EXECUTIVE SUMMARY OF MAJOR RESEARCH PROJECT
On
"INTER STATE VARIATIONS IN FINANCIAL INCLUSION: THE INDIAN EVIDENCE"

The Financial inclusion is a process to bring the weaker and vulnerable sections of society within the ambit of organized financial system. It creates conditions for access to timely and adequate credit and other financial services to vulnerable groups such as weaker sections and low income groups, at an affordable cost**.** The availability of banking facilities and strong bank branch network are important for the developmental and expansionary activities. There is a potential for transforming the lives of these excluded groups by providing access to formal savings arrangements and extension of credit by banks for emergency and entrepreneurial purposes, thereby enabling the poor to create assets, generate stable income, build resilience to meet macro-economic and livelihood shocks and bring about an improvement in their financial condition and living standards. Lacking such financial access, individuals rely on their own limited, informal savings to invest in their education or become entrepreneurs, and small enterprises on their limited earnings to take advantage of promising growth opportunities. This can contribute to persistent income inequality and slower economic growth. The World Bank Group considers financial inclusion a key enabler to reduce extreme poverty and boost shared prosperity. Financial inclusion has been identified as an enabler for 10 of the 17 Sustainable Development Goals accepted by 193 member-nations both developed and developing of the United Nations General Assembly. The Government of India and the Reserve Bank of India have been making concerted efforts to promote financial inclusion as one of the important national objectives of the country. Access to finance by the poor and vulnerable groups is an integral part of Government of India policy initiatives to promote inclusive growth as by providing access to finance is a form of empowerment of the vulnerable groups. Financial products and services provided to the people through financial inclusion are shown in chart1.

Chart 1: OVERVIEW OF FINANCIAL INCLUSION SERVICES

Source: Rangarajan Committee Report

This study aims at measuring the level and inter-state variations in the availability, access to and use of banking services across the states in India. The credit, deposit, branch penetration and multivariate index for financial inclusion (IFI) is estimated using state-wise panel data of 32 Indian states spanning over a period from 2001 to 2016. The information on state-wise deposit, credit accounts and other banking indicators has been obtained from Basic Statistical Return Relating to Commercial Banks in India.. The data on socio-economic factors has been collected from Handbook of Statistics on Indian Economy published by Reserve Bank of India.

The present study also analyzed the direction of causality between financial inclusion and economic development in India is analyzed using annual time series data of 37 years and covers the period from 1980 to 2016.

The study also uses primary data made available by means of a well-structured interview schedule administered to a sample of 200 households located in Delhi and NCR. The data for the study was collected during the period April 2017 to May 2018. The non-probability sampling method based upon accessibility and willingness of respondent is used to select the household. A multiple regression model is estimated to

examine the factors impacting financial inclusion at the household level. A binomial logistic regression model is estimated to relate the use of banking services to selected individual and household characteristics. The semi-structured interview was also conducted with the executives of banks and other financial institutions across selected states to analyze important barriers in the process of financial inclusion in India.

India's record of financial inclusion, despite the existence of a large and well-regulated financial system dominated by commercial banks, is poor. According to World Bank's Report, 2017 around 80% in India had access to a formal bank account. The progress is being driven by the Jan Dhan Yojana policy which has used biometric ID to expand access to financial services. Despite having a relatively high account ownership, India claims a large share of the global unbanked population, after China. Nearly half of those account-holders don't use those accounts. India's share of inactive accounts, at 48%, is the highest in the world, World Bank notes in its report based on the survey. Moreover, the persons borrowing from any institutional and formal sources have fallen to just 6.6% and only 19.6% saved at any formal institution. Over 190 million Indian adults still do not have a bank account. Therefore despite impressive indicators of Indian economy, the large section of population is financially excluded from its benefits.

Banking sector in India plays a considerable role in bringing financially excluded people in to formal financial sector as policies of the government and Reserve Bank towards financial inclusion are implemented through banking sector. The number of commercial Banks in a country reflects the people's participation in the formal financial system.

Although the initiatives for bringing more and more people into the ambit of formal financial institution were started before Independence, the Government of India and RBI intensified the efforts to increase banking penetration in the country since Independence. The Reserve Bank of India during 1950s and 1970s focuses on increasing credit to the neglected economy and weaker sections of society and development of the rural banking ecosystem including RRBs, rural and semi urban branches. Since 1970 to 1991, several initiatives were undertaken for enhancing the

use of the banking system for sustainable and equitable growth such as Differential Rate of Interest (DRI) Scheme to provide credit at concessional rate to low income groups in the country, branch licensing policy to focus on expansion of commercial bank branches in rural areas, Second round of nationalization of six banks in 1980 to extend the reach of organized banking services to rural as well as neglected sectors of the society and setting up of National Bank for Agriculture and Rural Development (NABARD) as an apex-level institution to deal with all issues related to agriculture and rural development. The focus of banking policy during the 1990s and up to the mid of the first decade of twenty-first century was more on creating a strong and efficient banking system. Financial inclusion in this phase was encouraged mainly by introducing a Self-help Group (SHG) - Bank Linkage Program in 1992 and formulating the Kisan Credit Cards (KCCs) scheme in 2001 for providing credit to farmers. The term 'Financial Inclusion' was introduced for the first time in RB's Annual Policy Statement for 2005-06 and a policy namely "Financial Inclusion Policy" was framed. The Reserve Bank in its Annual Policy Statement for 2005-06 explicitly used the term 'financial inclusion' for the first time in India and renewed emphasis on the objective of bringing financially excluded people within the fold of the banking sector. The important attribute in the recent focus on financial inclusion was the adoption of market oriented approach that recognizes the importance of business consideration of banks and other financial institutions for the long-term sustainability of the process. Pursuant to this, the Reserve Bank has undertaken a number of measures with the objective of attracting the financially excluded population into the structured financial system such as no frills accounts, simplification/relaxation on KYC Norms, general credit card (GCC), adoption of business facilitator (BF)/business correspondent (BC) model, simplified branch authorization/ATM expansion, opening of branches in unbanked rural centers, financial literacy and opening up of credit counseling centers, priority sector lending etc.

A broad overview of banking sector in India reveals that there is the consistent increase of Scheduled Commercial Banks (SCBs) in India. In the year 1969, there were 89 commercial banks in India of which 73 were Scheduled Commercial Banks and the rest were non-scheduled commercial banks. Regional rural banks were not started at that

time. In the year 2006, number of commercial banks in India reached 222 of which 218were scheduled commercial banks and 4 were non-scheduled commercial banks. Out of 218 scheduled commercial banks in the year 2001, Regional rural banks accounted for 133 banks. As on 31st March 2017, there were 153 commercial banks in India of which 150 banks were scheduled commercial banks and 3 were non- scheduled commercial banks. Decrease in number of commercial banks in the year 2017 as compared to 2006 may mainly be due to sharp decline in number of RRBs in India. The population per branch of Scheduled commercial banks over the years has declined considerably. The growth in bank branches penetration in different areas of India has increased slightly except rural areas. Although RBI and GOI have been taking number of measures to develop rural areas economically, it seems that such efforts are inadequate. Geographic branch and ATM penetration had made considerable progress in India over the years. However, the progress in branch and ATM penetration is not in the proportion to increase in population in India. The geographical branch penetration has shown a consistent increasing trend. In 1991, geographical branch penetration score of India was 18.31, which increased to 42 in the year 2017. The demographic branch penetration in India was 5.98 in the year 2006, which reached to 10.92 in the year 2017. It means that in the year 2006, there were about 6 branches were available for every 1, 00,000 persons and about 11 branches were available for every 1, 00,000 persons in the year 2017. There is a significant increase of ATM network of SCBs. Since 2006, the ATM geographic penetration has increased 10 times till 2017. The demographic ATM penetration has increased from 2.1 in 1991 to 15.73 in 2017.

The credit-side analysis of role of commercial banks in the financial inclusion process in India shows that credit accounts after declining between 1991 and 2001, increased significantly thereafter. Further, the nationalized banks had more number of credit accounts and outstanding credit as on 31st March 2017 followed by SBI and its associates, private sector banks, foreign banks and RRBs. The number of deposit accounts and the amount of deposits held is another key element of financial inclusion. The number of savings accounts opened by SCBs expanded significantly over the years. The bank-group wise deposit analysis reveals that the nationalized banks had

more number of deposit accounts and outstanding deposits as on 31st March 2017 followed by SBI and its associates, private sector banks, foreign banks and RRBs. The number of saving accounts and deposits of RRBs show that there is a consistent increase in the number of deposit accounts and amount outstanding in the rural areas. The deposit account per capita has increased significantly which indicates that there is a better access to and use of bank accounts over years in India. The recent measures like JanDhan Yojna and RBI initiatives for financial inclusion have helped to improve the deposit penetration in India. Deposit-income ratio provides an in depth analysis of financial inclusion in India. The Indian Banking Industry is witnessing the higher deposit income ratio along with increase of deposit per capita. It clearly reflects the progress in financial inclusion. The cash-deposit ratio in India had been more than 0.2 from the year 1969 to 2017. Though, the ratio is consistently showing a decreasing trend with slight increase in the year 2017. This is an indicator of progress of Indian financial system. Indian financial system has to travel long distance to reach the dream of full access.

The inclusive financial system should be judged from several dimensions, so a multidimensional approach is used while constructing the index of financial inclusion (IFI) for each 32 state for each year of the period under study (2001-2016). The approach used is similar to that used by UNDP for computation of some well known development indexes such as the HDI, the HPI, and the GDI and so on. The index of financial inclusion is estimated using three basic dimensions of an inclusive financial system: banking penetration (BP), availability of the banking services (BS) and usage of the banking system (BU). The number of deposit and credit accounts per 1000 people of the total population are used as an indicator of banking penetration, the number of bank branches per 1000 population and number of bank branches per sq.km of area are used to measure the availability dimension and the volume of credit and deposit as proportion of the State's Gross Domestic Product (SGDP) has been used to measure usage of banking system in India. The simple distribution of states in terms of their achievements of financial inclusion index (using 16 years average of IFI) in terms of high, medium and low category on the basis of taking an arbitrary cut-off value of the index below 0.3 as low, above 0.3 and below 0.5 as medium and above 0.5 as highest

shows that 29 states in India fall in the lowest category. One state (Goa) and two states (Chandigarh and NCT of Delhi) are in the medium and high categories respectively. The state-wise IFI in the year 2016 shows that Chandigarh attained first rank with the value of 0.674 followed by Delhi with the value of 0.579. Nagaland had the lowest value of 0.015 and gained 32nd rank. Manipur has 31st rank with the value of 0.024. The results depict that most of the Indian States lies in the low financial inclusion category during the year 2016. Among the states, Goa, Chandigarh and NCT of Delhi have shown impressive results with respect to financial inclusiveness in 2016. It can be observed that the states falling under high financial inclusion are the states having high GDP per capita. Most of the north-eastern states fall under low financial inclusion category. The states of Bihar, Chhattisgarh and Rajasthan also come under low financial inclusion owing to the social backwardness and slow economic progress in these states. Region-wise, the Northern Region has the highest level of financial inclusion while the North-Eastern Region has performed poorly. This can be attributed to the mountainous terrain and low levels of development in the North-Eastern parts of India. Also, the Eastern Region and the Central Region come under low financial inclusion category which can be related to the low levels of growth and various socio-economic problems faced by these regions.

The impact of financial inclusion on economic growth is determined in India using annual time series data of 37 years and covers the period from 1980 to 2016 by applying VECM, Cointegration analysis and Granger Causality. The economic theory does not provide adequate evidence on the granger causality between financial inclusion and economic growth. It means that the GDP growth could be impacted by the level of financial inclusion and on the other hand GDP variations could also affect financial inclusion. Sims C.,1972 argued that the division of variable into endogenous and exogenous variable is arbitrary and that Vector Autoregressive (VAR) models could avoid that by treating all variables as endogenous. It can also allow the analysis of effects of lagged value of variables. The vector error correction model (VECM) which is just a special case of the VAR for variables is used. Specifically, at first place, a general VAR model is fitted to the data and subsequently based on the appropriate lag order

and test of co integration an appropriate VECM is chosen. The VECM allows for a link between the short and long term dynamics, as it provides a methodology for modeling both in levels and in differences. Consequently, the VECM models simultaneously predict the short-term dynamics of adjustment (variations) and the long term (levels). The VECM can also take into account any co integrating relationships among the variables.

The following model proposed by **Demirguc- kunt & Levine, 2001** is used in the study:

$$Y_t = \alpha + \beta_t IFI_t + \gamma_t X_t + \varepsilon_t$$

Where Y_t is the proxy variable for economic growth

I FI_t indicates the variable used for financial inclusion

X_t denotes the vector of control variables viz. inflation rate and trade openness.

ε_t is the error term.

Adopting this pattern, the present study specifies the following model for estimation:

$$GDP_t = \alpha + \beta_t IFI_t + \gamma_{1t} Inf + \gamma_{2t} Trade + v_t Dummy_t + \varepsilon_t$$

A log transformation of all variables is used in the study i.e. all variable series are in the logarithmic form. The functional relationship into logarithmic then takes the following form:

$$In\ GDP_t = \alpha + \beta_t InIFI_t + \gamma_{1t} InInf_t + \gamma_{2t} InTrade_t + v_t Dummy_t + \varepsilon_t$$

Where GDP_t is the real GDP per capita (a proxy for economic growth)

IFI$_t$ is the financial inclusion proxy which is multidimensional financial inclusion index based on factors such as access to financial services, penetration of the financial services and the utilization of the services.

Inf indicates the inflation rate (as measured by the consumer price index reflect the annual percentage change.

Trade is the total trade (Export+ Import/GDP) as a percentage of GDP.

Government of India initiated financial sector reforms since 1991, primarily to create a diversified, efficient and competitive financial system in order to achieve operational

flexibility, improved financial viability and institutional strengthening. The reform process has allowed significant transformation in the entire financial system.

The dummy variable ($Dummy_t$) is used to capture the effect of structural break caused by the financial sector reform process.

ε_t is the error term that encompasses all other factors determining economic growth but not captured in the model.

The data series are tested for stationarity using the Augmented Dicky-Fuller (ADF) method and PP method. The results indicate that real Log GDP per capita, trade openness, financial inclusion proxy, and inflation are not stationary in their level. However, at first difference, all series become stationery indicating that all variables are integrated of order one *I*(1). The cointegration analysis is made under the null hypothesis of no cointegrating vector, by employing the Johansen and Juselius multivariate cointegration test with optimal lag order of 2. The results indicate that there is a long-run causal relationship between economic growth and measure of financial inclusion, inflation and trade openness. It also indicates that financial inclusion and economic growth are adjusting to their long-run equilibrium relationships. The negative coefficients (and the magnitudes) of the ECM indicate the speed of adjustment to the long-run equilibrium relationship. The results show that the system corrects its previous disequilibrium at a speed of 22.21 percent per annum. The direction of causality between financial inclusion and economic growth is found to be unidirectional. Financial inclusion influences economic growth positively and the supply leading hypothesis is predominant in India. The states with greater financially inclusive system will grow faster i.e. financial inclusion causes economic development. The diagnostic test reveals that the model is free from autocorrelation problem and homoscedastic and normality of residual assumption are valid. VECM stability analysis is examined by checking the roots of characteristic polynomial and the estimated models are found to be stable or stationary.

The result of the Impulse Response Function (IRF) shows that initially, financial inclusion has insignificant effects on per capita income from the results of the IRFs. It is

entirely possible that the initially the access to finance is associated with a less productive use say for household purpose rather than for business or entrepreneurial activity. However, in the long run the increased financial inclusion has positive impact on improving per capita income. Since it stimulate entrepreneurship and increased productive investments and facilitate economic growth process. Variance Decomposition analysis reveals that a 40.57 percent portion of economic growth is contributed by its own innovative shocks and one standard deviation shock in financial inclusion explains economic growth by 1.22 percent while inflation contribute 32.65 percent and the support of trade openness to economic growth is 25.54 percent. Thus, inflation controls, trade openness along with promotion of financial inclusion are the key factors to improve economic growth process.

The state-wise and regional disparity in the financial inclusion parameters during the sample period (2001-2016) indicates that Goa has the highest deposit penetration followed by Chandigarh, Delhi and Haryana. Nagaland, Manipur and Bihar were amongst the states showing the lowest the deposit penetration. The western region has depicted the highest deposit penetration followed by northern region. North-east and eastern regions were amongst the lowest deposit penetration. The state-wise credit penetration analysis shows Tamilnadu tops the list followed by Kerala and Pondicherry. The increasing number of microfinance institutions especially in southern part of the country seems to have led to this trend. The southern India has depicted the highest credit penetration ratio followed by western and northern region. The year-wise analysis of branch availability given by average population served by bank's branches is falling consistently throughout the sample period clearly reflecting the branch expansion.

The state-wise branch penetration reveals that Goa has the lowest average number persons per branches (in thousands) followed by Chandigarh, Himachal Pradesh, Punjab and Delhi. Manipur has the highest average number persons per branches (in thousands) followed by Nagaland, Bihar and Assam. The region-wise branch availability trends depicts that north-eastern region has highest branch availability followed by central and eastern region. Northern region has shown the lowest average branch

availability followed by western and southern region. The state-wise results of branch availability per square km. shows Chandigarh has highest number of branches available per square kilometer of its area followed by Delhi. The lowest average number of branches is shown in Arunachal Pradesh followed by Manipur and Mizoram. Region-wise supports the findings as northeastern region has lowest branches and northern region has highest branch network during the sample period.

State-wise trends credit to SGDP shows that Chandigarh tops the list of states as far as the credit to GSDP is concerned followed by Delhi, Maharashtra and Andhra Pradesh. Manipur has the lowest credit to GSDP ratio followed by Nagaland, Arunachal Pradesh and Tripura. The region-wise analysis indicates that northern region of India has highest Credit to GSDP ratio followed by western and southern region. Northeast region has the lowest ratio followed by central and eastern region. State-wise trends of deposit to SGDP depict that Chandigarh tops the list of states as far as the deposit to GSDP is concerned followed by Delhi, Maharashtra and Goa. Manipur has the lowest credit to GSDP ratio followed by Rajasthan, Mizoram and Nagaland. The region-wise trends follows the credit-GSDP trends and so indicates that northern region of India has highest deposit to GSDP ratio followed by western and southern region. Northeast region has the lowest ratio followed by central and eastern region.

The state-wise average estimates of average financial inclusion index during 2001-2016 shows that Chandigarh has shown the highest level of financial inclusion followed by Delhi, Goa and Maharashtra. Manipur has the lowest level of financial inclusion followed by Nagaland, Assam and Chhattisgarh. Northern region shows the highest level of financial inclusion followed by Western and Southern region. Northeast shows the lowest level of financial inclusion. Chandigarh and Delhi are the two states that falls in the category of high financial inclusion. Only one state i.e. Goa depicted medium level of financial inclusion. Rest 29 states falls in the category of low financial inclusion. The results also indicate that the regions having high credit penetration are also the regions having high deposit penetration and vice versa. It is observed that penetration indices do considerably vary across states. For instance, the deposit index varied from as low

as 8 per cent for Chandigarh to a high of 70 per cent for Manipur. The variation seems to be lower in case of credit index. Similarly, the average population per branch is lowest variations for Chandigarh and highest for Haryana. The cross-sectional dispersion of financial inclusion is not diminishing over time and the laggards are not showing any indication of improvement over the years. It is clear that there exists stability in ranks obtained by various states with regard to their level of Index of financial inclusion. So, overall gap among states is not showing any evidence of narrowing down.

The determinants explaining inter-state difference in financial inclusion are explored by applying dynamic panel data analysis using equation stated as follows:

$$IFI_{it} = \beta_0 + \beta_1 IFI_{it-1} + \beta_2 Popden_{it} + \beta_3 APPB_{it} + \beta_4\ C\text{-}D\ Ratio_{it} + \beta_5 Profactor_{it} + + \beta_6 KCC_{it} + \beta_7 Inpercapita_{it} + \beta_8 Social_{it} + \eta_t + \xi_{it}$$

To address the potential problem of endogeneity and the possibility of correlation between any right hand side variable of the model with error term (ξ_{it}), a dynamic two-step GMM dynamic panel estimator of Blundell and Bond is used. The GMM estimator is more superior to fixed effect panel estimator which generates inconsistent estimates in case of the inclusion of lagged dependent variable and endogenous explanatory variables in the estimation. The Sargan test for the validity of over-identifying restriction in the model and Autocorrelation test of order two (AR-2) to test zero or no correlation is also conducted.

The dynamic estimation results of financial inclusion in sample states during the sample period (2001-2016) shows that the lagged dependent variable (IFI) is positive and highly significant at 1% level of significance which confirms the selection and underlines the appropriateness of the dynamic panel model and explains that financial inclusion in previous year is likely to exacerbate the current year financial inclusion. The results depicts that heavy populated states have more financial services demand and usage and high degree of financial inclusion. The income effect, which proxies by per capital income (constant prices), is having a positive and significant affect on the dependent

variable. This means that the states with high per capita income have highly inclusive financial systems. An improvement of income of people enhances financial inclusion. Average Population per Branch has a negative and significant impact on the level of financial inclusion. Branch density is having strong positive impact on financial inclusion drive. Measures taken by RBI for relaxation of branch opening, setting up of business correspondent model for rural masses, enhanced ATM kiosks and other step are bearing desired results. The KCC scheme in India has been successful to meet production requirements of large number of farmers. Issuance of more cards is positively associated with increased level of financial inclusion and leveraging on such scheme can foster the inclusion process of the economy in rural areas. The level of industrialization and social modernization, which is captured by the proportion of factories, is found to be positive and significant. Government expenditure on social welfare is found to be negatively associated with the level of financial inclusion. It may be due to the fact that fund leakages limit the effectiveness of welfare programs in the developing world. Overall, the findings suggest that state level development and social characteristics have an important bearing on financial inclusion. Though, India has performed well in improving financial inclusiveness, the financial inclusiveness and it benefit of growth have not been spread evenly. The states in the eastern and north-east part of India are lagging behind over other states. There is an urgent need to concentrate upon the clear perception of improving per-capita income, reduction in the disparities of infrastructure and industrial growth to reduce disparity in financial inclusion amongst Indian states.

The micro-level study of financial inclusion among households in Delhi and NCR based on primary survey highlights the demand-side factors that need to be considered so as to achieve higher levels of financial inclusion. It can be concluded that a household earning higher income, having higher level of education attainment and head being employed are more likely to have at least one bank account. Males are more likely to have bank account than females. Further, the usage of banking services in terms of regularity of using the bank account in a month is determined by educational attainment, household income and employment status of the household head. The household with

higher income levels and more employed members are more likely to avail the loans from banks.

Policy Recommendations

The relevance of financial inclusion in economic development cannot be over emphasized. Financial inclusion plays a vital role in development and it is important that the government recognizes the vital role played by financial inclusion and develops policies to encourage financial inclusion. The government is undoubtedly also through its role in regulation and promotion creates a regulatory framework and institutional structure that encourages financial inclusion. More of such efforts should be encouraged to allow more people to encourage the usage of financial services. The study reveals that the level of development has a direct correlation with the degree of financial inclusion and concerted efforts need to be made to bring about the development of the backward and less developed regions. The government has to initiate steps to attain more balanced regional development to make financial inclusion more meaningful. Each region has its own peculiar characteristics and therefore it is imperative to adopt region-specific measures. Government policy to improve levels of education and employment levels will have a positive impact on the status of financial inclusion in India. There are strategies and policy recommendations suggested to achieve the target of complete financial inclusion:**-**

i) Change in the Approach of Banks:

Only access to credit or banking will not result into financial inclusion. It is often noticed that a bank account is opened but hardly there are any transactions take place in such bank accounts. Banks must genuinely strive to provide the directed services under the scheme of financial inclusion to the rural population, since they are the main pillars for the desired success.

ii) Product Initiatives:

To ensure that more and more people come within the banking fold, the banks should offer all the customers a ‘basic savings deposit account’ with certain minimum common

facilities and without the requirement of minimum balance. The services provided in this account should include deposit and withdrawal of cash at the bank branches as well as ATMs, receipt/credit of money through electronic payment channels or by means of deposit/collection of cheques drawn by Central/State Government agencies and departments. Innovation of products for the specific needs of the poor is necessary for achieving the ultimate objective of inclusive growth. Banks should focus more on products which should be simple, affordable, and should have high utility.

iii) Financial Literacy and Awareness:

Banks should arrange regular campaigns for spreading awareness about financial inclusion. The spread of financial literacy needs to be intensified. Banks need to do efforts in this area through innovative dissemination channels including films, documentaries, pamphlets and road shows.

iv) Customer Service and Consumer Protection:

Customer service is another issue that needs closer attention. Mind-set, cultural and attitudinal changes at the grass-root levels and user friendly technology at the level of branches of banks and BC outlets are needed to extend holistic customer service to the new entrants to the banking system.

v) Mobile Banking:

Keeping in view the issues relating to diversity of mobile network providers in India, remittance centric approach of Mobile Banking model and Know Your Customer (KYC) related concerns, the RBI has advocated bank-led mobile banking model and issued operative guidelines to banks for effecting mobile-based banking transactions. The empirical studies indicate that banks are yet to fully exploit this technology even for their existing customers.

vi) Aadhaar-Enabled Payment Systems (AEPS):

The AEPS having the ability to service customers of many banks based on the unique biometric identification data stored in the Aadhaar database is expected to empower a bank customer to use Aadhaar as his/her identity to access the respective Aadhaar enabled bank account and perform basic banking transactions like balance enquiry, cash withdrawal and deposit through the BC. The system should be popularizing amongst larger section of the population.

NO. OF PUBLICATIONS OUT OF THE PROJECT: Published two articles

- Published an article entitled “Role of Commercial Banking Sector in Financial Inclusion Process in India” in Ascent International Journal for Research Analysis, Oct-Dec, 2016, Vol.1.IV Issue, ISSN No. 2455-5967.
- Published an article entitled “Financial Inclusion and its Determinants: An Empirical Study on the Inter-State Variations in India.” in International Journal on Arts, Management and Humanities Vol. 6(1): 08-18(2017), ISSN No. (Online): 2319–5231.

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