Impact of Financial Inclusion on Economic Growth – With Special Reference to Banking Sector

Mr. Mukesh Kumar Gupta* Ms. Bushra ** Ms. Abha Gupta ***

Abstract:

The issue of financial inclusion is emerging as the new paradigm of economic growth. Financial inclusion plays a major role in driving away the poverty from the country. Financial inclusion refers to delivery of banking services to masses including non-privileged people at an affordable price, financial terms and conditions. Mobilization and circulation of funds is the primary prerequisite for development of an economy. Through inclusion access of weaker section to the financial system of the country can be achieved and only then, a country can move towards higher economic growth in terms of GDP growth rate. The present study aims to examine the impact of Financial Inclusion on Economic Growth measured by GDP growth rate over a period of eleven years using number of ATMs, number of depositors with the commercial banks, number of Kisan Credit Cards, number of Loan accounts, credit deposit ratio. Secondary data is used which has been analysed by multiple regression model on E-Views as a main statistical tool. Results of the study found an insignificant relationship between financial inclusion parameters on Indian GDP growth rate over the stated time period.

Key Words :- Financial inclusion , Growth rate , Gross Domestic Product

Introduction

India is one of the largest and fastest growing economies of the world, but it has been uneven in the sense that there has been no uniformity in its growth performance and it has been discrete and disconnected with regard to growth and distribution of growth benefits to certain sectors of economy. A vast majority of the population, especially in rural areas, is excluded from the easy access to finance (Gounasegaran, Kuriakose, & Iyer, 2013). Forty per cent of the households having bank accounts, but only 38 per cent of the 117,200 branches of scheduled commercial banks are working in rural areas. Accessibility of financial services at affordable and appropriate prices has been always a global issue. Financial exclusion can be fatal for the growth of an economy because it tends to hamper its financial infrastructure,
which is undoubtedly a key driver of economic growth (Gurley and Shaw, 1955; Goldsmith, 1969; Greenwood and Javanovic, 1990; Diamond and Dybvig, 1983; Angadi, 2003). Hence, an inclusive financial system is required widely not only in India, but has become a policy priority in various countries. Financial access can surely improve the financial condition and living standard of the poor and the deprived section. So, RBI has been continuously stimulating the banking sector to extend the banking network both by setting up of new branches and installation of new ATMs (Dangi & Kumar, 2013). Financial inclusion means the delivery of financial services, including banking services and credit, at an affordable cost to the vast sections of disadvantaged and low-income groups who tend to be excluding (Chhabra, 2015). Inclusive growth has become a national policy objective of the Union Government. Inclusive growth as the literal meaning of the two words refers to both the pace and the pattern of the economic growth, it basically means, broad based, shared, and pro-poor growth. It means that inclusive growth as a strategy of economic development should not only aim at equitable distribution of growth benefits but also at creating economic opportunities along with equal access to them for all. According to World Bank report “Financial inclusion, or broad access to financial services, is defined as an absence of price or non-price barriers in the use of financial services.” Walter (1873) and Schumpeter (1912) highlighted the critical role of the banking system in economic growth. Goldsmith (1969), McKinnon (1973), and Shaw (1973) suggested that efficient flow of funds from banks through their widespread network leads to innovation and develops enterprise due to availability of credit. In August 2014, Mr. Narendra Modi, the Prime Minister of India, launched the ‘Pradhan Mantri Jan-DhanYojna’ Over the span of this launch, a total of one hundred and twenty five million bank accounts were opened (as on January 31, 2015) by banks. It is argued that as banking services are in the nature of public good; the availability of banking and payment services to the entire population without discrimination is the prime objective of this public policy. Thus the term Financial Inclusion can be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. Banking and financial services play very crucial role in the growth and development of an economy. In view of the need for further financial deepening in the country in order to boost economic development, there is a dire need for expanding financial inclusion. Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segment of rural population and plays its own role in the process of economic development. It can be a great weapon to overcome financial backwardness.
Access to financial services plays a critical part in development by facilitating economic growth and reducing income inequality.

According to RBI and IMF financial access parameters, includes automated teller machines (ATMs), number of depositors with the commercial bank, number of loan accounts, number of Kisan Credit Cards issued, credit deposit ratio. Mobilization and circulation of finance is the primary requirement of development of an economy. Achieving inclusive growth makes financial inclusion a key policy concern for a developing nation like India. The basic objective of the study is to analyse the effect of financial inclusion in the growth of Indian economy.

**Literature Review**

Most of the literature is focused on the theoretical and conceptual development of financial inclusion and inclusive growth achieved through financial inclusion in the context of developing and developed economies. Different studies have defined financial inclusion based on different terms and perspectives, with the ultimate objective of providing access of formal financial services to the common person and society at large. The literature was reviewed in the context of the research question and ponders arguments on measurement of financial inclusion along with the determinants of financial inclusion and impact of financial inclusion on growth through evidence. Gupte et al. (2012) computed a financial inclusion index specifically for the Indian scenario, for dimensions including outreach, usage, ease of transactions, and cost of transactions from the perspective of banking institutions for 2008-09. Interestingly, all of these financial inclusion indices are based on banking institution indicators, which directly exhibits the key role played by banking institutions in promoting financial inclusion in any economy.

Ravikumar (n. d.) analyzed the role of banking sector in financial inclusion with the help of focusing on Branch Penetration, ATM penetration, population per branch, distribution of banking branches, credits deposits of scheduled commercial banks and Cooperative Banks in India. This study examined that banking is a key indicator of financial inclusion or inclusive growth but large proportion of population excluded from the formal financial system also shows higher inequality.

In study Kamboj (2014) found that number of bank branch networks and no of ATMs have positive relationship with GDP growth rate of India.
Sharma 2016 has analyzed three core dimensions of financial inclusion. These dimensions are (i) penetration of banking institutions, (ii) availability or access of banking services, and (iii) resultant usage of banking services. Penetration of banking institutions has been defined based on the following factors: (i) Number of deposit accounts held by commercial banks per 1000 adults, (ii) Number of loan accounts held by commercial banks per 1000 adults.

On a similar note, Dipasha Sharma,(2016) provided empirical evidence in favour of the banking system as a strong financial intermediation system that leads to economic growth. He concluded that financial inclusion is a driver of economic growth.

As per the findings of Sharma (2016) access of banking services has been indicated in terms of the Bank branches per 1000 km, Bank branches per 0.1 million adults, ATMs per 1000 km and ATMs per 0.1 million adults. These indicators exhibited geographical and demographical financial outreach (Beck et al., 2007; Kendall et al., 2010; Ghosh, 2011). The banking outreach plays a major role in inclusive growth, because in India specifically banks intermediate most of the finances (Ghosh, 2011). Moreover, sound economic growth depends upon efficient and productive allocation of funds by banking institutions (McKinnon, 1973).

**Research Gap:** Financial inclusion is an important step towards achieving inclusive growth. There are few studies which have been done to analyse the impact of financial inclusion on GDP growth rate with respect to selected banks, or for selected financial parameters for the time frame of 2004-2014. Previous studies majorly focused on factors such as number of ATM’s, credit deposit ratio, number of branches. With this backdrop, this research study is an attempt to find out the present role of financial inclusion on GDP growth rate with the help of three dimensions namely, 1. Penetration of banking institutions, 2. Access to banking services , 3. Usage of banking services for the time period from 2005 – 2016.

**Penetration of banking institutions include :**

a. Number of Depositors with the commercial banks.

b. Number of loan accounts with the commercial banks

c. Number of Kisan Credit Cards issued

**Access of banking services include:**

a. Number of Automated Teller Machines(ATMS)

**Usage of Banking Services is defined as :**
a. Credit Deposit Ratio.

As of rationale of this study is concern one more factor has been added and data of three more years have been taken for the purpose of the study.

**Research Methodology**

The basic objective of the study is to analyse the effect of financial inclusion in the growth of Indian economy. This study attempts to assess the current status of financial inclusion on the development of Indian economy.

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e
\]

Where:

- \(Y\) = GDP Growth rate
- \(X_1\) = Number of ATMs
- \(X_2\) = Number of Depositors with the commercial banks of India
- \(X_3\) = Number of Loan Accounts
- \(X_4\) = Number of Kisan credit Cards (KCC)
- \(X_5\) = Credit Deposit Ratio.
- \(\alpha\) = constant term
- \(e\) = error term
- \(\beta\) = regression coefficients

**Research Design**

The present study is causal in nature, in this study the researchers attempted to study the impact of financial inclusion on Economic Growth – With Special Reference to Banking Sector.

**Data Collection Method**

Secondary Data:

To address the research question, in the study, we explored the contextual nexus between various indicators of financial inclusion as provided in the IMF’s FAS Database- Select
Indicators on Financial Inclusion, RBI and GDP growth rate. For secondary source of data published reports in various journals and magazines are referred. The data is collected from the website of central bank of the country i.e. RBI, World Bank, IMF, NABARD and official websites of various public and private sector banks.

**Period of the Study**
In the present study literature review has been considered for past 10 years and data for the period of year 2005 to 2016 has been considered from various secondary sources.

**Data Analysis Method**
Data analysis is done using E-views 8. Data is tested for stationarity using the Augmented Dickey-Fuller test. After checking the stationarity, multiple regression analysis is done to produce the results.

**Objective of the Study :-**
1. To identify the financial inclusion parameters having impact on GDP growth rate.
2. To assess the impact of financial inclusion parameters on GDP growth rate.

**Hypothesis of the study**
On the basis of objective of the study, following hypothesis has been formed:

- **H₀₁:** There is no significant impact of the financial inclusion on the GDP growth rate.
- **Hₐ₁:** There is significant impact of financial inclusion on the GDP growth rate.

**Sub – Hypothesis :**

- **H₀₁.¹** There is no significant impact of Number of ATMS on Indian GDP growth rate.
- **Hₐ₁.¹** There is significant impact of Number of ATMS on Indian GDP growth rate.

- **H₀₁.²** There is no significant impact of Number of Depositors of the commercial banks on Indian GDP growth rate.
- **Hₐ₁.²** There is significant impact of Number of Depositors of the commercial banks on Indian GDP growth rate.
$H_01.3$ There is no significant impact of number of loan accounts on Indian GDP growth rate.

$H_A1.3$ There is significant impact of Number of loan accounts on Indian GDP growth rate.

$H_01.4$ There is no significant impact of number of Kisan Credit Cards issued on Indian GDP growth rate.

$H_A1.4$ There is significant impact of Number of Kisan Credit Cards issued on Indian GDP growth rate.

$H_01.5$ There is no significant impact of credit deposit ratio on Indian GDP growth rate.

$H_A1.5$ There is significant impact of credit deposit ratio on Indian GDP growth rate.

**Data Analysis and Interpretation**

**Table No. 1:** Data used to perform the regression analysis on E views -8.

<table>
<thead>
<tr>
<th>Year</th>
<th>Depositors with commercial banks (per 1,000 adults)</th>
<th>Automated teller machines (ATMs) (per 100,000 adults)</th>
<th>Branches of commercial banks per 1,000 km²</th>
<th>GDP</th>
<th>Loan accounts with commercial banks per 1,000 adults</th>
<th>credit deposit ratio</th>
<th>number of kisan credit cards issued(in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>607.0089</td>
<td>2.294135</td>
<td>23.08968</td>
<td>9.284825</td>
<td>100.3255</td>
<td>66</td>
<td>96.8</td>
</tr>
<tr>
<td>2006</td>
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<td>2.741204</td>
<td>23.49497</td>
<td>9.263965</td>
<td>108.8119</td>
<td>72.5</td>
<td>80.12</td>
</tr>
<tr>
<td>2007</td>
<td>647.8718</td>
<td>3.380119</td>
<td>24.27696</td>
<td>9.80136</td>
<td>124.0866</td>
<td>75</td>
<td>85.11</td>
</tr>
<tr>
<td>2008</td>
<td>711.3551</td>
<td>4.289596</td>
<td>25.6139</td>
<td>3.890957</td>
<td>130.8467</td>
<td>74.2</td>
<td>84.7</td>
</tr>
<tr>
<td>2009</td>
<td>794.0365</td>
<td>5.31234</td>
<td>26.93841</td>
<td>8.479784</td>
<td>131.9467</td>
<td>72.6</td>
<td>85.88</td>
</tr>
<tr>
<td>2010</td>
<td>863.8341</td>
<td>7.26843</td>
<td>28.71932</td>
<td>10.25996</td>
<td>139.4698</td>
<td>72.7</td>
<td>90.1</td>
</tr>
<tr>
<td>2011</td>
<td>934.4602</td>
<td>8.851847</td>
<td>30.65193</td>
<td>6.638364</td>
<td>139.2517</td>
<td>75.1</td>
<td>101.6</td>
</tr>
<tr>
<td>2012</td>
<td>1022.236</td>
<td>10.99209</td>
<td>33.23568</td>
<td>5.456388</td>
<td>148.1306</td>
<td>77.5</td>
<td>117.54</td>
</tr>
<tr>
<td>2013</td>
<td>1160.719</td>
<td>12.86648</td>
<td>35.89007</td>
<td>6.386106</td>
<td>142.4779</td>
<td>74.29</td>
<td>129.52</td>
</tr>
<tr>
<td>2014</td>
<td>1337.41</td>
<td>17.79601</td>
<td>39.69474</td>
<td>7.50522</td>
<td>151.272</td>
<td>73.79</td>
<td>134</td>
</tr>
<tr>
<td>2015</td>
<td>1541.791</td>
<td>19.70138</td>
<td>42.54488</td>
<td>8.010053</td>
<td>154.4472</td>
<td>73.43</td>
<td>142</td>
</tr>
</tbody>
</table>
Following are the graphs used to check the nature of the data i.e. whether there is deterministic trend, stochastic trend or no trend.

Figure 1:-

Figure 2:-

(Source, Irving Fisher Committee on Central Bank Statistics IFC Bulletin No 38 Financial inclusion indicators, Progress under Financial Inclusion Plans, All SCBs including RRBs.)
Figure 3:

Figure 4:

Figure 5:
Graph of ATM and Number of Depositors shows deterministic trend, hence graph of detrended Atm and number of depositors is taken out by detrending both the series. Using the equations:

1. atm @trend, detrendatm = atm - atmf and

2. depositrate @trend, ddepositrate = depositrate – depositratef.

Graph of Loan and GDP growth rate, credit ratio, number of Kisan Credit Cards shows stochastic trend, hence log of the series are taken to detrend them using the equations:

3. lgdpgdp = log(gdp) and

4. llloan = log(loan),

5. lcreditratio = log(creditratio),

6. lkcc = log(kcc).
Following are the graphs of the detrended series:

Figure 7:

Figure 8

Figure 9
Checking the Stationarity of the series using ADF test :

Table No. 2 : Results of Augmented Dickey Fuller Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>1% Significance level</th>
<th>5% significance level</th>
<th>10% significance level</th>
<th>ADF * t-statistics</th>
<th>ADF* probability value</th>
<th>Level of difference used</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM</td>
<td>-5.835186</td>
<td>-4.246503</td>
<td>-3.590496</td>
<td>-9.492259</td>
<td>0.0005</td>
<td>1st</td>
</tr>
</tbody>
</table>
Since the p values of all the variables are less than 5% (0.05), all are insignificant with respect to the ADF test (unit root test), hence all the series are stationary.

Since the series of number of Loan Accounts, number of KCC issued and Number of Depositors are stationary with lag (2), Following are the graphs of the series with lag (2).

(Source: Researcher's Output)
Finding the relationship between the variables using Regression analysis:

Table No. 3: Regression Results Taking LGDP as Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>28.45732</td>
<td>30.20305</td>
<td>0.942200</td>
<td>0.3994</td>
</tr>
<tr>
<td>DATM</td>
<td>-0.103407</td>
<td>0.195036</td>
<td>-0.530193</td>
<td>0.6240</td>
</tr>
<tr>
<td>LLKCC</td>
<td>1.828915</td>
<td>1.932684</td>
<td>0.946308</td>
<td>0.3976</td>
</tr>
</tbody>
</table>
Table No. 3. Shows the results of regression analysis for the GDP growth rate as a dependent variable and Financial Inclusion indicators as independent variables. It is to be noted that financial inclusion variables includes number of depositors with the commercial banks, number of ATMS, number of loan accounts, credit deposit ratio, Kisan Credit Cards issued. Regression analysis investigates the relationship between the number of depositors with commercial bank and GDP growth rate with lag 2 and confirms an insignificant relationship between the two variables as the probability value is 0.7442 therefore the null hypothesis is being accepted. This implies that whether the number of depositors with the commercial bank increases or decreases, GDP growth rate will not get affected. The present study, also portrays that there is no significant impact of the number of ATMs on the GDP growth rate as the probability value is 0.8432 (refer table no.3), therefore, again the null hypothesis is being accepted. Regression analysis again shows an insignificant relationship between number of loan a/c, number of KCC issued, credit deposit ratio and GDP growth rate as the p value is 0.7906 with lag 2, 0.3976 with lag 2, 0.4370 respectively (refer table no.3).

The $r^2$ i.e. the proportion of the variance in the dependent variable that is predictable from the independent variable value is **0.354478** which shows that only 35% of the variation in the GDP is jointly explained by all the independent variables. Percentage of the explained variation is very insignificant, hence one can conclude that financial inclusion in terms of the number of depositors, number of loan accounts, number of ATMs, number of KCC issued, credit deposit ratio do not lead to better economic development and growth. This finding is
very important as merely opening of the accounts do not lead to economic growth as new
openings may include no-frills accounts/ dormant accounts through which there is no flow of
money. This is an important concern for growing Indian economy.

The findings of the study are in contradiction with previous studies which were conducted by
Sharma, 2016 and Iqbal and Sami in 2017 where they stated that there is a strong relationship
between all banking penetration parameters except number of ATMS and GDP growth rate.
The variations in the results can be stated as due to following possible reasons that includes
time period of the study and the data used, economic conditions of the country, frequent
changes in banking policies, emergence of financial technologies, new government
regulations for banking, etc.

**Conclusion**
The financial system of a country is an important tool for economic development of the
country, as it helps in creation of wealth by linking savings with the investments. It facilitates
flow of funds from the (households)savers to the business firms(investors) to aid in wealth
creation and development of both the parties. As a part of the financial system, banks
contributes to the financial inclusion process. The financial inclusion has picked up in India
in the last decade( refer table No.1) . Factors like number of bank branches, number of ATMs
, number of account holders, etc. impacted the financial inclusion status in India which may
have impacted the GDP growth rate of the country along with some other factor but
individually none of the factor is affecting GDP growth rate directly . It can be concluded that
although banking credit system is essential for economic growth of the country but it cannot
accelerate the growth process. Hence, the study observed that financial inclusion is
insignificantly related with the growth and development of the country.

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Appendix:

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<tr>
<td>Year</td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
<td>2015</td>
<td>2016</td>
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<tr>
<td>Value</td>
<td>1022.236</td>
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<td>1337.41</td>
<td>1541.791</td>
<td>1731.268</td>
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<td>Value</td>
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<td>Value</td>
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(Source: Irving Fisher Committee on Central Bank Statistics IFC Bulletin No 38 Financial inclusion indicators, Progress under Financial Inclusion Plans, All SCBs including RRBs)