

THE IMPACT OF FINANCIAL INCLUSION ON THE ECONOMIC GROWTH OF INDIA: AN EMPIRICAL ANALYSIS

Zubair Ahmad Sofi*, M. Nasir Zamir**

Abstract *Financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity. Financial inclusion broadens the resource base of the financial system by incorporating a culture of savings among the large segment of the rural population and plays its own role in the economic development. The present study aims to investigate the impact of financial inclusion on the economic growth over a period of ten years from 2005-06 to 2015-16. GDP at current price is taken as the proxy measure for economic growth whereas financial inclusion is measured by number of Automatic Teller Machines (ATMs) and credit-deposit ratio (CDR). Secondary data is used and the data has been analyzed by using multiple regression analysis. Before analysis, the adequacy of the data has been checked. To check the multicollinearity and Autocorrelation problems, Variance Inflation Factor and Durbin-Watson tests have been used. Results of the study found that the ATMs have positive significant impact on the GDP whereas the CDR has positive insignificant impact on the GDP of the country.*

Keywords: *Financial Inclusion, Banks, GDP, ATM, Credit-Deposit Ratio*

INTRODUCTION

Financial inclusion is the process of ensuring access to appropriate financial services and products needed by all sections of society including vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players. Access to financial services has a critical role in reducing extreme poverty, boosting shared prosperity, and supporting inclusive and sustainable development (Global Financial Development Report, 2010). Unrestrained access to finance enables people to engage in productive activities which ultimately leads to larger and uniform economic growth (Khaki & Sangmi, 2017). Despite the efforts made by the government of India, formal financial services in India are yet to match up to the demands of a large part of population. Half of Indian households do not have a bank account even though more than 40 percent population lives two kilometers from the nearest bank (Gounasegaran, Kuriakose, & Iyer, 2013). Financial exclusion is mainly attributed to socio-economic standing of the individual in the society, lack of income generating activities and financial awareness, convenient access to alternative credit and indifference of commercial banks. Lack of accessible, affordable and appropriate financial services has been a problem in India.

An Effective and inclusive financial system is needed for the economic growth of the country (Iqbal & Sami, 2017).

The essence of financial inclusion is to ensure delivery of financial services which includes not only banking products but also other financial services such as equity and insurance products. However the role of banks is indispensable for financial inclusion as without this, it is perhaps impossible to achieve desired level of financial inclusion. Reserve bank of India and government plays an important role in promoting financial inclusion by increasing the banking penetration and accessibility (Raman, 2012). As a financial intermediary, banks identify the entrepreneurs having potential to initiate new financial activities and allocate credit to them thereby contributing to the economic growth of the country (Chakrabarty, 2013). The financial services like savings, credit, remittances and insurance, that are required in the initial stage of financial inclusion can be rendered by only banks as they are not only specialized in these important financial services that are pivotal for the initial stage of financial inclusion but also have huge integrated network of commercial banks, Regional Rural Banks (RRBs), cooperatives with state-of-the-art technology and integrated human resources. In our research, we examined the current status of financial inclusion through banking products in India. Moreover we extended the study to explore the impact of financial inclusion on economic growth in India.

* Research Scholar, Department for Commerce, Aligarh Muslim University, Aligarh, Uttar Pradesh, India.
Email: zubairsofi.rs@amu.ac.in

** Professor, Department of Commerce, Aligarh Muslim University, Aligarh, Uttar Pradesh, India.

Financial inclusion is becoming priority for the policy makers and development agencies globally. Since 2010, more than 30 countries have either introduced or are developing financial inclusion as a strategy of national importance, and more than 55 countries have already made commitment to adapt financial inclusion as a national strategy (World Bank, 2017). World Bank has put forward a goal to reach universal financial access (UFA) by 2020 as it considers financial inclusion a game changer in alleviating poverty and intensifying the shared prosperity. Various countries have taken several promotional measures with regard to financial inclusion. M-PESA in Kenya, G-Cash in the Philippines, Celpay in Zambia and MTN in South Africa are some success stories of delivering financial services through mobile phones (Wang & Guan, 2017). The G-20 perpetrated to facilitate financial inclusion globally and reasserted its commitment to implement the G-20 high level principles for digital financial inclusion.

Literature review reveals that very few studies have been done to assess the impact of financial inclusion on economic growth of India and that too found mixed results. It is in this backdrop that this study has been conducted to find out the impact of financial inclusion on economic growth of India.

Many studies have been conducted on financial inclusion and its determinants. However, to the best of our knowledge, there is a very limited literature in Indian context regarding the financial inclusion through banking products. This study aims to add some value to the existing literature in this regard. Moreover, we extended the present study to explore the impact of financial inclusion on economic growth of India.

OBJECTIVES OF THE STUDY

The following are the objectives of the current study:

- To examine the current scenario of financial inclusion in India.
- To assess the impact of financial inclusion indicators on the economic growth of India.
- To suggest the measures to increase the financial inclusion.

The remaining part of this article is structured as follows: Section II reviews the related literature. Section III shows the hypothesis. Section IV discusses the research methodology. Section V applies statistical tools to analyze the data and present the empirical results. Finally, the conclusions are presented in the Section VI.

LITERATURE REVIEW

Financial Inclusion

Many studies have explored the nature and scope of financial inclusion in a number of ways. A sound financial system is essential for a growing and vibrant economy. It is therefore very important that everyone must participate. Consumers with low-income are at greater chance of financial exclusion and this further pushes them into the wicked problem of poverty (Bayero & Abdullahi, 2015). According to the reports of World Bank, around 2 billion people do not use formal financial services and more than 50% adults in the poorest households are unbanked. Financial inclusion will prove a game changer for alleviating poverty and promoting prosperity. Not having a bank account limits access to money advice, contributes to people withering in financial capacity and finally leads to poor credit score (Jones, 2008).

India strives to make banking possible for everyone by allowing the poor people to open no-frill bank accounts. The financial inclusion policies of India loosens the permission norms for setting up ATMs, opening new bank branches and widening the scope of bank transactions by including business correspondents, microfinance institutions, retired employees of bank or government, retail owners and even SHGs functionaries (Kapoor, 2014). The financial inclusion in India is subject to geographical variability and goals of it are yet to be achieved irrespective of the huge coverage of bank accounts (Cnaan, Moodithaya, & Handy, 2012).

Financial Inclusion and Economic Growth

(Sharma, 2016) studied the nexus between the vast dimension of the financial inclusion and economic growth of India and concluded that the various dimensions of financial inclusion prove to be the major drivers of economy. The results further revealed that penetration of banking, availability and usage of banking services in terms of deposits are essential to foster economic growth. (Beck, Senbet, & Simbanegavi, 2015) studied the financial inclusion and innovation across Africa and stated that the financial inclusion process is quite beneficial for economies and for the societies. Financial inclusion stabilizes the price level by reducing the inflation rate which ultimately leads to the development of economy (Lenka & Bairwa, 2016). Poverty reduction strategies can be successful only if countries adopt inclusive financial policies (Zulkihibri, 2016).

Role of Banks in Financial Inclusion

Kumar (2013) examined the financial inclusion and its determinants in India. The findings revealed that banking

branch network has undoubtedly a favorable impact on financial inclusion. In order to make financial inclusion possible through institutional framework, central banks and regulatory bodies will require subsidized, flexible and creative approaches to make sure that excluded groups are reached by different banks (Ghosh, 2013). The central bank of India has taken several measures to promote financial inclusion by introducing no-frill accounts and kisan-credit cards etc. Apart from formal financial services, microfinance institutions and Self-Help Groups have also been promoted to reach out to the financially excluded people. Nelson (2010) in his study concluded that in order to achieve higher levels of financial inclusion, policy makers should rely more on domestic banks than foreign banks. Mainstream banking institutions play an important role in extending financial inclusion to young people (Friedline & Rauktis, 2014). Central banks need to promote a variety of institutions (commercial, development, community banks) in order to ensure sustainable development through financial inclusion (Ghosh, 2013).

RESEARCH HYPOTHESIS

H_A1. There is a significant impact of financial inclusion on the economic growth of India.

Sub-Hypothesis

H_A1.1. There is a significant impact of Automatic Teller Machines (per 100,000 adults) on Indian GDP.

H_A1.2. There is a significant impact of Credit Deposit Ratio on Indian GDP.

RESEARCH METHODOLOGY

Independent Variables

According to the survey conducted by IMF in 2012, there are three basic dimensions of financial inclusion through banking:

- Penetration of banking institutions which is indicated in terms of the number of deposit accounts and number of loan accounts.
- Accessibility of banking services which is determined in terms of the number of bank branches and number of ATMs.
- Usage of the banking services by the general public.

Sarma (2008) constructed an index to measure the outreach of finance which was based on three aspects of financial inclusion, namely penetration of banking system, availability

and its actual usage. Initially ATMs per 100,000 adults, number of loan accounts, number of deposit accounts and number of bank branches per 100,000 adults were taken as our independent variables. But due to the problem of auto-correlation and multi collinearity, one variable (number of bank branches per 100,000 adults) was entirely dropped and the variables- number of loan accounts and number of deposit accounts were merged into credit-deposit ratio by dividing the number of loan accounts with number of deposit accounts.

Dependent Variables

Since the study aims to assess the impact of financial inclusion on economic growth of India, therefore economic growth is taken as dependent variable. Gross Domestic Product (GDP) at current price is taken as the proxy measure of economic growth. Economic growth is measured by GDP as it the good measure of economic growth rate of a country (Wong, 2008). Sharma (2016) proves that there is a positive association between financial inclusion and GDP.

Table 1: Variables of the Study

Year	GDP	No. of ATMs (Per 100,000 adults)	credit Deposit ratio
2005-06	808,901,077,222	2.29	69.63
2006-07	920,316,529,730	2.74	73.77
2007-08	1,201,111,768,409	3.38	72.77
2008-09	1,186,952,757,636	4.29	74.14
2009-10	1,323,940,295,875	5.31	71.16
2010-11	1,656,617,073,124	7.27	75.00
2011-12	1,823,049,927,771	8.85	75.67
2012-13	1,827,637,859,136	11.00	77.02
2013-14	1,856,722,121,395	13.00	77.34
2014-15	2,035,393,459,979	18.00	76.73

Compiled by the author

DATA SOURCES

Data have been drawn from secondary sources. The original intention of the researcher was to collect data from the date of economic reforms in India i.e., from 1991. But the data for the variables of financial inclusion was not available. As a result of which, the data was taken for time period of ten years starting from 2005-06 to 2014-15. Data on GDP and ATMs (per 100,000 adults) have been gathered from the database of world bank whereas data relating to number of deposit and credit accounts have been collected from “Basic statistical Returns of scheduled commercial banks” published by RBI on quarterly basis which was converted by researcher into yearly credit-deposit ratio.

The model of the study and regression equation is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

(Y= Gross Domestic Product, α = constant, β =slope, X1 = ATMs per 100,000 adults, X2 = Credit-Deposit Ratio, ϵ = error term)

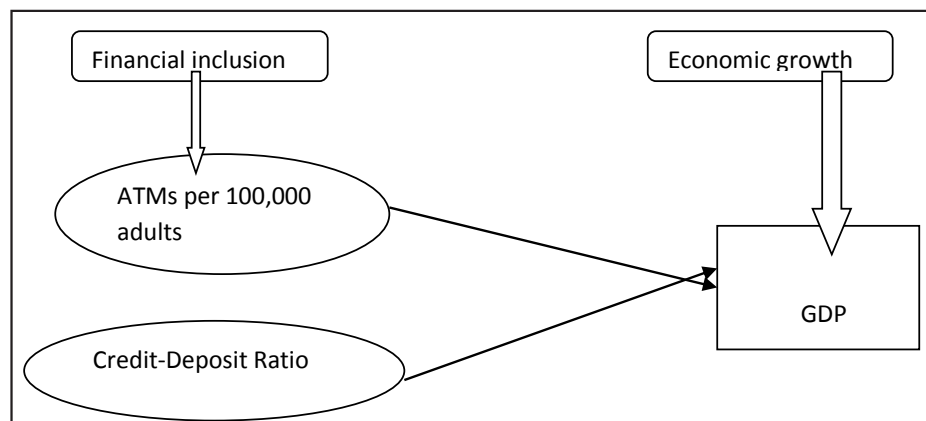


Fig. 1

TOOLS OF ANALYSIS

To analyze the data, multiple regression analysis has been used as a main statistical tool. Before applying the regression analysis, the researcher conducted some tests to ensure the adequacy of data by checking autocorrelation, multi-co linearity and normal distribution of the data.

RESULTS AND DISCUSSION

Results from Multiple Regression Analysis

The widely used proxy measure for economic growth of a country is GDP. In the study, GDP at current price for a

period of ten years from 2005-06 to 2014-15 is taken as dependent variable. Financial inclusion variables include number of Automatic Teller Machines (ATMs) per one hundred thousand adults and Credit-Deposit ratio. Table 1 show that GDP is on continuous increase throughout the study period except the year of 2008-09 which may be due to global economic crisis of 2007-08. The number of ATMs is on continuous increase with the lowest at 2.29 in the financial year 2005-06 and highest at 18.00 in the year 2014-15. Over the period of ten years, the number of ATMs show growth at 6.86% (Table 3). The Credit-Deposit ratio shows an uneven trend throughout the period of study. The highest CDR is recorded in the year 2013-14 and lowest in the financial year of 2005-06.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square			Durbin-Watson
				F Change	Sig. F Change	
	.937 ^a	.878	.843	25.168	.001	1.166

- a. Predictors: (Constant), CDR, ATMs
- b. Dependent Variable: GDP

Table 2 indicates model summary of the multiple regression analysis. The results of the model reveal that the value of R is .937 which indicates that there is a high correlation between dependent and independent variables. The model also shows that the value of R Square is .878 and adjusted R square is .843. The P value of the model is .001 which is less than .05

indicating that the regression model is fit and statistically significant. As a rule of thumb, if the value of Durbin-Watson test is less than one or more than three, it indicates the problem of autocorrelation. The value of Durbin-Watson in the present model is 1.166 which indicates that there is no auto correlation problem in the model.

Table 3: Regression Coefficients

Model B		Un standardized Coefficients		Standardized Coefficients	t	Sig. Tolerance	Co linearity Statistics	
		Std. Error	Beta				VIF	
1	(Constant)	-3.015	2.613		-1.154	.286		
	ATMs	.056	.019	.658	3.015	.020	.367	2.728
	CDR	.055	.037	.325	1.489	.180	.367	2.728

a. Dependent Variable: GDP

Table 3 illustrates the results of the regression analysis of financial inclusion and GDP. The problem of multicollinearity is checked through VIF. The value of VIF more than 10 is not acceptable, as a rule of thumb and is an indication of multicollinearity problem. The table shows that the value of VIF for all the independent variables is less than 10 meaning that the model is free from multicollinearity problem. The results reveal that the beta value of ATMs is .056 and P value is .020 at 5% level of significance. This indicates that there is a positive and statistically significant impact of ATMs on GDP. Furthermore, the beta value of CDR is .055 showing a positive impact of CDR on GDP. However the p value is .180 which shows the statistically insignificant impact on GDP. The regression equation obtained is as follows:

$$Y = -3.015 + .056X_1 + .055X_2 + \epsilon$$

DISCUSSION

The adults with higher education are more likely to have and operate an account as compared to those having lower education (Asuming, Osei-agyei, & Ibrahim, 2018). The probability of getting better financial services increases with the level of awareness as the people with higher awareness make optimum utilization of their savings and investments. The results of the study show that there is a positive and significant impact of ATMs on GDP which suggests that the speed of financial inclusion can be achieved much faster if banks start targeting untapped rural areas through modern banking facilities like ATMs and internet banking. Financial inclusion will be an important element in ensuring access and equity, necessary building blocks for the sustainable growth of our country. The results of the study also reveal that there is a positive impact of credit-deposit ratio on GDP which suggest expanding the breadth and depth of financial services to those who either do not have access to financial services sector or have minimal financial services. Increase in income, better education and innovative financial products can improve the financial inclusion level. Access to the appropriate financial products and services to the deprived section of the society and bringing them into the mainstream for development activities is the pre-requisite for economic growth.

CONCLUSION

The objective of the present study is to explore the impact of financial inclusion on economic growth of Indian economy during the period of 2005-06 to 2014-15. Indian economy was studied primarily because the financial system in India is largely based on the banking institutions. Therefore, financial inclusion plays an important role in attaining the holistic economic growth in India. In the present study, we used multiple regression analysis to explore the impact of financial inclusion on economic growth. The regression results validate the positive and significant impact of financial inclusion on GDP except one variable of financial inclusion (Credit-deposit ratio) which shows positive but statistically insignificant impact on GDP. The favorable results also promote the steps taken by Government of India and RBI in order to achieve financial inclusion such as building up of robust branch network of scheduled commercial banks, lead banking, formation of Self Help Groups, cooperatives and regional rural banks, Basic saving Bank Deposits (BSBD), relaxed and simplified branch authorization policy. RBI has adopted bank-led model and removed all regulatory bottle in achieving greater financial inclusion in the country. In spite of all this, there is a need to now look at financial inclusion through the prism of the digital economy. One of the biggest hindrances in the way of achieving financial inclusion is the financial literacy. Financial inclusion without financial literacy has no meaning as the stakeholders cannot grasp the benefits and risks associated with it. Digital banking along with financial literacy is going to play a crucial role in financial inclusion. Thus financial inclusion in India has to go a long way to bring the less advantaged sections of the population into the mainstream developmental activities.

There are various limitations of the study as well. Firstly, this study is limited to banking institutions, however better results can be obtained if Self Help Groups (SHGs) and Microfinance Institutions (MFIs) are also included because SHGs and MFIs have more penetration in rural areas than formal financial services. Secondly, the time period for the study is only ten years which can be further increased. Thirdly, only three variables of financial inclusion are taken

into consideration which does not give a complete picture. Fourthly, more advanced statistical tools can be used to get the better results. Lastly, the study is focused on Indian economy and the results cannot be generalized in a broader perspective. Therefore cross country analysis must be done in order to generalize the results.

The policy implication of the study is that the financial inclusion and its various dimensions are found to be the core components of economic growth. The government and other policy makers must look to maintain and promote sustainable and inclusive growth through financial inclusion. The findings also validate the social banking experiments of the government of India which are taken in order to achieve financial inclusion.

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