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Financial Inclusion and Growth of Indian Economy: An Empirical Analysis

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Abstract:
For the increasing growth of the economy, the main concern of the policy makers should be overall economic and social growth of the country. Most of the developing countries around the world, face scarcity of the capital, so only through financial literacy and making financial services and banking facilities approachable to the weaker section of the society the habit of saving can be generated among them and which in long run lead to the overall growth of an economy. The present study aims to investigate the relationship between financial inclusion and growth of the economy by applying multiple regression model on a data over a period of 2009-2013. Results of the study showed positive relationship between number of bank branch networks and number of ATMs in the country with the GDP growth rate of the country.

Keywords*: Financial Inclusion, Growth, GDP, ATMs, Financial Literacy*

1. Introduction

In developing countries with scarcity of capital, Government of the country is mainly concerned with the equal distribution of income from rich to poor in order to achieve the balanced economic growth. India is one of the largest and fast growing economies of the world, despite being many initiatives taken by the Government towards providing financial services and benefits to the weaker or unprivileged sections of the society, a large section of the nation is not having any access to the basic financial services which is considered to be key cause of illiteracy, poverty, lack of social benefits. So the Government of the country has to frame the policy to achieve the social and economic growth together, only then the India's continued growth with be ensured. Financial inclusion is delivery of banking services at an affordable cost to the vast sections of disadvantaged and low income groups. As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination is the prime objective of the Government Policy (Leeladhar, 2006).

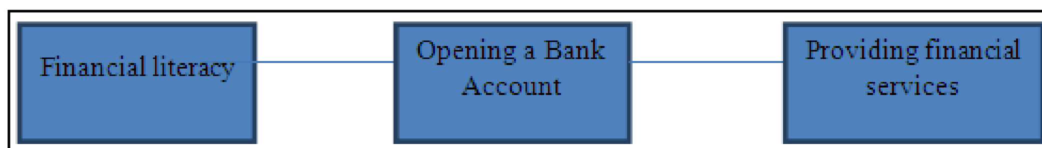

Figure 1: Financial Inclusion Lifecycle

2. Role of Financial Inclusion in Growth

In developing economies like India, the banks, as mobilisers of savings and allocators of credit for production and investment, have a very critical role. As a financial intermediary, the banks contribute to the economic growth of the country by identifying the entrepreneurs with the best chances of successfully initiating new commercial activities and allocating credit to them (Chakrabarty, 2013). Problems like poverty and unemployment can be reduced by ensuring proper economic and social inclusion. Financial inclusion can generate positive externalities such as it can increase the savings and investment which in turn will lead to the growth of the economy. It is generally related to generating saving habits among lower income group who do not have access to the financial services and in the absence of savings they have to rely mainly on the financial helps provided by their friends, family and moneylenders. Presence of banking services and products aims to provide a critical tool to inculcate the savings habit.

3. Review of Literature

Financial Inclusion is crucial for the even growth of economy as a large number of the Indian population is still not have access to the basic financial services despite a number of initiatives been taken by the Government. In order to study the relationship between financial inclusion and growth, a number of studies have been reviewed, which are summarized as follows:

- **Bagli (2012)** examined the achievement of the Indian states towards financial inclusion by applying principal component analysis computed a comprehensive measure of financial inclusion for each state. For the purpose of assessing the performance of different states towards financial inclusion, ten indicators of financial inclusion have been used. Composite scores showed that Goa was better among all the states, most of the states in southern region performed better

in terms of financial inclusion. The study showed a positive association between human development and financial inclusion of the states in India.

- **Julie (2013)** conducted a study to examine the relationship between financial inclusion and growth in Kenya by applying a multiple regression analysis. The study concluded that the economic growth in Kenya had a strong positive relationship with the financial inclusion in Kenya. A branch network had the highest influence on the growth followed by number of mobile money users/accounts then the number of ATMs in the country and bank lending interest rates.
- **Paramasivan and Ganeshkumar (2013)** discussed the overview of financial inclusion in India and concluded that branch density has a significant impact on financial inclusion. Literacy is also important in achieving the objective of financial inclusion but it alone cannot guarantee complete financial inclusion as only awareness is not a complete step towards financial inclusion without creating enough investment opportunities.
- **Sarma and Pais (2008)** examined the relationship between financial inclusion and development by using an index of financial inclusion developed by Sarma (2008) to investigate macro level factors that can be associated with financial inclusion. Study concluded that financial exclusion is indeed a reflection of social exclusion, as countries having low GDP per capita, relatively higher levels of income inequality, low rates of literacy, low urbanization and poor connectivity seem to be less financially inclusive.
- **Frost & Sullivan (2009)** India's growth is challenged by the unequal distribution of income and the inequality between the rich and poor. More than half the country's wealth is shared by only 10 percent of the population. In 2005, 42 percent of the population still struggled to live on less than US$1.25 a day, the same proportion who survived on less than a dollar a day a quarter century earlier. This even distribution of the wealth resulted in the exclusion of around 51 percent of country's population (560 million people) from formal sources of finance services. India's continued growth can only be assured if steps are taken to ensure that the social and economic development is inclusive.
- **Sharma &Kukreja (2013)** discussed the basic features of financial inclusion and its need for the social & economic development of the society. A nation can grow economically and socially only if its rural section turns out to be financially independent. Till now, about half of the Indian population has no access to the basic financial services and there is a need that different financial institutions should gain the trust of the poor through developing strong connections with community based financial ventures and cooperative.

4. Objectives of the Study

After reviewing the available literature, following objectives are formulated for present study:

- To Study the relationship between the financial inclusion and growth in India
- To study the impact of financial inclusion on growth of Indian economy.
- To suggest some recommendations for the policy makers based on the results of the study

5. Hypothesis of the study

On the basis of the objectives of the study, following hypothesis has been formulated:

- H_{01}: There is no significant relationship between financial inclusion and growth in India.
- H_{A1}: There is a significant positive relationship between the financial inclusion and growth in India.
- H_{02}: Financial inclusion has no significant growth of Indian economy.
- H_{A2}: Financial inclusion has a significant impact on the growth of Indian economy.

6. Research design

Present study is descriptive in nature. For the purpose of the present study secondary data has been collected from the various publications of RBI and Government of India for a time period of 2009-2013. Data collected have been analyzed by using SPSS 16.0 version. Multiple regression analysis has been applied to establish an empirical relationship between Financial Inclusion and growth, following analytical model is used for the purpose:

$Y= \beta_0+ \beta_1X_1+\beta_2X_2+\beta_3X_3+\varepsilon$

Where Y= GDP growth

- X_1= percentage increase in number of Automated Teller machines (ATMs) in the country
- X_2= percentage increase in the number of Branch Networks
- X_3= Bank Lending interest rates

7. Trend in Financial Inclusion and Growth

7.1. GDP Growth Rate

The following figure depicts GDP (in crores) during a period of five years starting from the financial year 2008-09 to the financial year 2012-13. It is clear from the following figure that GDP growth has been on continuous increase during these financial years. Financial Year 2008-09 recorded a GDP of Rs.4158676 crores , it was recorded at a level of Rs.4516071 croresin financial year 2009-10 (an increase of 8.59% from the previous financial year) followed by a further increase of 9.32% , 6.21% and 4.99% in the financial years 2010-11, 2011-12, 2012-13 respectively.

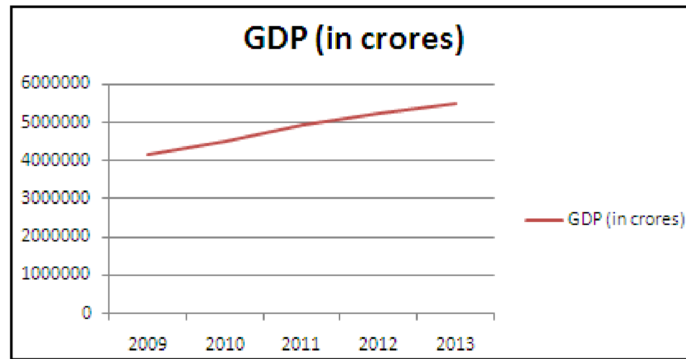

Figure 2: GDP Growth Rate

7.2. Number of Automated Teller Machines (ATMs) in the country

The study also sought to establish the trend in the number of ATMs in the country. From the following graph it is clear that the number of ATMs in the country is gradually increasing. There has been an increase in the number of ATMs in the country from 43651 in the financial year 2008-09 to 114364 in the financial year 2012-13 which is an indication of the growth of the banking sector.

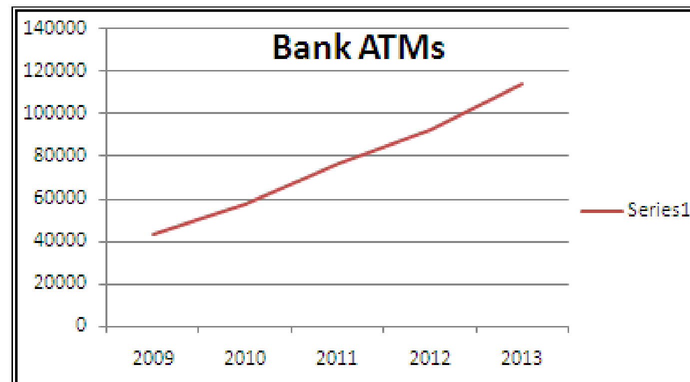

Figure 3: Number of Automated Teller Machines in the Country

7.3. Number of Bank Branch Networks in the country

The study also covered the number of bank branch networks in the country as an indicator of financial inclusion growth. Following figure depicts that the number of bank branches network is continuously increasing from the financial year 2008-09 to the financial year 2012-13. Number of bank branches was 79056 in the financial year 2008-09 which was increased to 101983 at the end of the financial year 2012-13.

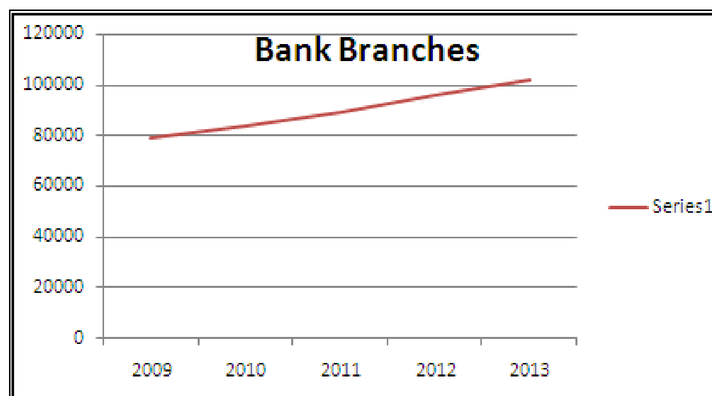

Figure 4: Number of Bank Branch Networks in the Country

7.4. Prime Lending Rate

The study also seeks to explain the trend in the prime lending rate. It is clear from the following figure that in the year 2009 prime lending rate was 12.5% which decreased by 0.5% in the year 2010, then further decreased to 9% in the year 2011 followed by an increase to 10.5% in the year 2012, interest rate decreased slightly to 10.25% in year 2013

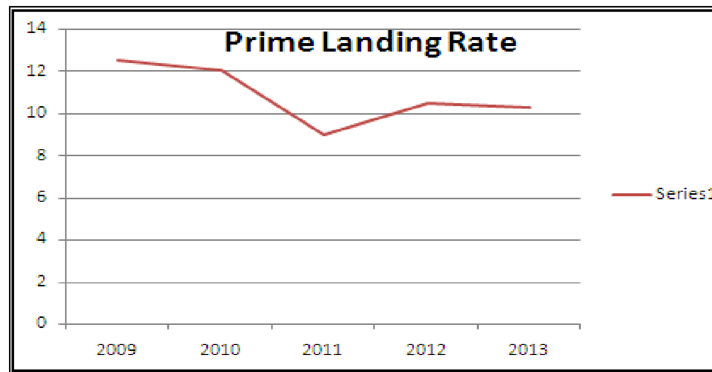

Figure 5: Prime Lending Rate

8. Relationship between the Financial Inclusion and Economicgrowth

To study the relationship between financial inclusion and growth, multiple correlation was applied on the different components of financial inclusion and economic growth, results of which are as follows:

Correlation Analysis			
	Number of ATMs	**Bank Branch Networks**	**Prime Lending Rate**
GDP Growth	0.967**	0.764	-0.583

Table 1: Relationship between financial inclusion and economic growth
*** Significant at 0.01 level*

It is clear from the above table, that there is a strong and significant positive correlation (0.967) between number of ATMs in the country and GDP growth which means as the number of ATMs increases in the country there will be increase in the growth of the economy. On the other hand bank branch networks have a positive but non-significant relationship with GDP growth (0.764) and Prime lending rate has a non-significant negative relationship with GDP growth (-0.583).

9. Impact of Financial inclusion on Economic Growth

Multiple regression has been applied to study the impact of financial inclusion on economic growth, results of which are as follows:

Sr. No.	Predictors	Multiple R	R Square	SE of Estimate	R Square Change
1 2 3	% increase in number of ATMs % increase in number of Bank Branch Networks Bank Lending Rate	0.967	0.935	1.68095	0.935

Table 2: Summary of Multiple Regression Analysis
Note: Dependent variable= GDP growth rate, Predictors= % increase in number of ATMs, % increase in the number of bank branch networks, Bank lending rate

Sr. No.	Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.967	3	13.656	4.833	0.320
	Residual	2.826	1	2.826		
	Total	43.792	4			

Table 3:ANOVA of Multiple Regression
Note: df= degrees of freedom

Sr. No.	Variables Entered	B(Unstandardized coefficients)	Constant	β	t	Sig.
1.	% increase in number of ATMs	0.243	0.850	0.956	2.259	0.265
2.	% increase in number of Bank Branch networks	0.008		0.007	0.015	0.990
3.	Bank Lending rate	-0.023		-0.010	-0.029	0.981

Table 4: Multiple Regression Coefficients
Note: B= Partial Regression Coefficient, β= Beta Coefficient, Dependent variable= GDP growth rate

Multiple regression is applied to find out impact of different components of the financial inclusion on the GDP growth. Results of table reveals that different components of financial inclusion jointly account for 93.5% in the GDP growth rate with F value= 4.833 and p value is 0.320 which is greater than 0.05 (level of significance), therefore null hypotheses is accepted that different factors of financial inclusion do not account for a significant variance in the GDP growth rate of the country. Standard error of estimate is 1.68095 which shows that predicted scores may vary from the actual with the divergence of 1.68095[Table 2, 3, 4]
The partial regression coefficients 'B' of Financial inclusion components (Bank lending rate, number of ATMs in the country, number of Bank branch networks in the country) are 0.243, 0.008 and -0.023 respectively, which means that the direction of influence for 2 predictors (Number of ATMs in the country and number of bank branch networks in the country) is positive and for one predictor (bank lending rate) is negative.
Following regression equation is obtained from the above results:
$Y=0.850+ 0.243X_1+0.008X_2-0.023X$

10. Conclusion

Results of the study showed that two components of the financial inclusion such as number of the ATMs in the country and number of bank branches network have a positive relationship with the growth in GDP which are the proxies of financial deepening where as one factor i.e. bank lending rate has a negative relationship with the growth. All of the variable account for 93.5% but non-significant impact on the GDP growth rate. From the findings of the study it can be concluded that Government should focus on strengthening the bank branch networks and increasing the number of ATMs in the country so that people in the far flung areas may get access to the financial services and it is only then when we will be able to achieve the objective of overall and balanced development of the economy. Also Government can make the use of technology in having access to the remote areas.

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