and other welfare measures which are the prime objectives of nationalisation of commercial banks in India.

### 3. Conceptual framework

The conceptual framework of the present study focuses on three major grounds. First, the study will analyse the impact of nationalisation of commercial bank on economic growth and Standard of Living during pre-reform period (since nationalisation of commercial bank to before banking sector reforms were all the banks are controlled and regulated by the RBI) and post-reform periods (since banking sector reforms where autonomy and flexibility was given to nationalised commercial banks for efficiency). Second, the study will compare the performances of NCBs using NPA, Profitability and loans and advances to the public and banks. Third, the study will evaluate the effectiveness of RBI policies in achieving various monetary goals like price stability, exchange rate stability and Current Account Deficit (CAD).

#### 3.1. Steps involved in the conceptual framework



#### 3.2. Pre-Nationalisation of Commercial Bank (1949-1969)

Before nationalisation, commercial banks were controlled by a few big business houses. It neglects the objectives of RBI and planning commission like eradication of poverty, unemployment, inflation and standard of living. In order to achieve monetary and fiscal goals, the government of India passed Banking companies act in 1969 (Acquisition and transfer of undertakings), popularly known as Nationalisation of commercial banks. During this period, the objective of all the banks was only on a profit motive. They have enjoyed autonomy and flexibility without focusing on domestic welfare or priority lending.

#### 3.3. Nationalisation of Commercial Bank in the pre-reform period (1969-1991)

To increase the role of commercial banks on domestic welfare, fourteen banks were nationalised in 1969 and six more were added in 1980 through the banking company's act

of 1969. Since then, all the nationalised banks were controlled and regulated according to plan priorities. During this period, the nationalised banks were controlled by the RBI through regulated interest rates, priority lending, licensing for branch expansion and other credit control measures.

#### **3.4. Narasimham Committee on Financial System in 1991**

During the initial years of nationalisation, especially between 1969 to 1985, the NCBs are directed to work on the objectives of RBI and finance ministry. Due to which, the profitability of NCBs started falling continuously in the 80s and some of them were eroded. To revive their performance and to increase their profitability, the government of India set up a committee under the leadership of former RBI governor Mr. Narasimham. The committee submitted its report to the government in 1990. Reduction in CRR & SLR, removal of priority lending and deregulation of interest rate are the important recommendations of the committee. Most of the recommendations are accepted and implemented by the GOI under economic reforms in 1991.

#### **3.5. Narasimham Committee on Banking Sector Reforms in 1998**

In 1998, the GOI again set up a committee under the leadership of Narasimham to review the outcome of earlier recommendations and more recommendations for further improvements. The committee submitted its report in 1998 and recommended more focus on capital adequacy, merging big banks to international standard and more legal powers for recovery. This committee also recommends more private and foreign banks with further autonomy and freedom poses several challenges to the effectiveness of the monetary policy.

#### **3.6. NCBs and economic growth & development**

No one can deny the fact that the role of commercial banks is essential to enhance economic growth (GDP) and development (Welfare) in the economy, especially the role of NCBs is immense. Generally, all banking institutions have a direct correlation between loans and advances with GDP, which is not true in the case of economic welfare or standard of living. Literature survey shows that the NCBs can have a direct correlation between loans and advances with the standard of living because their loans and advances are controlled by the RBI according to plan priorities.

#### **3.7. NPAs and profitability of NCBs**

Most of the Directors of NCBs express their unhappiness on the nationalisation policies of the nation. They argued that the nationalisation policies and objectives are welfare based not on profit motives and it has a direct negative effect on the profitability of banking institutions. Banking statistics also proved that the percentage of NPAs has increased and profitability vanished from 1980 to 1990. Since the 1980s, NCBs constantly demanded more autonomy and flexibility for their revival. For these reasons, GOI formed a committee and implemented their recommendations which are just opposite to the objective of nationalisation of commercial banks.



### 3.8. The effectiveness of the monetary policy on prices, exchange rate and CAD

GOI has introduced a lot of reforms in the banking system according to Narasimham committee I & II. Since 1991, the NCBs are enjoying more freedom, flexibility and autonomy from RBI policies. Due to which the central bank's monetary policy action is not much effective as it was in the pre-reform period (1969-1990). In order to achieve various monetary and fiscal goals the RBI periodically changes its policy rates and achieves its objectives. Since 1991, after giving freedom and flexibility to banking institutions, the monetary policy is not that effective. For example, RBI has decreased bank rate from 9 percent in 2013 to 6 percent in 2017. But the impact of a fall in the interest rate on investment and GDP was significantly low (Between 6 to 7 percent). This study assumes that non-cooperation of NCBs and other commercial banks may lead to the ineffectiveness of monetary policy in India.

From the background of Banking Sector Reforms and Nationalisation of Commercial Banks, the present study has given rise to several policy issues research questions. For instance: What is the role of Nationalised commercial Banks on GDP and domestic welfare during pre and post banking sector reforms? What are the trend and performances of NPAs, Loans and Advances to Public and Banks and the profitability of NCBs during pre and post-reforms? How far is the monetary policy effective in achieving its monetary goals during pre and post banking sector reforms?

It will be academically significant and occupationally useful research to find credible and reasonable answers to the above research questions. The relevance of the answer lays in providing insights from Banking Sector Reforms and NCBs. The motivation of the study is to arrive at these policy implications. In this context the present study attempts to analyse the impact of Nationalisation and Banking Sector Reforms on Economic Growth and Development in India. The study also tries to compare the trends in NPAs, Loans and profitability of NCBs during pre and post-reform periods. The study also aims to evaluate the effectiveness of monetary policy on price stability, exchange rate stability and current account deficit during pre and post banking sector reforms. Finally appropriate suggestions will be recommended to strengthen the profitability of banking institutions with the pronounced focus on GDP and welfare of the community.

## 4. Empirical model and estimation technique

The present study uses both quantitative and qualitative methods to assess the impact of nationalised Commercial Banks on economic growth, economic development and their performances through NPAs, Loans and profitability.

The second part of the study will analyse the effectiveness of the monetary policy, especially after adequate autonomy was given to scheduled commercial banks since the 90s. For this purpose, the study uses both descriptive statistics and empirical analysis. First, the study uses the Augmented Dickey-Fuller (ADF) test to check whether the data set is stationary or non-stationary. After checking stationary conditions, the study will apply Granger causality test for directional relationships. Simultaneously, trend line analysis will be applied to compare the impact of banks in the economy. All the estimations and analysis will be done by using E-Views software, 8th version.

The study first applies the ADF test for each of the variables by using the following sequential testing procedure.

$$\Delta X_t = \alpha + \beta X_{t-1} + \sum_{i=1}^p \varphi_i \Delta X_{t-1} + \lambda t + u_t \quad (1)$$

If  $\beta=0$ , meaning that the selected variable  $X_t$  contains unit root and the data is not stationary. Therefore, it is highly necessary to include  $t$  (deterministic) into the equation. In this analysis, if the trend is stationary and statistically significant, then only the study can perform the econometric technique for analysis.

In the Granger Causality test, the directional relationships between two variables are very sensitive which can be used efficiently by using an appropriate number of lags in the model. A number of lags for the test will be selected on the basis of AIC and SIC criterion. Inferences will be done on the basis of the results received from the Granger Causality test and trend line analysis. For example, if the beta coefficients become zero or less than the conventional value of 0.05 and the computed F statistic is low for the first hypothesis in the equation (1) indicate that the lagged MS do not possess in the regression (Accepting null hypothesis). This means Money Supply in India does not Granger cause GDP, similarly for other beta coefficients in the first hypothesis of the rest of equations. When we move to the second hypothesis which states that the GDP does not Granger cause Money Supply in India if the computed F statistic is low or P value is less than the conventional value, we can reject the hypothesis and infer that the GDP does not Granger cause Money Supply in India. Similar results can be derived for other beta coefficients in the second hypothesis of the rest of the equations.

Granger causality test is used to check the effectiveness of monetary policy and interest rate pass-through in India. To check causality between the changes in Money Supply in India with GDP, lending rate, exchange rate and BOP variables, the following model developed by Engel and Granger, (1987) will be used. The models are;

***Gross Domestic Product (GDP) and Money Supply in India***

$$\begin{aligned} GDP_t &= \beta_0 + \sum_{i=1}^n \beta_{1i} GDP_{t-i} + \sum_{i=1}^n \beta_{2i} MS_{t-i} + u_{1t} \\ MS_t &= \beta_3 + \sum_{i=1}^n \beta_{4i} MS_{t-i} + \sum_{i=1}^n \beta_{5i} GDP + u_{2t} \end{aligned} \quad (2)$$

***(a) Money Supply and CPI (Inflation) in India***

$$\begin{aligned} MS_t &= \beta_0 + \sum_{i=1}^n \beta_{1i} MS_{t-i} + \sum_{i=1}^n \beta_{2i} CPI_{t-i} + u_{1t} \\ CPI_t &= \beta_3 + \sum_{i=1}^n \beta_{4i} CPI_{t-i} + \sum_{i=1}^n \beta_{5i} MS_{t-i} + u_{2t} \end{aligned} \quad (3)$$

**(b) Exchange Rate and Current Account Deficit in India**

$$ER_t = \beta_0 + \sum_{i=1}^n \beta_{1i} ER_{t-i} + \sum_{i=1}^n \beta_{2i} CAD_{t-i} + u_{1t}$$

$$CAD_t = \beta_3 + \sum_{i=1}^n \beta_{4i} CAD + \sum_{i=1}^n \beta_{5i} ER_{t-i} + u_{2t} \quad (4)$$

**(c) Money Supply and Current Account Deficit in India**

$$MS_t = \beta_0 + \sum_{i=1}^n \beta_{1i} MS_{t-i} + \sum_{i=1}^n \beta_{2i} CAD_{t-i} + u_{1t}$$

$$CAD_t = \beta_3 + \sum_{i=1}^n \beta_{4i} CAD + \sum_{i=1}^n \beta_{5i} MS_{t-i} + u_{2t} \quad (5)$$

**(d) GDP and Current Account Deficit in India**

$$GDP_t = \beta_0 + \sum_{i=1}^n \beta_{1i} GDP_{t-i} + \sum_{i=1}^n \beta_{2i} CAD_{t-i} + u_{1t}$$

$$CAD_t = \beta_3 + \sum_{i=1}^n \beta_{4i} CAD + \sum_{i=1}^n \beta_{5i} GDP_{t-i} + u_{2t} \quad (6)$$

**(e) Reserve Bank Lending Rate and Commercial Bank Lending Rate in India**

$$RBLR_t = \beta_0 + \sum_{i=1}^n \beta_{1i} RBLR_{t-i} + \sum_{i=1}^n \beta_{2i} CBLR_{t-i} + u_{1t}$$

$$CBLR_t = \beta_3 + \sum_{i=1}^n \beta_{4i} CBLR + \sum_{i=1}^n \beta_{5i} RBLR_{t-i} + u_{2t} \quad (7)$$

**(f) Commercial Bank Lending Rate and Money Supply in India**

$$CBLR_t = \beta_0 + \sum_{i=1}^n \beta_{1i} CBLR_{t-i} + \sum_{i=1}^n \beta_{2i} MS_{t-i} + u_{1t}$$

$$MS_t = \beta_3 + \sum_{i=1}^n \beta_{4i} MS + \sum_{i=1}^n \beta_{5i} CBLR_{t-i} + u_{2t} \quad (8)$$

**(g) GDP and Non-Performing Asset in India**

$$GDP_t = \beta_0 + \sum_{i=1}^n \beta_{1i} GDP_{t-i} + \sum_{i=1}^n \beta_{2i} NPA_{t-i} + u_{1t}$$

$$NPA_t = \beta_3 + \sum_{i=1}^n \beta_{4i} NPA + \sum_{i=1}^n \beta_{5i} GDP_{t-i} + u_{2t} \quad (9)$$

**(h) Profit of Commercial Bank and NPA in India**

$$\begin{aligned}
 PROFIT\ CB_t &= \beta_0 + \sum_{i=1}^n \beta_{1i} PROFIT\ CB_{t-i} + \sum_{i=1}^n \beta_{2i} NPA_{t-i} + u_{1t} \\
 NPA_t &= \beta_3 + \sum_{i=1}^n \beta_{4i} NPA + \sum_{i=1}^n \beta_{5i} PROFIT\ CB_{t-i} + u_{2t}
 \end{aligned} \tag{10}$$

Where, MS – Money Supply, CAD – Current Account Deficit, ER – Exchange Rate, CBLR – Commercial Bank Lending Rate, RBLR – Reserve Bank Lending Rate, CPI – Consumer Price Index, NPA – Non-Performing Asset, PROFIT CB – Profit of Commercial Banks.

This study also uses trend line analysis to compare the role and performances of NCBs during pre and post financial and banking sector reforms in India. Trend line analysis will give a more accurate picture for comparative analysis between two time periods.

The Present study tries to find answers for the selected research questions and objectives using quantitative and qualitative methods. Required data will be collected from secondary sources and it will be collected from Handbook of Statistics on Indian Economy, report on currency and Finance, Annual accounts data of Scheduled Commercial Banks and other reports published by the Reserve Bank of India and the Ministry of Finance, Government of India.

**5. Empirical results**

Analysis of the present study is focused on two grounds. First one is to analyse the role of nationalised commercial banks in India and their performances during pre and post financial sector reforms. The second part of the analysis focuses on the effectiveness of monetary policy in India during pre and post financial sector reforms. For this purpose, the study mainly uses ADF-PP unit root test, Engel-Granger's Causality test and Trend line analysis.

The Augmented Dickey-Fuller and Phillips-Perron unit root test are conducted for Money Supply, Current Account Deficit, Inflation, Exchange Rate, Commercial Bank's Lending Rates, Reserve Bank's Lending Rate, GDP, Sectorial GDP, Sectorial Loans, Poverty, Unemployment, NPA, Profit of Nationalised Commercial Bank Growth.

**Table 1. Unit Root Test**

Variables	Augmented Dickey-Fuller Test (Trend & Intercept at first difference)		Phillips-Perron Test (Trend & Intercept at first difference)	
	T Statistic	Prob.	T Statistic	Prob.
Agricultural GDP	-4.89212	0.0014	-6.487701	0.0000
Agricultural Loans	-2.409924	0.3697	-5.563457	0.0002
Industrial GDP	-5.492009	0.0002	-5.405036	0.0003
Medium and Large Scale loan	-4.906436	0.0013	-4.412598	0.0052
Service Sector GDP	-4.807200	0.0017	-4.769194	0.0019
Loans to SSI	-5.367122	0.0003	-5.617204	0.0002
Total GDP	-4.784574	0.0018	-4.805476	0.0017

Variables	Augmented Dickey-Fuller Test (Trend & Intercept at first difference)		Phillips-Perron Test (Trend & Intercept at first difference)	
	T Statistic	Prob.	T Statistic	Prob.
Poverty	-3.594610	0.0437	-13.59398	0.0000
Unemployment	-4.856456	0.0015	-4.882163	0.0014
Money Supply	-6.765146	0.0000	-6.908924	0.0000
CPI	-9.995718	0.0000	-21.58247	0.0000
Exchange Rate	-4.504581	0.0041	-4.467790	0.0045
Current Account Deficit	-5.706741	0.0001	-15.15717	0.0000
NPA (since 1991)	-2.2094	0.2432	-2.609517	0.2799
Profit of nationalised commercial banks (since 1991)	-4.259486	0.0160	-3.488289	0.0617
Reserve Bank Lending Rate (since 1991)	-5.2694	0.0015	-7.5906	0.0000
Commercial Bank Lending Rate (since 1991)	-5.3644	0.0011	-5.3737	0.0011

**Source:** Computed.

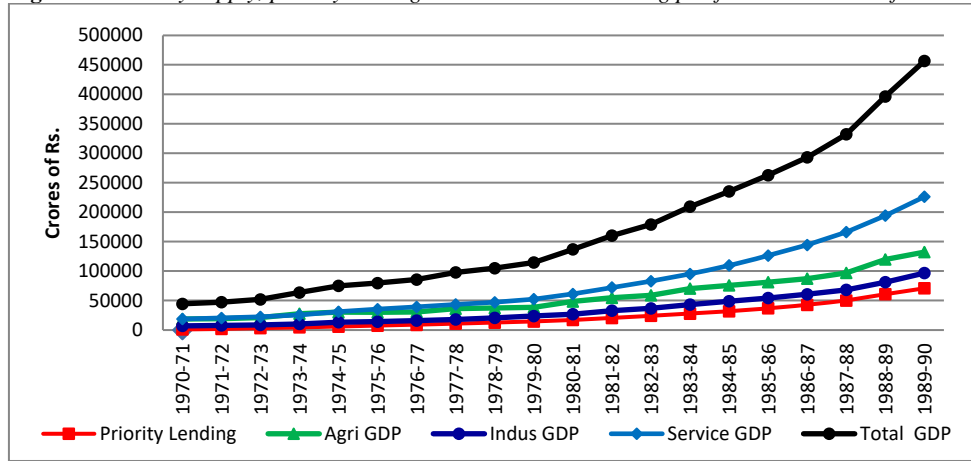
The ADF and PP unit root test results are given in Table 1. Due to space constraint, the study displays the only trend and intercept values at first difference in the table. The study observed that the selected variables are non-stationary at level. But, it is clear from Table 1 that almost all the selected macroeconomic variables are stationary at first difference.

The ADF test result shows that the probability value for all the selected variables is less than 0.05 except a few variables like Agricultural loans and NPA. But the test statistic value for the same variables is less than the critical value at 1 percent, 5 percent and 10 percent lead to the rejection of null hypothesis and infers that the variables have no unit root. Likewise, the PP unit root test is also observed almost similar results with slight variations. The PP test pointed out low probability value (less than 0.05 percent) for all the variables except NPA. Here also the observed test statistic values for NPA are less than the critical value of 1 percent, 5 percent and 10 percent. Due to the non-availability of data for NPA, the maximum number of observations is less than 25 is also the reason for the high probability value. So we reject the null hypothesis and infer that the variables have no unit root. After fulfilling the stationary conditions from Table 1, the study focuses on the application of Engel-Granger's Causality test for a directional relationship between the selected variables.

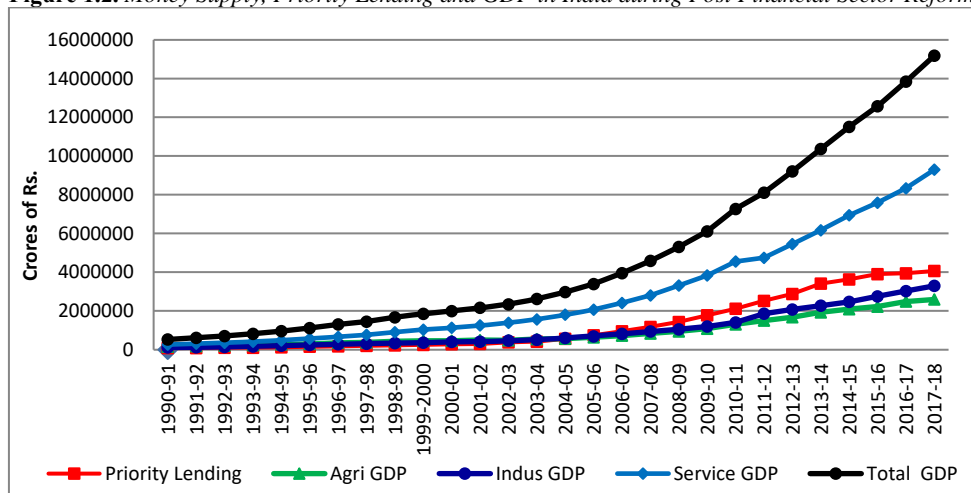
### 5.1. Role and the performances of Nationalised Commercial Banks in India

As per the literature survey and debates among the policy makers, it is observed that the role of commercial banks on economic development has decreased drastically since the 90s. From 1969 to 1991 (post nationalisation to pre-financial sector reforms), all the commercial banks are controlled and regulated by the RBI. But, the government of India has introduced financial sector reform in 1991 and banking sector reforms in 1998. Through these measures, adequate autonomy and freedom were given to commercial banks. As a result of this, the commercial banks neither focus on the objectives of nationalisation nor proper priority lending. Also, the commercial banks did not pay proper attention to RBIs rate cut which poses challenges to the effectiveness of the monetary policy. Therefore, the necessity arises to address the above issues in this study. For this purpose, the study uses Granger Causality test results and trend line analysis from Figures 1.1 to 4.1.

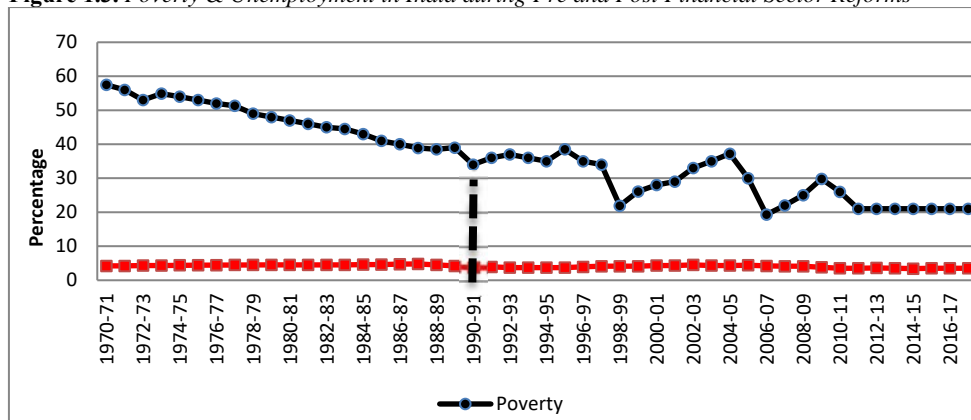
**Figure 1.1.** Money supply, priority lending and GDP in India during pre-financial sector reforms



**Figure 1.2.** Money Supply, Priority Lending and GDP in India during Post Financial Sector Reforms

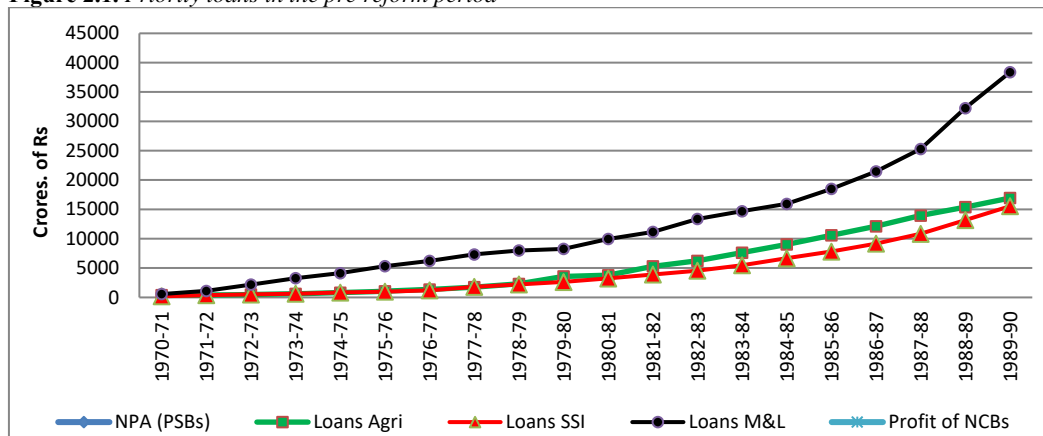


**Figure 1.3.** Poverty & Unemployment in India during Pre and Post Financial Sector Reforms

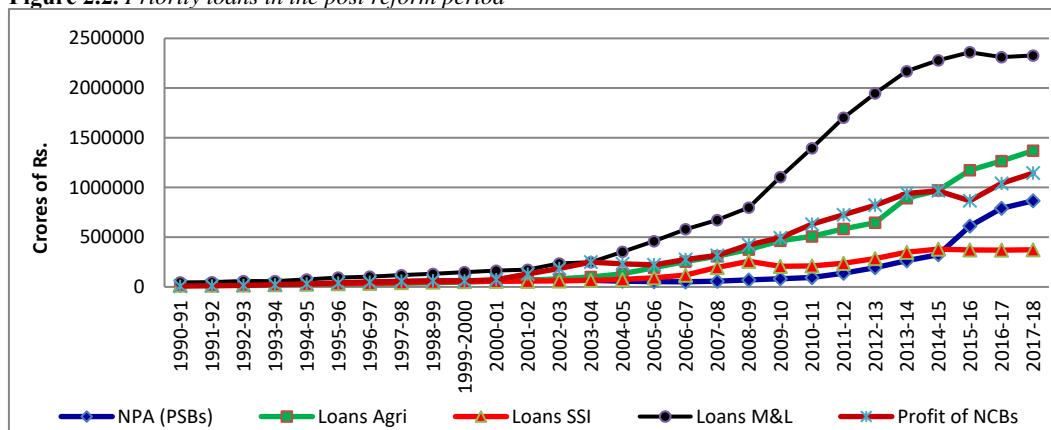


Using trend line analysis from Figure 1.1, the study observed that there is a positive correlation exists between GDP growth rate and economic development during pre and post financial sector reforms. In both the periods, the growth rate of GDP is continuously increasing and the rate of poverty and unemployment is decreasing. When we compare the progress in both the periods, the study observed some interesting results. In an absolute sense, the overall GDP and sector wise GDP in the post-reform period average is higher than that of the pre-reform period. In the pre-reform period, the average GDP of Agriculture was Rs. 55,687 Crores, Industry GDP was Rs. 34,400 Crores and the service GDP was Rs. 80,625 crores which are very lesser compared to the post-reform period average of Rs. 9,11,975 Crores, Rs. 10,18,399 Crores, Rs. 28,71,288 crores respectively (Agri, Indus, service). Compared to the pre-reform period, the agricultural GDP has increased by 16 times, industrial GDP has increased by 30 times and the service sector GDP has increased by 35 times in the post-reform period (Figures 1.1 and 1.2).

**Figure 2.1.** Priority loans in the pre reform period



**Figure 2.2.** Priority loans in the post reform period



Now the study tries to correlate GDP growth with priority lending by Nationalised Commercial Banks in India during pre and post-reform periods. Compared pre-reform period, the priority sector lending has increased in the post reform period. Especially, a

loan to the agricultural sector has increased by 60 times, a loan to small scale sector has increased to 30 times and a loan to large scale sector has increased by 65 times (Figures 2.1 and 2.2).

So the study observed that there is a positive correlation between sectorial GDP and priority lending during pre and post-reform periods. Both are inversely related to the trends in poverty and unemployment, which is clearly seen in Figure 1.3. All these results proved that the NCBs has increased its priority lending in the post-reform period. It is reflected positively on sectorial GDP and economic development via a reduction in poverty and unemployment. Simultaneously, the study also observed that the rate of fall in poverty is high in the pre-reform period compared to the post-reform period. Unemployment rate is also almost constant in the post-reform period even though there is considerable growth in GDP and priority lending. This is because the NCBs lending to medium and large scale sector is very high compared to their lending to agriculture and small scale industries (Figures 2.1 and 2.2).

When we look into the performances of NCBs, the study observed mixed implications. From 1991 to till global financial crisis in 2008, the Non-Performing Assets (NPA) of NCBs were under control with a considerable amount of profit. After 2009, since expansionary policy measures, the growth of NPA and profits are increasing faster than ever before. It is clearly observed from the trend line analysis in Figure 2.2 and Granger Causality results from Table 2. The Granger causality test observed unidirectional causality between the profit of NCBs and its NPA. Simultaneously, GDP and NPA are also observed in unidirectional causality. It reveals that an increase in profit of NCBs induces its lending activities and GDP. This, in turn, increases non-performing assets in India. Moreover, since 2011, the union government and various state governments started widening loan waiver schemes. It further increases NPA and poses a severe threat to the sustainability of banking institutions in the country.

Overall result for the first part of the analysis, the study found mixed implications. The role of NCBs on economic growth is very good in the post-reform period but lacks economic development even though the average GDP is significantly high in the post-reform period. This because huge sums of the loan was given to medium and large scale industries compared to loans to agriculture and small scale industries which reflected negatively on poverty eradication and employment generation.

The second part of the study is to test the effectiveness of monetary policy in India since the financial sector reforms in 1991. The purpose is to check how effective the RBI's monetary policy in influencing internal and external sector variables after adequate autonomy was given to NCBs through financial and banking sector reforms. For this purpose, the study uses periodical changes in money supply and its effect on GDP, Inflation, NPA, Current Account Deficit, Exchange Rate, Lending Rate of RBI and Commercial Banks. Usually, these variables have bi-directional and unidirectional relationships. Some variables may not have any associations. For example, an increase in money supply leads to an increase in demand for goods and price level. Similarly, an increase in price level may influence the circulation of money by reducing bond demand is called bidirectional causality. If the increased money supply leads to create only



inflation (price level) and no impact in the bond market is called unidirectional causality. For this purpose, the appropriate model is Engel-Granger's Causality test which is applied in this study for analysis.

**Table 2.** *Pairwise Granger Causality Tests*

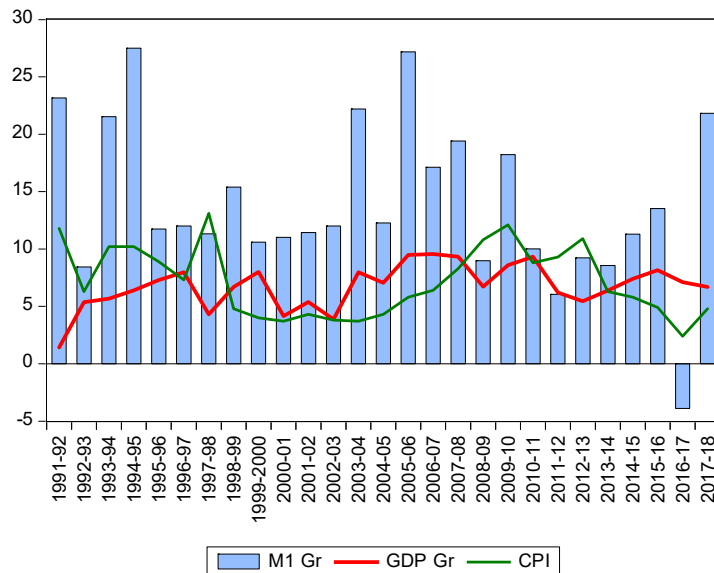
Null Hypothesis:	Obs.	F-Statistic	Prob.	Result
GDP does not Granger Cause MS	43	0.48516	0.7847	Unidirectional Causality
MS does not Granger Cause GDP		4.29607	0.0042	
MS does not Granger Cause CPI	43	0.56776	0.7240	No Causality
CPI does not Granger Cause MS		1.43982	0.2369	
ER does not Granger Cause CAD	43	0.28312	0.9189	No Causality
CAD does not Granger Cause ER		1.90522	0.1210	
MS does not Granger Cause CAD	43	1.29265	0.2915	No Causality
CAD does not Granger Cause MS		2.21160	0.0774	
GDP does not Granger Cause CAD	43	4.00751	0.0062	Unidirectional Causality
CAD does not Granger Cause GDP		1.11329	0.3730	
RBLR does not Granger Cause CBLR	25	5.11693	0.0160	Unidirectional Causality
CBLR does not Granger Cause RBLR		0.93622	0.1703	
CBLR does not Granger Cause MS	25	0.57815	0.5700	No Causality
MS does not Granger Cause CBLR		2.70186	0.0915	
GDP does not Granger Cause NPA	17	4.07205	0.0057	Unidirectional Causality
NPA does not Granger Cause GDP		0.75712	0.5873	
PROFIT CB does not Granger Cause NPA	17	21.5156	0.0009	Unidirectional Causality
NPA does not Granger Cause PROFIT CB		2.15271	0.1889	

**Source:** Computed.

Theoretically, the effectiveness of monetary policy can be tested using two methods. The first method deals the internal sector by assessing the effect of changes in money supply on Demand, Employment and GDP without creating inflation in the economy. The second method deals the external sector by assessing the effect of changes in Money Supply on Current Account Deficit, Exchange Rate and Balance of Payments.

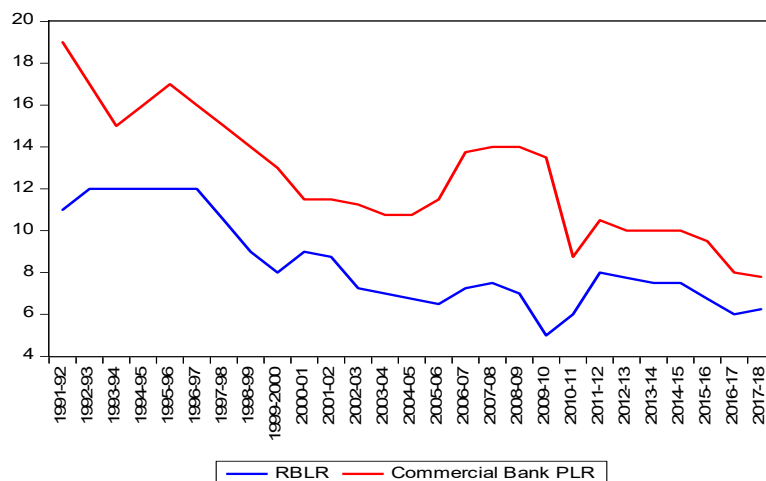
Now, the study uses pairwise Granger Causality test results from Table 2 to verify the relevance and effectiveness of the monetary policy. Granger Causality test result from Table 2 gives unidirectional causality between Money Supply and GDP in India. The probability value of 0.004 rejected the null hypothesis of the money supply does not Granger cause GDP. This means the test result validated the theoretical relationship of an increase in money supply leads to increase GDP via aggregate demand.

Figure 3.1 is also supported that there is a positive relationship between the money supply and GDP in India. It can also be inferred from Figure 3.1 that an increase in money supply increases GDP via aggregate demand without creating inflation rate in India. It is evidenced from Figure 3.1 and Granger Causality, both results no causality between money supply and the Inflation rate in India. It reveals that the price level is not only influenced by monetary authorities, fiscal and other government policy plays a major role in influencing inflation rate in India. The test result also reveals that the GDP has no influence on the money supply. Naturally, the money supply is exogenously determined by the central bank.

**Figure 3.1.** Growth rate of money supply, GDP and inflation

When we move to the external sector, the study did not find any causality between money supply and the Current Account Deficit (CAD). It means the role of invisible (service trade) play a crucial role in India's current account than that of merchandise account. Unexpectedly, it is found from Table 2 and Figure 3.1 that the change in money supply does not influence CAD, CPI and exchange rate. It reveals that the merchandise trade account is not directly related to the money supply in India. This is the reason why the money supply has no causality with a current account deficit. As a result of this observation, the restoration process in Balance of Payments is not feasible for India. From these results, it can be inferred that the monetary policy is effective in influencing major variables in the external sector but it is not effective in restoring the disequilibrium in Balance of Payments account.

Now the study focuses upon the effectiveness of monetary policy using interest rate pass-through in India, especially since financial sector reforms. For this purpose, the study uses Granger causality test result and trend line analysis for the money supply, Reserve Bank's Lending Rate (RBLR), Commercial Bank's Lending Rates (CBLR) and it can be observed from Table 2 and Figure 4.1.

**Figure 4.1.** Correlation between the RBI Lending Rate with Commercial Bank Lending Rate

First, the study tested the relationship between CBLR and money supply. Usually, the money supply is determined exogenously by the central of the country and not by CBLR. The Granger causality test result gives 57 percent p-value for CBLR and money supply proved that the money supply is exogenously determined by the RBI and not by CBLR. When the study tries to estimate another directional relationship between money supply and CBLR, the study detected a 10 percent level of significance. Which means, CBLR not only depends on RBLR, also it responds to changes in the money supply at a 10 percent level of significance, i.e. demand and supply of money also determine CBLR instead only RBLR. Secondly, the Granger causality test result gives unidirectional causality between RBLR and CBLR. It means any change in RBLR will cause changes in CBLR. It is also evidenced in Figure 4 that the RBLR and CBLR move almost in the same direction in the entire study period. From 1991 to 2011, the gap between CBLR and RBLR was high, but in recent years, the gap is also reducing and moving towards the same direction proved the effectiveness of interest rate pass-through in India.

## 6. Conclusion

Government of India the process of nationalising commercial bank since 1969 for the purpose of enhancing national welfare through priority lending at subsidised rates. Since the 1970s, all the NCBs are directly controlled and regulated by the RBI in order to achieve the objectives of the planning commission. Due to which, many of the commercial banks were eroded and moved towards bankruptcy at the end of the 80s. To solve these issues and to strengthen banking institutions, the government of India set up a committee under the chairmanship of Narasimham. The committee submitted its report in 1991 and the recommendations were implemented under economic reforms. Again in 1998, the GOI set up a committee under the chairmanship of Narasimham to review the old policy and recommend further improvements in the banking industry. The committee submitted its report to the GOI and it was implemented under banking sector reforms in

1998. Both the reform measures gave adequate autonomy and freedom to banking institutions which induce them to move away from the objectives of nationalisation (Welfare motive to profit motive). The purpose of higher autonomy is to enhance the performances of banking institutions in the country. But the statistics show that the majority of the NCBs are not performing well and their NPAs are increasing continuously. So the main purpose of the study is to compare the role of NCBs on economic growth and development during pre and post-reform periods. The study also aims to evaluate the effectiveness of monetary policy in India after reforms in the money market (How commercial banks are responding to RBI's rate cut after adequate autonomy).

First, the study observed that the role of NCBs on economic growth and development is continuously increasing during the pre and post-reform periods. In fact, the NCBs are playing a major role in influencing GDP in the post-reform period compared to pre-reform period. Similarly, there is a significant contribution from NCBs on poverty eradication and employment generation through priority lending. When we compare the role of NCBs on poverty eradication and employment generation, they play a major role in the pre-reform period compared to the post-reform period. This is because adequate autonomy to NCBs lead to less focus on the loans to agriculture and small scale sector compared to their loans to medium and large scale industries. The main objective of autonomy is to enhance the performances of NCBs through high profits. But the study found that the NPA of NCBs is very high and unacceptable in the post-reform period, especially since 2000.

Secondly, the study observed that the commercial banks did not properly respond to the rate cut of RBI on several occasions due to excessive autonomy. As a result, the question arises whether the monetary policy and interest rate pass-through is effective in India or not. For this purpose, the study tries to test the effectiveness of monetary policy and interest rate pass-through in India in the liberalisational era. The study found mixed implications for monetary policy effectiveness and interest rate pass-through in India. First, the study observed that the expansionary monetary policy influences GDP positively without creating inflation in India. It is evidenced from Figure 3 that the GDP growth rate is associated with the growth rate of money supply and inflation is not responding to the money supply (Figure 3). From this observation, the study infers that the monetary policy is an effective tool to achieve internal equilibrium in India. Secondly, the expansionary monetary policy has no causality with CPI, CAD and Exchange rate proved the ineffectiveness of monetary policy in the external sector lacks the significance of monetary policy in the context of an automatic restoration process. Thirdly, the study observed an interesting result for interest rate pass-through. The Granger causality test result provides unidirectional causality between Reserve Bank's Lending Rate and Commercial Bank Lending Rate. It indicates, even though adequate autonomy was given to commercial banks, the commercial banks' lending rates are directly correlated to Reserve Bank's lending rate. This result proved that there is a strong interest rate pass-through takes place in the organised money market in India. Finally, the study concludes by inferring that the monetary policy is effective in India in terms of achieving internal

equilibrium via a strong interest rate pass through. Simultaneously, the monetary policy fails in the process of automatic restoration in the external sector.

Finally, the study concludes that the role of NCBs in enhancing national welfare and improving their performance is not significant in the post-reform period even though they play a major role in GDP growth. Moreover, most of the NCBs are not responding properly to RBI's rate cut poses a severe threat to the objectives of monetary policy. For economic development and effective monetary policy, the study strongly recommended periodical instructions and frequent interference of RBI in the functions of Nationalised Commercial Banks in India.

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