Impact of Financial liberalization on Indian banking sector and a road map towards financial inclusion: An empirical study

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Abstract

The Indian financial sector has undergone a significant structural transformation since an initiation of the financial liberalization in 1990's. It brought significant changes in the Indian economy is general and financial sector in particular. This paper reveals that the banking sector in India has made significant progress in all financial indicators of performance measurement during the post liberalization period. The deposits of the banking system, banking credit and investment of the Indian banking system have been increased. The present paper first makes an effort to explain the evolution of the Indian banking industry in India. It intends to analyze the performance of the Indian banking sector after the initiation of financial liberalization and also aims to reveals the current status of financial inclusion in India. Here, the empirical result (two sample t-test) shows that during the post reform period the performance of proportion of household having life insurance fund and proportion of household having access to saving (supply side indicators of financial inclusion) is better than pre reform period. The performance of no. of commercial bank branches per 1,000 adults is better in comparison to other demand side indicators of financial inclusion in India. Now, financial inclusion is no longer a policy choice but a policy compulsion and banking sector is a key driver for financial inclusion/inclusive growth.

Key Words: Financial Inclusion, Banking Sector, Inclusive Growth, financial liberalization,
JEL Codes: O43, G210, O430, C43

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Introduction

Financial sector reforms have long been regarded as an important part of the agenda for policy reforms in developing countries. Financial sector is the backbone of any economy and it plays a crucial role in the mobilization and allocation of resources. The main objective of the financial sector (Banks, Financial Institutions etc.) reforms in India initiated in the early 1990s was to create an efficient, competitive and stable financial sector that could then contribute greater measure to encourage growth. While several committees have gone into the problems of commercial banking in India, the two most important of them are: Narasimha Committee I (1991) and Narasimha Committee II (1998).

The main objective of banking sector reforms was to promote a diversified efficient and competitive financial system with the decisive goal of improving the allocative efficiency of resources through operational flexibility, improved financial viability and institutional strengthening.

As the Indian banking system had become mostly government owned by the early 1990s, banking sector reforms essentially took a two divided approach such as: first, the level of competition was gradually increased within the banking system with simultaneously introducing international best practices in prudential regulation and supervision tailored to Indian requirements. In particular, special emphasis was placed on building up the risk management capabilities of Indian banks while measures were initiated to ensure flexibility operational autonomy and competition in the banking sector. Second, active steps were taken to improve the institutional arrangements including the legal framework and technological system. The managerial system was restored in view of the crucial role of supervision in the creation of an efficient banking system.

Now banking sector has come up with a lot of initiatives that focused on providing a better customer services with the help of new technologies and Indian banking sector today has the same sense of interest and opportunity that is evidence in the Indian economy. Banking sector plays considerable role in bringing financially excluded people in to formal financial sector as policies of the government and Reserve Bank of India towards financial inclusion are implemented through banking sector.

1. **Review of Literature**

Das (1999)[1] compares performance among public sector banks for three years in the post-reform period, 1992, 1995 and 1998. He finds a certain convergence in performance. He also notes that while there is a welcome increase in emphasis on non-interest income, banks have tend to show risk-averse behavior by opting for risk-free investments over risky loans.

Rajaraman et al., (1999)[2] show that bank-specific characteristics such as ownership or adherence to prudential norms do not suffice to explain inter-bank variability in NPAs while region of operation matters. The study argued that banks functioning in less developed areas like Bihar were having high NPAs, while banks functioning in developed regions such as Delhi, Punjab were having less NPAs. Ajit and Bangar (1998)[3] present a tabulation of the performance of private sector banks vis-a-vis public sector banks over the period 1996-1997, using a number of indicators: profitability ratio, interest spread, capital adequacy ratio and the net NPA. The conclusion is that Indian private banks outperform public sector banks. The study also found that Indian private banks have higher returns to assets in spite of lower spreads.

Bhattacharya et al., (1997)[4] studied the impact of the limited liberalization initiated before the deregulation of the nineties on the performance of the different categories of banks, using Data Envelopment Analysis. Their study covered 70 banks in the period 1986-91. They constructed one grand frontier for the entire period and measured technical efficiency of the banks under study. They found PSBs had the highest efficiency among the three categories, with foreign and private banks having much lower efficiencies. However, PSBs started showing a decline in efficiency after 1987, private banks showed no change and foreign banks showed a sharp rise in efficiency. The main results accord with the general perception that in the nationalized era, public sector banks were successful in achieving their principal objectives of deposit and loan expansion.

[1] A. Das, 'Profitability of Public Sector Banks: A Decomposition Model', Reserve Bank of India, Occasional Paper 20, 1999.

[2] I. Rajaraman, S. Bhaumik, and N. Bhatia, 'NPA Variations Across Indian Commercial Banks: Some Findings', *Economic and Political Weekly* January 16-23, 1999.

[3] D. Ajit and R. D. Bangar, 'The Role and Performance of Private Sector Banks in India-1991-2 to 1996-97', *Political Economy Journal of India* 7(1), P 7-20, 1998.

[4] A. Bhattacharya, C.A.K. Lovell and P. Sahay, 'The Impact of Liberalization on the Productive Efficiency of Indian Commercial Banks', *European Journal of Operational Research*, Vol 98,332-45, 1997.

Dev, S. Mahendra (2006)[5]**,** tried to explain the concept of financial inclusion and its related demand side and supply side issues and challenges. He used cross sectional data of all Indian states. His finds claims that small and marginal farmers have been excluded highly from the formal source credit. Among Indian states, Andhra Pradesh has recoded highest level of exclusion of marginal and small farmers. There is still 73 to 80 percent of loan is from moneylender. So he suggested that formal financial institutions has a great role to play to improve the condition of financial inclusion and the standard of living of small and marginal farmers. In addition, he pointed out that the Self-Help Group and Micro Financial Institutions can also contribute to increase the financial inclusion. Sangwan, S. S. (2008)[6], did a cross section study of all Indian states to measure the intensity of financial inclusion. He found that the Self-Help Groups led programme has contributed significantly to the improvement in financial inclusion, mostly among women and low income groups. Rangarajan Committee (2008)[7] conducted a study on financial inclusion of all Indian states. According to them, "Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by helpless groups such as weaker sections and low income groups at an affordable cost." In the study they found that around 51.4 percent of households are excluded from both formal and informal sources of credit. The major victims of this exclusion were mainly marginal farmer and women. So they have suggested for an inclusive financial system that can improve of the living standard of weaker and marginal sections.

Subbarao, D. (2009)[8]**,** argued that in order to attain an equitable and sustainable growth, the financial inclusion is must needed. According to him, financial inclusion can benefit the poor by dragging their savings into the formal financial system which grows it over time and increases capital formation. Chibba, M. (2009)[9]**,** in his study stated that, financial inclusion through Millennium Development Goal can reduce the poverty level of poor and weaker section. He emphasized the inter link relationship among the financial inclusion, poverty reduction and Millennium Development Goal. Chakraborty, K. C. (2009)[10]**,** define financial inclusion as a process where all the groups, especially low income and weaker section, needs to be taken care of by providing much needed financial products at low cost

[5] S. Mahendra Dev, 'Financial Inclusion: Issues and Challenges', Vol- XLI. No. 41, Economic Political Weekly, 2006.

[6]S.S. Sangwan, 'Financial Inclusion and Self Help Groups', NABARD, 2008

[7] C.Rangarajan, 'Report of the committee on Financial Inclusion', 2008 as retrieved from the website: *http://www.sksindia.com/downloads/Report_Committee_Financial_Inclusion.pdf, on 10/02/2015.*

[8] D. Subbarao , 'Financial Inclusion: Challenges and Opportunities', Being a presentation by Dr Duvvuri Subbarao, Governor, Reserve Bank of India, at the Bankers" Club, Kolkata on December(9,2009) as retrieved from the website: http://www.rbi.org.in

[9] M. Chibba , 'Financial Inclusion, Poverty Reduction and the millennium Development Goals', *European Journal of Development Research* ,Vol. 21, 2009.

[10] K.C. Chakraborty, 'Financial Inclusion, RBI Initiatives' at *National Seminar on Launching a National Initiative for Financial Inclusion*, DFS GoI, 2009.

Khan, H.R. (2011)[11], viewed increase in financial inclusion as an inclusive growth in an India. According to him increase in the coverage of financial inclusion can increase the standard of living of poor, especially vulnerable groups. He argued that financial inclusion works as a multiplier in the growth process of an economy. It means high growth in rural sector will drive more income and as a result there is more savings. This increases the deposit amount of banks and other financial institutions. He also states that, in an inclusive system, transmission mechanism will be faster which will affect the macro economy positively and hence, well-being of the low income groups. Hriharan, G. and Marktanner, M. (2012)[12], used a more comprehensive definition of financial inclusion where they emphasised on access to credit, savings and insurance items through formal financial institution. They argued that, there are some socio-economic factors that hinder to achieve a wide coverage of financial inclusion. Since, financial inclusion has potentiality to move an economy to a new stage of development; it can create domestic capital formation and productivity. Murthy, B.M. R., (2012)[13], greatly emphasized financial inclusion is as plan of action for an economy in the recent time. He has taken Self-Help Groups (SHGs) to know its impact on financial inclusion. His findings suggest that, apart from financial intermediation, SHGs can change the standard of living of the poor. However pointed out that merely giving credit to these groups will not impact significantly, rather there should some supporting services and training programme from the concerned authority to get prudent effect.

H. and Parkhi, S. (2014)[14], studied different model used in India to create an inclusive and sustainable financial system. They argued that, insufficient income and poverty of the rural mass are the major reasons for the low achievement in financial inclusion. Thus they suggested that, in order to have a 100 percent financial inclusion, the concerned authority must work further to strengthen the basic structure of the economy. More specifically, if the poor people are included under any income generating programme, than the above specified problem can be avoided to larger extent.

In this paper, Indian banking sector reforms and current status of financial inclusion have been analyzed with following specific objectives: (i) to identify the impact of Indian banking sector

[11] H.R. Khan, 'Financial inclusion and financial stability: are they two sides of the same coin?' address at *BANCON* 2011, Chennai, 4 November, 2011.

[12] G. Hariharan, and M. Marktanner , 'The Growth Potential from Financial Inclusion', ICA Institute and Kennesaw State University, 2012.
retrieved from : http://www.frbatlanta.org/documents/news/conferences/12intdev/12intdev_Hariharan.pdf,

[13] B. M. R. Murthy, 'A Study on the Impact of Banks and SHG on Financial Inclusive Growth', *International Journal in Multidisciplinary and Academic Research* (SSIJMAR), Vol-1, No.- 4, 2012,p-1-15

[14] H. Gwalani and S. Parkhi, 'Financial inclusion - Building a success model in the Indian context', *Procedia - Social and Behavioral Sciences* 133, 2014, p. 372 – 378.

reforms on banking performance, (ii) to identify the performance of financial inclusion indicators between pre-reform and post-reform period in India and (iii) to make a comparative analysis of India on financial inclusion parameters across different countries.

2. Methodology, Data sources and Variables

Here, the study is based on time series secondary data and research methodology is partly descriptive and partially used two sample t-test. For this study data and information has been collected with the help of RBI, NABARD, National Federation of State co-operative Banks (NAFSCOB), World Bank and IMF. For two sample t-test, this study taking into account two groups of indicators such as: demand side indicators and supply side indicators of an inclusive financial system. Demand side indicators such as: Banking Penetration (BP), Availability of Banking Services (BS) and Usage of the Banking System (BU), Banking Linkage (BL). Supply Side indicators are: Access to Savings, Access to Insurance.

2.1 Demand side Indicators

(a) Banking Penetration: The number of people having a bank account is called banking penetration. Thus, if every person in an economy has a bank account, then the value of this measure would be 1. (No. of deposit account with commercial bank per 1000 adults)

(b) Availability of banking services: The services of an inclusive financial system should be easily to its users. Availability of services can be indicated by the number of bank outlets (per 100000 populations) and /or by the number of ATM per 100000 people, or the number of bank employees per customer. In the absence of comparable data on the number of ATMs and number of bank staff, we can use the number of bank branches per 100000 populations to measure the availability dimension.

- No. of ATM per 100000 adult
- No. of commercial bank branches per 1000 adult

(c) Usage of the banking system: Bank account is not enough for an inclusive financial system, it is also imperative that the banking services are adequately utilized. Here, outstanding deposit with commercial banks as percentage of GDP dimension used in this present study.

2.2 Supply side Indicators

(a) Access to Saving:

- Proportion of households having access to savings

(b) Access to Insurance:

- Proportion of households having access to insurance

For the calculation of two sample t-test, the study used different supply side indicators such as: households having access to savings and households having access to Insurance in India from 1973 to 2013 and all these supply side indicators variables data are taken from RBI website. Different demand side indicators such as: Banking Penetration, Availability of Banking Services and Usage of the Banking System in India and the study period is spanning from 2004 to 2012. The data on demand side indicators are sourced from Financial Access Survey (IMF) is the data sources. Here, the major limitation of this study is lack of availability of the data especially on demand side indicators.

3. Growth of banking system in India

The past four decades and particularly the last two decades witnessed tragic change in the face of commercial banking all over the world and in over five decades since dependence, banking system in Indian has passed through four distinct phase viz.

i) Phase I : Pre-Nationalization Phase (prior to 1955)
ii) Phase II : Era of Nationalization and Consolidation (1955-1990)
iii) Phase III : Introduction of Indian Financial and Banking Sector Reforms and Partial Liberalization (1990-2004)
iv) Phase IV : Period of Increased Liberalization (2004 onwards)

Fig.1: Evolution of the Indian Banking Industry

Trigger Events	Phases	Major Changes
Beginning of Institutional banking with 3 joint stock banks	Phase: 1 Pre nationalization	> Birth of joint stock banking companies > Introduction of deposit banking and bank branches > Presidency banks and other joint stock banks formed setting the foundation of modern banking system
Nationalization of imperial bank and 20 other scheduled commercial banks (SCBs)	Phase: 2 Era of Nationalization and consolidation	> SBI formed out of imperial bank > 20 SCBs nationalized in two phases > Directed credit programmes on the rise > Introduction of social banking
Acceptance of recommendation of the Narasimha Committee	Phase: 3 Introduction of Indian financial and banking sector reforms and partial liberalization	> Major changes in prudential regulation > Interest rates deregulated > Statutory preemption of resources eased more private sector players came in strengthened the system as a whole
Hike the FDI ceiling for banking sector and declaration of road map for liberalization	Phase: 4 Period of increased liberalization	> FDI ceiling for the banking sector increased to 74% from 49% > Road map for inclusion of foreign banks declared > More liberal branches licensing policy followed
Phase: 4 Continues-more liberalization expected		

Source: D and B industry Research Service

3.1 Banking Sector Reforms (1991)

The main objective of banking sector reforms was to promote a diversified, efficient and competitive financial system with the ultimate goal of improving the allocate efficiency of resources through operational flexibility, improved financial viability and institutional strengthening. The study shows Indian banking has come a long way since India embarked on the reforms path about almost two decade ago in 1991-92.

Today, Indian banks are as technology-savvy as their banking-the traditional forte, coupled with ATM networks-the new imperative, have evolved to place the banking services on a new trajectory. The competitive force have led to the emergence of internet and mobile banking too, to let banks attract and retain customers. The banking sector is also gearing up to embrace the Basel II regime, to benchmark with the global standard.

A number of reforms initiatives have been taken to remove minimize the distortions impinging upon the efficient and profitable functioning of bank. These initiatives such as: reduction in SLR and CRR, transparent guidelines or norms for entry and exists of private sector banks and branch licensing policy has been liberalized etc.

3.1.1 Impact of Reforms on the Indian Banking Sector (1991 onwards)

Banking sector plays an important role in including financially excluded people into formal sector. This part is based on trend analysis which makes an effort to evaluate the impact of reforms on the performance of Indian banking sector and financial inclusion process in India. Financial inclusion process in India is observed on the data from the official sources such as Reserve Bank of India (RBI), Scheduled Commercial Bank (SCBs), Urban Co-operative Bank (UCBs) from different point of view like branch penetration, ATMs penetration, Population per branch, saving deposits with commercial bank and Co-operative bank.

Table.1: Branch Expansion of Scheduled Commercial Banks (1980-2013)

Year	Rural	% Change	Semi-Urban	% Change	Urban	% Change	Metropo-litan	% Change	Total	% Change	Increm-ental Ratio
1980	15105	-	8122	-	5178	-	4014	-	32419	-	7.5
1981	17656	16.89	8471	4.30	5454	5.33	4126	2.79	35707	10.14	8.0
1982	20401	15.55	8809	3.99	5693	4.38	4274	3.59	39177	9.72	7.4
1983	22686	11.20	9081	3.09	5917	3.93	4395	2.8	42079	7.41	9.4
1984	25380	11.88	9326	2.70	6116	3.36	4510	2.62	45332	7.7	7.0
1985	30185	18.93	9816	5.25	6578	7.55	4806	6.56	51385	13.4	0.18
1986	29703	-1.6	10585	7.83	7209	9.59	5790	20.4	53287	3.7	39.9
1987	30209	1.70	10637	0.49	7218	0.12	5795	0.08	53859	1.07	9.3
1988	31114	2.99	11132	4.65	7322	1.44	5842	0.81	55410	2.88	5.4
1989	33014	6.11	11166	0.31	7524	2.76	5995	2.62	57699	4.13	16.4
1990	34791	5.38	11324	1.42	8042	6.88	5595	-6.67	59752	3.56	13.2
1991	35206	1.19	11344	0.18	8046	0.05	5624	0.51	60220	0.78	0.27
1992	35269	0.18	11356	0.11	8279	2.90	5666	0.74	60570	0.59	0.62
1993	35389	0.34	11465	0.96	8562	3.42	5753	1.54	61169	0.99	1.4
1994	35329	-0.17	11890	3.71	8745	2.14	5839	1.49	61803	1.04	-0.6
1995	33004	-6.58	13341	12.20	8868	1.41	7154	22.5	62367	0.91	0.5
1996	32995	-0.03	13561	1.65	9086	2.46	7384	3.21	63026	1.06	0.3
1997	32915	-0.24	13766	1.51	9340	2.80	7529	1.96	63550	0.83	0.4
1998	32878	-0.11	13980	1.55	9597	2.76	7763	3.10	64218	1.05	0.3
1999	32857	-0.06	14168	1.34	9898	3.14	8016	3.26	64939	1.12	0.3
2000	32734	-0.37	14407	1.67	10052	1.56	8219	2.53	65412	0.73	0.04
2001	32562	-0.52	14597	1.32	10293	2.40	8467	3.02	65919	0.78	-0.11
2002	32380	-0.56	14747	1.03	10477	1.79	8586	1.4	66190	0.41	0.11
2003	32303	-0.23	14859	0.76	10693	2.06	8680	1.09	66535	0.52	0.08
2004	32121	-0.56	15091	1.56	11000	2.87	8976	3.41	67188	0.98	0.31
2005	32082	-0.12	15403	2.07	11500	4.55	9370	4.39	68355	1.74	-0.55
2006	30579	-4.68	15556	0.99	12032	4.63	11304	20.6	69471	1.63	0.49
2007	30551	-0.09	16361	5.17	12970	7.80	11957	5.78	71839	3.41	0.76
2008	31076	1.72	17724	8.33	14397	11.00	13019	8.88	76216	6.09	0.7
2009	31667	1.90	18969	7.03	15733	9.28	14178	8.90	80547	5.69	1.3
2010	32624	3.02	20740	9.34	17003	8.07	15026	5.98	85393	6.02	1.85
2011	33683	3.25	22843	10.1	17490	2.86	16247	8.13	90263	5.70	2.31
2012	36356	7.94	25797	12.93	18781	7.38	17396	7.07	98330	8.94	1.05
2013	39,233	7.91	28,529	10.59	21,618	15.11	19,899	14.4	109279	11.13	0.99
CAGR	**2.93**		**3.88**		**4.42**		**4.97**		**3.75**		

Note: CAGR → Compound Annual Growth Rate
Source: Basic Statistical Returns of Scheduled Commercial Banks, RBI.

Table 1 shows the population group-wise expansion of bank branches of scheduled commercial banks (SCBs) in India. It also shows the compound annual growth rate (CAGR) and yearly changes in the bank branch expansion. The table clearly reveals that the expansion of rural bank branches has increased from 16.89 percent to 19 percent during 1980 to 1985 but it declined by 1.6 percent in 1986. It further increased to 6.11 percent in 1989 but after that it showed a continuous declining trend and reached at 0.34 percent in 1993. The rural branches have started to decline sharply from 1994 till 2007 but after 2007, it showed some improvements and increased by 7.91 percent in 2013. On the whole, rural branches have increased from 15105 in number to 39,233 with a CAGR of 2.93 percent.

The semi-urban branches have increased from 8122 to 28529 with a CAGR of 3.88 percent during 1980 to 2013. The yearly changes in the growth of semi-urban branches have showed expansion of branches all over the period, but a higher and more stable growth rate was found in the post reform period as it showed 12.20 percent of growth in 1995 and after that increases sharply from 2007 onwards i.e. from 5.17 percent in 2007 to 12.93 percent in 2012 and 10.59 percent in 2013. As far as urban and metropolitan branches are concerned, their number has increased from 5178 and 4014 to 21618 and 19899 with a CAGR of 4.42 and 3.75 percent. The annual growth in the expansion of urban and metropolitan branches were 5.33 and 2.79 percent which has increased to 9.59 and 20.4 percent in 1986 but after that they have declined to 0.12 percent and 0.08 percent in the next year, that is, in 1987 and 0.05 and 0.51 percent in 1991 but after the reform, the percentage changes have increased to 1 percent and 8.9 percent in 2008 and 15.11 and 14.4 percent in 2013 respectively.

The annual growth of urban and metropolitan bank branches is higher than that of rural and semi-urban branches. The table shows that after the reforms in the banking sector, the rural branch expansion didn’t showed any increase, but the expansion of semi-urban bank branches was better than the rural branches. The incremental ratio of rural plus semi-urban branches to urban plus metropolitan branches is also calculated from 1980 to 2013 which reveals that the incremental ratio was increased from 7.5 to 39.9 during 1980 to 1986 with an exception in the year 1985 where it was declined to 0.18. It has declined to 5.4 in 1988 and further increased to 13.2 in 1990 but after that i.e. in the post-reform period, it declined continuously and reached at -0.11 in 2001 and -0.55 in 2005 respectively. Later on, it started to improve from 2007 onwards and increased from 0.8 to 1.05 in 2012.

Table-2: Period-wise Compound Annual Growth Rate of SCBs in India

Area	Pre-reform phase (1980-1991)	Post-reform phase (1992-2002)	(2003-2013)
Rural Branches	8.00	-0.85	1.96
Semi-urban Branches	3.08	2.65	6.74
Urban Branches	4.08	2.38	7.29
Metropolitan Branches	3.11	4.24	8.65
Total Branches	5.79	0.89	5.09

Source: Calculated from table.1

Table 2 shows the period-wise and population group-wise CAGR of SCBs branches in India. The rural branches have shown a declining trend in the post-reform period as compared to the pre-reform period. The CAGR of rural branches during 1980 to 1991 was 8 percent, which has declined to -0.85 percent during 1992 to 2002 but later on improved to 1.96 percent during 2003 to 2013. As far as semi-urban and urban branches are considered, both have shown a slight decline in CAGR in the first decade (1992-2002) of post-reform period but have increased sharply from 2.75 percent and 2.38 percent to 6.74 percent and 7.29 percent in the second decade (2003-13) of post-reform period. The CAGR of metropolitan branches has increased in the post-reform period as it increased from 3.1 percent during 1980-91 to 4.24 percent during 1992-2002 and further increased sharply to 8.65 percent during 2003 to 2013.

On the whole, the CAGR of the total branches has substantially declined from 5.79 percent in the pre-reform period to 0.89 percent during 1992-2002 and 5.09 percent during the period of 2003-13. Thus, after the banking reforms, it is clear that the benefits to rural areas in terms of rural bank branch expansion have deteriorated in the post-reform period and vice-versa for the metropolitan, semi-urban and urban branches of SCBs in India.

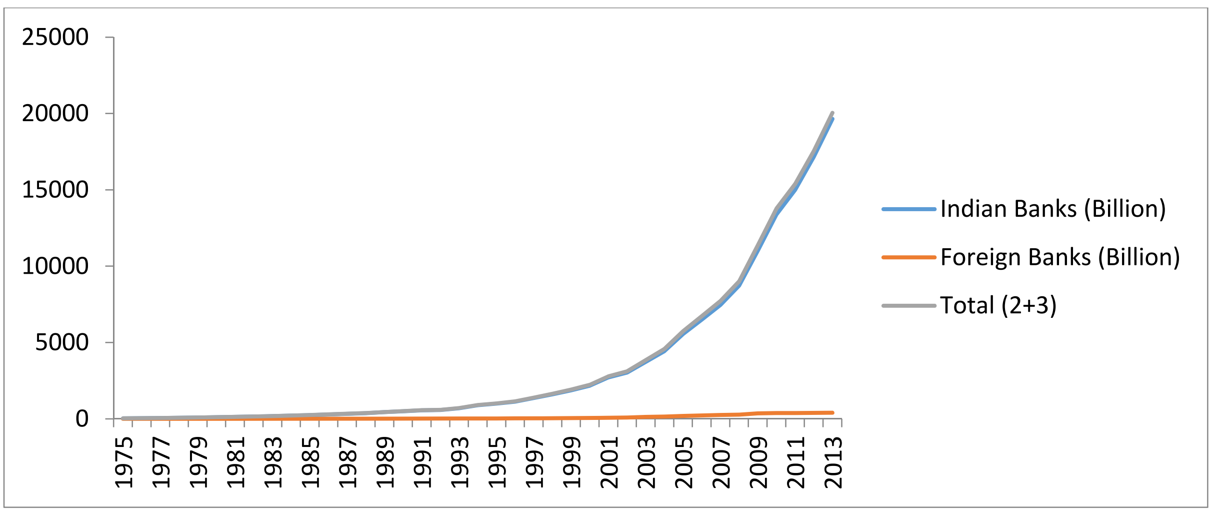
Table-3: Period-wise and Region-wise Compound Annual Growth Rate of SCBs Offices in India

Area	Number of Offices		
	Pre-reform phase	Post-reform phase	
	(1980-1990)	(1990-2000)	(2000-2013)
Northern Region	5.13	1.38	4.82
North-Eastern Region	9.01	0.87	2.80
Eastern Region	7.51	0.92	2.98
Central Region	7.88	0.67	3.60
Western Region	4.56	1.11	3.77
Southern Region	4.33	1.16	4.04
All India	5.89	0.97	3.83

Source: Calculated from the Basic Statistical Returns of Scheduled Commercial Banks, RBI

Table 3 shows that there is a decline in the CAGR of all the regions in the post-reform period. But the major decline was accounted by the north-eastern, eastern and central regions from 9.01 percent, 7.51 percent and 7.88 percent during 1980-90 to 0.87 percent, 0.92 percent and 0.67 percent during the period of 1990-2000.They have shown an improvement during 2002-13 as their CAGR increased to 2.8 percent, 2.98 percent and 3.60 percent. As far as northern, western and southern regions are concerned, their CAGR declined from 5.13 percent, 4.56 percent and 4.33 percent during 1980-1990 to 1.38 percent, 1.11 percent and 1.16 percent during the period of 1990-2000 but later on, increased to 4.82 percent, 3.77 percent and 4.04 percent respectively during 2000-13. These figures show that the decline was more prominent in the unbanked north-eastern, eastern and central region during 1990-2000 whereas the improvements during the period of 2000-13 are more prominent in well banked regions of northern, western and southern region.

Fig-2 Saving deposit with commercial bank (Indian Bank and Foreign Banks) in India from 1975-2013



Source: RBI

The Fig-2 shows that, the saving deposit with commercial bank from 1975 to 2013 in India. According to the data, total saving deposit with commercial bank has been increasing at rapid rate. But the saving deposit with Indian banks has been increasing at faster rate in comparison to foreign banks. It indicates that, maximum number of people in India believes on the Indian banks because they believe that money in Indian banks will be very safe. This is because Indian banks are regulated by RBI. In spite of that, foreign banks saving deposit also increasing year bay year. Overall we can say that, it is a good sign for India to achieve full financial inclusion.

Table-4 Geographic Branch Penetration of SCBs in India

End-March	Total number of branches	Geographic branch Penetration
1991	60220	18.31
2001	65919	20.05
2011	89622	27.26

Source: Compiled on the basis of RBI data

Table-4 shows geographic branch penetration of SCBs in India at different periods of time. It is clear from the table that geographical branch penetration keeps on increasing from the year 1991. In 1991, geographical branch penetration score of India was 18.31, in the year 2001 it was 20.05 and in the year 2011, it reached 27.26. Geographical branch penetration scores indicate that there were about 18 branches per 1000 Km^2 in the year 1991, 20 branches per 1000 Km^2 in the year 2001 and around 27 branches per 1000 Km^2. Geographic branch penetration score of SCBs in India as on 31^{st} March 2011 indicates that people have to travel considerable distance to avail banking services in India.

Table-5 Demographic Branch Penetration of SCBs in India

End-March	Total number of branches	Demographic branch penetration
1991	60220	7.17
2001	65919	6.46
2011	89622	7.41

Source: Compiled on the basis of RBI data

The above table-5 depicts demographic branch penetration of SCBs in India at different periods of time. From the table-5 it is evident that demographic branch penetration in India was 7.41 in the year 2011. The demographic branch penetration scores of India indicate that in the year 1991 and 2011, about 7 branches were available for every 1, 00,000 persons and about 6 branches were available for every 1, 00,000 person in the year 2001. Demographic branch penetration in India from 1991 to 2011 increased slightly only. From this, it is evident that there has been considerable increase in bank branch expansion in India, but it is not in the proportion to increase in population in India.

Table.6: Percentage of households availing banking services

	Percentage of households availing banking services	
	2001	**2011**
Total	35.5	58.7
Rural	30.1	54.4
Urban	49.5	67.8

Source: Census of India

From the above table-6, it shows that the percentage of households availing banking services. Percentage of rural households availing banking services is 30.1 in 2001 census and 54.4 in 2011 census. Percentage of urban households availing banking services is 49.5 in 2001census and 67.8 in 2011 census. Percentage of total households availing banking services is 35.5 in 2001 census and percentage of total households availing banking services is 58.7 in 2011 census of India. From this table, we can find that the percentage of both rural and urban households availing banking services has been increased from 2001 census to 2011 census in India.

4. Importance of Financial Inclusion

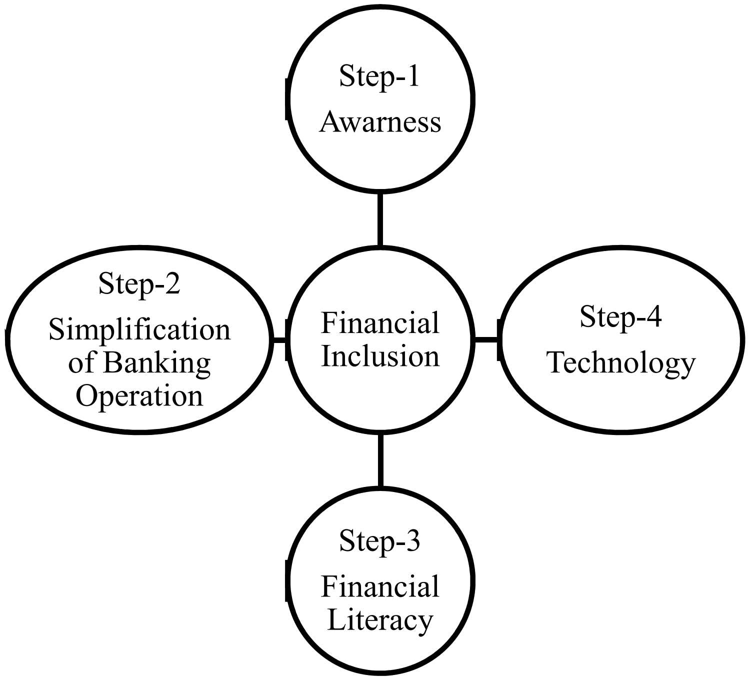
The contribution of poor and disadvantaged people to the economic development of the country is largely dependent upon their, to access credit and create wealth. To improve the economic conditions of the poor people, banking and financial services are to be made available easily without any discrimination, for the public good.

Financial inclusion, more particularly when promoted in the wider context of economic inclusion, can uplift financial conditions and improve the standards of lives of the poor and the disadvantaged. Access to affordable financial services would lead to increasing economic activities and employment opportunities for rural households with a possible multiplier effect on the economy. It could enable a higher disposable income in the hands of rural households leading to greater savings and a wider deposit base for banks and other financial institutions. Thus, financial inclusion could be an instrument to provide monetary fuel for economic growth and is critical for achieving inclusive growth[15].

[15] Financial Inclusion and Financial Stability: Are they two sides of the same coin; Speech by H.R. Khan, Deputy Governor of RBI at BANCON, Chennai, 14 November 2011, RBI, Monthly Bulletin, March 2012, pp.554-55.

4.1 Conceptual Model of Financial Inclusion:

Fig 3: Path way to speed Implementation of Financial Inclusion



From the above fig.3, we can know that the path way to speed implementation of financial inclusion. Now we shall explain all the steps very details such as[16]:

STEP-1: Awareness

- Intensive awareness, education and promotional drives to create an in-depth impact on the masses.
- Government sponsored publicity campaigns through all media-radio, television, newspaper, e-choupal, village panchayat, movies, local stage shows etc.
- Banks should involve knowledgeable and well-informed local inhabitants in conducting awareness campaigns.
- Banks should gather support from NGOs, retired bank personal and academic institutions to reach the numbers within a limited span of time.

Once the myth is removed from the minds of general public, they automatically will join the mainstream. The all-round awareness will drive them to open savings and current accounts.

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[16] V. M. Jessica and V.Venkataramana (ed.), *Financial Inclusion & Inclusive Growth: Prospect and Retrospect,* Paramount Publishing House, New Delhi, R.K.Mishra and B.V.S.Sowmya, 'Financial Inclusion –A new trend in banking sector in India', 2012, p.75.

STEP-2: Simplification of banking operations

- All banks should allow no frill accounts i.e. savings accounts to be opened with a nominal amount or even with zero balance.
- RBI, along with the banks, should toil hard to reduce the amount of paper work in relation to the opening of an account as well as in getting small credits. This would reduce the complexity and also speed up the processing at banks.
- Despite the risk, financing of first time entrepreneurs is a must for financial inclusion and growth. Banks should arrange and provide technical advice for these entrepreneurs.
- Banks should make sure that local people are positioned in the front offices, so that the general public does not have to endure with language problems and suffer perceived / actual racial discrimination.

It is necessary that basic banking operations are to be made more comprehensive in scope so that they can lure people at large.

STEP-3: Financial Literacy

- The government should promote introduction of basic banking – relevance, services and merits as a topic in secondary and higher secondary classes in all education institutions.

  Low and moderate income individuals and families, who typically have less experience with complicated financial transactions, may be susceptible to deception or fraud. Financial literacy helps them to take informed decisions and avoid exploitation.

Financial literacy or financial education can broadly be defined as "providing familiarity with and understanding of financial market products, especially rewards and risks, in order to make informed choices. Viewed from this standpoint, financial education primarily relates to personal finance to enable individuals to take effective action to improve overall well-being and avoid distress in matters that are financial"[17].

Financial literacy also plays a significant role in the efficient allocation of household savings and the ability of individuals to meet their financial goals. In India, the need for financial literacy is even greater considering the low levels of literacy and the large section of the population, which still remains out of the formal financial set-up and for sustaining financial inclusion; the financial

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[17] Reddy, Y.V., "The Role of Financial Education: The Indian Case", Address at the International Conference on *Financial Education,* OECD and *Pension Fund Regulatory and Development Authority*, New Delhi, September 21.

literacy becomes a very critical component. There is a need to simultaneously focus on the financial literacy part besides delivery/access.

STEP-4: Technology

- Banks have got huge technological advances on their door steps.
- Core banking system adopted by banks with the help of technology has accelerated the banking process.
- Further development and effective utilization of Biometric ATMs, Smart card for opening bank accounts with biometric identification, Mobile Banking units, Link to mobile or hand held connectivity devices ensures that the transactions are recorded in the bank's book on a real time basis.

The use of IT also enables banks to handle the enormous increase in the volume of transaction of millions of households for processing, credit scoring, credit record and follow up.

Table.7: Progress of SCBs in Financial Inclusion Plan

Particulars	Year ended March 2010	Year ended March 2011	Year ended March 2012	Year ended March 2013	Progress (2010-2013)
Banking outlets – Rural Branches	33378	34811	37471	40845	7467
Banking Outlets - BCs	34174	80802	141136	221341	187167
Banking Outlets – other Modes	142	595	3146	8424	8282
Banking Outlets-Total	67694	116208	181753	268454	200760
Urban location covered through BCs	447	3771	5891	27143	26696
BSBD Accounts (No. in lakh)	734.53	1047.59	1385.04	1820.63	1098.77
BSBD Accounts (amount in crores)	5501.71	7612.00	12040.62	1829.89	12790.18
OD facility availed in BSBD Accounts (No. in lakh)	1.83	6.06	27.05	39.42	37.59
KCC – No. in lakh	243.07	271.12	302.35	337.87	94.82
KCCs – amount in crores	124007.06	160005.04	206839.03	262298.02	138290.96

GCCs – no. in lakh	13.87	16.99	21.08	36.39	22.52
GCCs – amount in crores	3510.87	3507.06	4184.41	7661.39	4150.53
BC-ICT Accounts (no. in lakh)	132.65	316.30	573.01	810.38	677.73
ICT Accounts-BC-Total Transaction (no.in lakh)	265.15	841.64	1410.93	2546.51	4799.08

Source: K.C. Chakrabarty (2013). (Data included SCBs excluding RRBs)

From the above table-7 explains the progress of Schedule Commercial Bank (SCBs) in India during the first phase (2010-2013) of Financial Inclusion Plan. From the above Table-7 we can see that, more than 2,68,000 banking outlets have set up in village as on March, 2013 besides 67,694 banking outlets in March 2010. According to RBI statistics, the total number of functioning branches of all commercial banks in the country reached to 1,02,343 branches with 37,953 branches were in rural areas as on 31st March, 2013 and more than 7400 rural branches have been opened during this period compared with the reduction of nearly 1300 rural branches during the last two decades. Around 1098 lakh Basic Bank Deposit Account have been extra, taking the total number of Basic Savings Bank Deposit Accounts (BSBDAs) to 1823 lakh. The part of ICT based accounts to total basic Savings Bank Deposit Accounts increased from 25 % in March 2010 to 45 % in March 2013. The number of Kisan Credit Cards (KCC) issued by the banking system were reached to 337.87 lakh with a balance of Rs. 2, 62,298 crore at the end of March, 2013.

Table.8: Pradhan Mantri Jan Dhan Yojana (PMJDY) (As on 05.08.2015)

(All figures in Crores)

Banks	**No. of Accounts**			**No. of RuPay DC**	**BA**	**% of ZBA**
	Rural	**Urban**	**Total**			
Public Sector Bank	7.48	6.16	13.64	12.54	17273.12	45.75
Private Banks	2.65	0.46	3.11	2.27	3684.56	48.55
Regional Rural Banks	0.41	0.28	0.7	0.62	1075.01	45.71
Total	10.55	6.9	17.45	15.43	Rs. 22032.68 cr. (US 3.4 Billion Dolar)	46.25

Source: Pradhan Mantri Jan-Dhan Yojana (PMJDY), Department of Finance Services, Ministry of Finance.

Here, Debit Cards (DC), Balance in Account (BA), Zero Balance Account (ZBA), Rupay

This financial inclusion campaign was launched by the Prime Minister of India, on 28 August 2014. Pradhan Mantri Jan-Dhan Yojana (PMJDY) is National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner.

The table-8 revels that, the present status of financial inclusion initiative in India and it explains the number of banks and accounts under the Pradhan Mantri Jan-Dhan Yojana scheme. Number of accounts in public sector bank in rural area is 7.48 crores, urban area is 6.16 crores and total is 13.64 crores. Here, we can see that, the total number of private sector banks is very low in comparison to public sector banks and total number of RRB is 0.7. Total balance account is Rs. 22032.68 cr. and total percentage of zero balance accounts are 46.25 crores. Recent in India, total number of RuPay debit cards are 15.43 crores. Overall, we can say that it is a good sign to achieve a full financial inclusion in India.

4.2 Insurance Penetration and Insurance density in India

Insurance penetration plays an important role to achieve the full financial inclusion in India and it also a supply side indicator of financial inclusion. From the table-9, we find both insurance penetration and insurance density in the country increasing. The percentage of life insurance penetration increased from 1.29 in 1995 to 2.91 in 2005. During the same period the percentage of general insurance penetration also increased to 0.63 from 0.55. Similarly, the percentage of life insurance penetration little bit decreased from 4.10 in 2006 to 3.10 in 2013 and the percentage of general insurance penetration has been increased to 0.60 in 2006 to 0.80 in 2013. In the same way both life insurance density has been increased to 41.0 in 2013 from 5 in 1995 and general insurance density also increased to 11.0 from 2 in 1995.

From this table, it is evident that there is visible uptrend life insurance penetration from 1995 to 2013, life insurance density and general insurance density but the general insurance penetration seems stagnant.

Table.9: Insurance Penetration and Insurance density in India

Year	Life Insurance Penetration (%) (A)	Life Insurance Density (B)	Total (A+B)	General Insurance Penetration (%) (C)	General Insurance Density (D)	Total (C+D)
1995	1.29	5	6.29	0.55	2	2.55
1996	1.39	5.03	6.42	0.56	2.04	2.6
1997	1.9	6.2	8.1	0.71	2.3	3.01
1998	1.39	6.1	7.49	0.54	2.4	2.94
1999	1.77	7.6	9.37	0.55	2.3	2.85
2000	2.15	9.1	11.25	0.56	2.4	2.96
2001	2.59	11.7	14.29	0.67	3	3.67
2002	2.26	12.9	15.16	0.62	3.5	4.12
2003	2.62	13.7	16.32	0.63	3.29	3.92
2004	2.91	17.23	20.14	0.63	3.76	4.39
2005	2.53	18.3	20.83	0.61	4.4	5.01
2006	4.10	33.2	37.3	0.60	5.2	5.8
2007	4.00	40.4	44.4	0.60	6.2	6.8
2008	4.00	41.2	45.2	0.60	6.2	6.8
2009	4.60	47.7	52.3	0.60	6.7	7.3
2010	4.40	55.7	60.1	0.71	8.7	9.41
2011	3.40	49.0	52.4	0.70	10.0	10.7
2012	3.17	42.7	45.87	0.78	10.5	11.28
2013	3.10	41.0	44.1	0.80	11.0	11.8

Source: IRDA Annual Report 2013-14

Note: 1. Insurance Density is measured as ratio of premium (in USD) to total population
2. Insurance Penetration is measured as ratio of premium (in USD) to GDP (in USD)

4.3 Cross Country Comparison:

Table-10: Indicators of Outreach of Financial Services in Selective countries in the World[18]

Country	Number of branches (per 0.1 million adults)	Number of ATMs (per 0.1 million adults)	Bank loan as percent of GDP	Bank deposits as percent of GDP
India	10.64	8.90	51.75	68.43
Australia	29.61	166.92	128.75	107.10
Brazil	46.15	119.63	40.28	53.26
France	41.58	109.80	42.85	34.77
Mexico	14.86	45.77	18.81	22.65
USA	35.43	-	46.83	57.78
Korea	18.80	-	90.65	80.82
Philippines	8.07	17.70	21.39	41.93

Source: Report on Trend and Progress of Banking in India, RBI 2011-12

From the below table-10, it can be seen that there is dissimilarity among countries of the World in terms of different outreach of financial services. In case of India, number of bank branches (per 0.1 million adults) is 10.64, number of bank branches in Australia is 29.61 and similarly, Brazil (46.15), France (41.58), Mexico (14.86), USA (35.43), Korea (18.80) and Philippines (8.07). Here, number of bank branches (per 0.1 million adults) in Brazil is highest and Philippines is lowest in among all countries. Number of ATMs (per 0.1 million adults) is highest in Australia (166.92) and lowest is India (8.90). In terms of bank loan as percent of GDP is highest in Australia (128.75) and lowest is Mexico (18.81). In terms of bank deposit as percent of GDP is highest in Australia (107.10) and lowest in Mexico (22.65).

[18] A.Thapar, 'A study on the effectiveness of the financial inclusion program in India', *VSRD International Journal of Business and Management Research*, Vol.3, 2013, PP. 212.

5. Empirical Result and Discussion

5.1 Supply Side Indicators of Financial Inclusion:

Table-11: Summary Statistics of Life Insurance fund to the households (1973-2013)

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
LIFH	41	483.014	732.432	3.44	2598.21
TLFH	41	2785.938	3590.254	33.71	11740.95
PLIFH	41	11.766	4.9489	6.60	26.24

Source: Authors Computation

Note: LIFH → Life Insurance Fund to the Household
TLF →Total Life Insurance Fund to the Household
PLIFH → Proportion of Households having Life Insurance Fund

From the table-11, it shows the summary statistics of supply side indicator of financial inclusion i.e. life insurance fund to the household in India from 1973-2013. The result of summary statistics is evident that all the variables indicate empirical distribution with relative to normal distribution. Here the mean of the LIFH is 483.014, minimum is Rs.3.44, maximum Rs.2598.21 and standard deviation is 732.432. The mean of TLFH is 2785.938, minimum is Rs. 33.71, maximum is Rs.11740.95 and S.D is 3590.254. Finally, the mean of PLIFH is 11.766, minimum is Rs. 6.60, maximum is Rs. 26.24 and standard deviation is 4.9489.

Model-1

0 → Pre reform period (1973-1990)

1 → Post reform period (1991-2013)

Mean (0) → for pre reform period

Mean (1) → for post reform period

$\mathbf{H_0}$ **:** Mean (0) – Mean (1) = 0

$\mathbf{H_1}$ **:** Mean (0) – Mean (1) ≠ 0

(Here, assuming variance is constant)

$$\text{Dummy} = \begin{cases} 0 \rightarrow for\ pre\ reform\ period \\ 1 \rightarrow\ for\ post\ reform\ period \end{cases}$$

H_0 : Mean (0) – Mean (1) = 0
H_1: Mean (0) – Mean (1) ≠ 1

Table-12: Mean Proportion test between Post Reform Period (1991-2013) and Pre-reform Period (1973-1990) of proportion of households having life insurance fund.
(Two-sample t-test with equal variance)

Group	Obs.	Mean	Std. Err.	Std. Dev.	(95% conf.	Interval)
0	18	8.016	0.254	1.007	7.480	8.552
1	23	14.700	1.002	4.809	12.621	16.780
Combined	41	11.766	0.772	4.948	10.204	13.328
Diff.		-6. 684	1.158		-9.027	-4.340

Diff. = mean (0) - mean (1) **t =** -5.7696
Ho**:** diff = 0 **Degrees of freedom** = 39
Ha**:** diff < 0 Ha**:** diff = 0 Ha**:** diff > 0
Pr. (T < t) = 0.0000 **Pr. (|T| > |t|)** = 0.0000 **Pr. (T > t)** = 1.0000

From the above table-12, if we look at the p-value, associated with this hypothesis it is 0.000 which is very close to 0. Hence we don't have sufficient evidence to accept the H_0. This implies that there is a significant difference between the mean of proportion of households having life insurance fund (PLIFH) during two periods. Here, mean of the post reform period is 14.7 which is more than mean of the pre reform period that is 8.01. From this result, we can know that after post reform period (Insurance Sector Reform, 1993), this variable performance is very good comparison to pre reform period because insurance sector reforms was brings new technology, increase productivity, create demand for skilled human resources and increased volume of business. It means increase in overall efficiency through increased utilization of resources and again Insurance Regulatory and Development Authority of India (IRDA) Act.1999 has made regulatory provisions covering all vital issues, viz. solving margin of insurance, obligation of insurers to rural and social sector, investments, appointment of actuaries and determination of accounting standard. For this reason peoples are more attracted to saving in life insurance. Finally, we can say that during the post reform period the performance of PLIFH is better than pre reform period.

Table-13: Summary Statistics of Proportion of Households having access to saving

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
HHS	43	4113.62	5967.98	45.31	22124.14
GDS	43	5622.139	8371.80	68.21	30434.74
PHHS	43	72.630	7.455	60.90	93.151

Source: Authors Computation

Note: HHS → Household having access to saving
GDS → Gross Domestic Saving
PHHS → Proportion of Households having access to saving

Table-13, depicts summary statistics of supply side indicators of financial inclusion i.e. proportion of households having access to savings in India from 1970-2012. The result of summary statistics is evident that all the variables indicate empirical distribution with relative to normal distribution. Here, the mean of household having access to saving (HHS) is 4113.62, standard deviation is 5967.98, minimum is Rs.45 and maximum is Rs. 22124.14. The mean of gross domestic saving (GDS) is 5622.139, standard deviation is 8371.80, minimum is Rs.68.21 and maximum is Rs.30434.74. Similarly, the mean of proportion of households having access to saving (PHHS) is 72.630, standard deviation is 7.455, minimum is Rs.60.90 and maximum is Rs.93.151.

<u>Model-2</u>

$$\text{Dummy} = \begin{cases} 0 \rightarrow for\ pre\ reform\ period \\ 1 \rightarrow\ for\ post\ reform\ period \end{cases}$$

H_0 : Mean (0) – Mean (1) = 0
H_1: Mean (0) – Mean (1) ≠ 1

Table-14: Mean Proportion test between Post Reform Period (1991-2012) and Pre Reform Period (1970-1990) of households having access to savings
(Two sample t-test with equal variance)

Group	Obs.	Mean	Std. Err.	Std. Dev.	(95% Conf.	Interval)
0	21	69.136	1.143	5.240	66.751	71.522
1	22	75.964	1.667	7.820	72.497	79.432
Combined	43	72.630	1.136	7.455	70.335	74.924
Diff.		-6.827	2.040		-10.948	-2.707

Diff. = mean (0) - mean (1) **t** = -3.3465
Ho: diff = 0 **Degrees of freedom** = 41
Ha: diff < 0 Ha: diff. = 0 Ha: diff > 0
Pr. (T < t) = 0.0009 **Pr. (|T| > |t|)** = 0.0018 **Pr. (T > t)** = 0.9991

From the above table-14, if we look p-value, associated with the H_1, i.e. p-value is 0.0018 which is less than 0.05. It means that we don't have sufficient evidence to accept the null hypothesis. This implies that, there is a sufficient difference in means between pre reform period and post reform period associated with the variance proportion of households having access to saving (PHHS). Here, mean of the post reform period is 78.97 which is more than mean of the pre reform period which 69.14. From this result we can know that after financial sector reform, household saving in India increases more comparison to pre reform period. The saving rate by the household sector has increased substantially in mid 1990s and an empirical studies show that increase in domestic saving rate seems to have been positively influenced by high domestic income growth (RBI, 2003). In the time of post reform, household saving has been increased very faster rate because increased per capita income, increased urbanization, emergence of smaller families and life cycle consideration have played important role in the improvement of household saving rates in India.

5.2 Demand side Indicators of Financial Inclusion:

Table-15: Summary Statistics of Demand side indicator of financial inclusion (2004-2012)

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
ATMA	9	5.343	3.146	2.31	11.13
ATMAK	9	15.001	9.475	5.93	32.67
CBBA	9	9.717	0.829	9	11.3
CBBK	9	26.595	3.646	22.76	33.17
DACBA	9	763.186	158.466	610.98	1034.96
LACA	9	124.577	20.528	88.73	149.97
ODCBG	9	54.684	5.969	46.61	60.66
OLCBG	9	39.531	6.972	27.15	47.93

Note: **ATMA** → No. of ATMs per 100000 adults
ATMK → No. of ATMs per 1,000 km^2
CBBA → No. of commercial bank branches per 1,000 adults
CBBK → No. of commercial bank branches per 1,000 km^2
DACBA → No. of deposit account with commercial banks per 1,000 adults
ODCBG →Outstanding deposit with commercial banks as percentage of GDP
OLCBG →Outstanding loans from commercial banks as percentage of GDP
LACA → No. of loan accounts with commercial banks per 1,000 adults

Table -15 depicts summary statistics of demand side indicators of financial inclusion in India. Here the mean of ATMA IS 5.34, S.D is 3.14, minimum is 2.31 and maximum is 11.13. The mean of ATMK is 15.00, S.D is 9.47, minimum is 5.93 and maximum is 32.67. Similarly all the variable explanation. If we will compare the mean than no. of deposit account with commercial banks per 1,000 adults (DACBA) has the highest mean and no. of ATMs per 100000 adults (ATMA) has lowest mean and next if we will compare the S.D than we can know that S.D of no. of commercial bank branches per 1,000 adults (CBBA) is lowest so variance is lowest, that indicates the performance of CBBA variable is good in comparison to other variables (ATMA, ATMK, CBBK, DACBA, ODCBG, OLCBG, LACA).

Conclusion

There is a global consent on the significance of financial inclusion due to its key role of brining integrity and stability into an economy's financial system as well as its role in fighting poverty in a sustainable manner. It is more pertinent in the case of India as a developing nation to use financial inclusion as a platform not just for growing the financial sector but more as an engine for driving an inclusive economic growth.

Financial inclusion promotes thrift and develop cultures of saving, improves access to credit both entrepreneurial and personal emergency and also enables efficient payment mechanism, thus strengthening the resources base of the financial institution which benefits the economy as resources become available for efficient payment mechanism and allocation. Here, the empirical evidence shows that during the post reform period the performance of Proportion of household having life insurance fund and proportion of household having access to saving (supply side indicators of financial inclusion) is better than pre reform period. The performance of no. of commercial bank branches per 1,000 adults is better in comparison to other demand side indicators of financial inclusion in India.

Here, the most important fact is that, mere opening of no-frill bank accounts is not the purpose or the end of financial inclusion while formal financial institution must gain the trust and goodwill of the poor through developing strong linkages with community-based financial ventures and cooperative. Financial inclusion has not yield the desired result and there is long road ahead but no doubt it is playing a significant role and is working on the positive side and it is no longer a policy choice today but a policy compulsion and banking is a key driver for financial inclusion/inclusive growth.

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