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## Financial Inclusion in India over the period 2001-2019: An Inter-State Analysis

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### Abstract

*In this article we focus on the calculation of financial inclusion index using three indicators namely accessibility, availability and uses of financial services for the time period 2001 to 2019 and this comparative analysis is done for a five years gap. Using principal component analysis we find the financial inclusion index. Over the time period we observe that South Western States perform better than North eastern states in terms of financial inclusion index. Most interestingly, Central states are performing more or less stable in the financial inclusion index.*

**KEYWORDS:** Financial inclusion index, Accessibility, availability, usage of banking services

### INTRODUCTION

Financial inclusion is one of the biggest challenges in the world of economics. It is enabling the delivery of banking services at an affordable cost to the vast sections of disadvantaged and low-income groups. Banking services are essentially for welfare of the public. It is imperative that the availability of banking and payment services to the entire populace without discrimination should be the prime objective of public policy. Financial development is correlated with inequality in opportunity, which again related to rural development. Bank provides finance to entrepreneurs and enterprises for investment. The causality between rural development and financial inclusion has been recognised in India's development strategy, particularly since the reforms of early 1990s. The eleventh five year plan of the government of India has father emphasised the initiatives of financial inclusion with its greater focus on 'inclusive growth'. Reforms since earlier 1990s in the banking sector have facilitated increasing competition, the development of new private sector banks. Financial inclusion is broadly defined as the lack of access by certain segments of the society to suitable low cost, fare and safe financial products and services from mainstream providers. Thus, essence of financial inclusion is to ensure that a range of

appropriate financial service available to every individual and enable them to understand the access those services. The financial inclusion does not mean merely opening of saving bank account but signifies creation of awareness about the financial products, education and advice on money management, offering debt counselling etc by banks. Many research works have been done in this topic, as it is very important government tools for rural development. Government has taken some policies which enforce the financial inclusion and rural development such as: 'Jan dhanyojana', 'atal pension yojana', 'Pradhan mantrisarakshabimayojana', recently, both Central and state government launched 'krishakbandhu' and 'PM krishi man dhanyojana'(2019) and 'sram yogi man dhanyojana'(2019) through which large number of agriculture farmers and rural informal sector employees are include in the formal financial sector. Rural people get their MGNREGA salaries and other government subsidies to their bank account through DBT. Sarma (2008), financial inclusion is the process that ensures the ease of access, availability, and usage of formal financial system for all members of an economy. The issue of access to financial services for the rural dwellers in every country in terms of development, poverty reduction, decent work and economic empowerment has received growing attention from scholars and policy makers. It was convincingly argued that poverty is not insufficient income, but rather the absence of wide range of capabilities including security and ability to participate in economic and political systems (Sen, 2000).The goal of financial inclusion is to enable everyone to participate fully in the formal financial system which will ultimately benefit individuals, the commercial enterprises that serve them, and society at large(Mckinsey and company,2010).Financial inclusion higher level of financial penetration of the banking system and access to a bank account combined with deposit, insurance, easy access to credit to an affordable cost(Thoat 2010). The need to eliminate financial exclusion has attracted global attracted global attention and Nobel committee gave a substantial imputes to the objectives of financial inclusion by awarding the 2006 Nobel prize to Prof. Md. Yunus and his gamin bank. The expansion of financial services is, in general conditioned upon the level of economic development especially on rural development, which influences both demand for and supply of financial services (Hurley and Shaw, 1955; Canderon, 2003). Developed financial system promotes growth in the real sector of the economy, which ultimately widen the horizon of economic opportunities available across the entire spectrum of the population including the vulnerable section of the society. In fact, financial development facilitates the creation of an environment for providing better access to economic opportunities wider population including the vulnerable sections of the society. However, to ensure equal access, it is necessary to strengthen human capability to reduce economic opportunities, which influences rural development.

On the other hand, rural development ensures economic development. So, there is a bi-directional relationship. We have divided our study into three sections; in the first section data sources, objectives and methodologies have been mentioned. In the second section, analysis has been shown, and in the third section conclusion has been mentioned.

## Section-I

### DATA SOURCE

Items	Descriptions	Data source
Banking Penetration	Number of accounts per thousand of population	Basic Statistical Return (R.B.I),
Banking availability	Number of branches per thousand of population	Basic Statistical Return (R.B.I),
Usage of banking services	Credit and deposit as a proportion of net state domestic product	Basic Statistical Return (R.B.I),
ATM counter availability	No. of ATM counters per thousand population	Basic Statistical Return (R.B.I),
Insurance penetration	No. of insurance account per thousand population	Basic Statistical Return (R.B.I),
Net state domestic product (Constant price)	Credit and deposit as a proportion of net state domestic product	Basic Statistical Return (R.B.I),
Population	Banking penetration, banking availability, insurance penetration, ATM counter availability	Basic Statistical Return (R.B.I), census

### OBJECTIVE

- I. To examine the interstate variation in the level of financial inclusion in India.
- II. To identify the factors affecting the financial inclusion in the states of India.

### METHODOLOGY

#### Constructing financial inclusion index:

As an inclusive financial system should be judged from several dimensions, a multidimensional approach is followed while constructing the index of financial inclusion (IFI). The approach is similar to that used by UNDP (offer expansion) for computation of some well-known development indexes such as HDI the HPI and GDI and so on. As in the case of these indices, proposed IFI is computed by fast calculating a dimension index for each dimension of financial inclusion. The dimension index for the dimension,  $d_i$ , is computed by following formula

$$D_i = \frac{A_i - m_i}{M_i - m_i}$$

Where  $A_i$ =actual value of dimension  $I$ ,  $m_i$ =minimum value of dimension  $I$ .  $M_i$ =maximum value of dimension  $i$ . the formula ensure that  $0 \leq d_i \leq 1$ . The higher the value of  $d_i$ , the higher the countries achievement in dimension  $I$  is. if  $n$  dimensions of financial inclusion are considered then a country  $I$  will be represented by a point  $D_i = (d_1, d_2, d_3, \dots, d_n)$  on the  $n$  dimensional Cartesian space. In the end dimensional space the point  $O = (0, 0, 0, \dots, 0)$  represents the. Indicating the oldest situation while the point  $I = (1, 1, 1, \dots, 1)$  represents the highest achievement in all dimensions. The index of financial inclusion,  $IFI_i$  for the  $i$ th country, then, is measured by the normalised inverse Euclidean distance of the point  $D_i$  from the ideal point  $I = (1, 1, 1, \dots, 1)$ . The exact formula is:

$$IFI_i = 1 - \frac{\sqrt{(1-d_1)^2 + (1-d_2)^2 + \dots + (1-d_n)^2}}{\sqrt{n}}$$

### Extent of financial inclusion:

Using the methodology of prof. Kuri and Prof. Laha we are classified the financial inclusion into three category:

FII	Extent/ Degree of FII
.20 < ( less than .20)	LOW
.20 < .50 ( .20 to less than .50)	MIDDLE
.50 > ( Greater than .50)	HIGH

## Section-II

### ANALYSIS

In this Section we examined the different indicators of financial inclusion across States. We have taken 15 states in the year 1996 whereas 30 states in the year 2019 and during 2001 to 2019, we have taken 31 states in our study. We have mainly considered five indicators of financial inclusion that is banking penetration (number of accounts per thousand adult population), insurance penetration (number of insurance accounts per thousand population), banking availability (number of Bank branches per thousand adult population) ATM availability (number of ATM counters per thousand population) and uses of bank service (credit & deposit as a proportion of the net state domestic product at constant prices).

#### Financial inclusion indicators and its ranking in 2001:

STATES	NO. OF BANK ACCOUNT PER THOUSAND (D1)	NO OF BANK BRANCHES PER THOUSAND POPULATION (D2)	CREDIT AND DEPOSIT AS A PROPORTION OF NSDP	FII	RA NK	Degree
Chandigarh	1795.782464	0.223085461	1.926762164	0.96343	1	High
Goa	1772.255193	0.246290801	0.62929878	0.771564	2	High

Delhi	1274.420619	0.107717854	1.348808389	0.572284	3	High
Punjab	790.4265364	0.105546205	0.471317744	0.315802	4	Medium
Himachal Pradesh	646.4297466	0.129483383	0.291491154	0.292229	5	Medium
Kerala	645.4885211	0.105587136	0.407333165	0.274325	6	Medium
Puducherry	690.9650924	0.088295688	0.28362732	0.235343	7	Medium
Maharashtra	457.6430393	0.06707336	0.671833186	0.219634	8	Medium
Tamil Nadu	522.8343429	0.079030862	0.424815587	0.209658	9	Medium
Karnataka	511.9865282	0.092353976	0.313265747	0.209156	10	Medium
Andaman & Nicobar	435.3932584	0.087078652	0.352062656	0.191396	11	Low
Jammu & Kashmir	471.8059937	0.081723186	0.336025413	0.187862	12	Low
Andhra Pradesh	405.7997638	0.069124787	0.500826527	0.182495	13	Low
Gujarat	431.0749739	0.074539678	0.40326675	0.179546	14	Low
Haryana	504.7528967	0.072310239	0.240749694	0.163555	15	Low
West Bengal	453.2777889	0.056563061	0.369295027	0.15004	16	Low
Sikkim	249.5378928	0.086876155	0.269580113	0.137734	17	Low
Meghalaya	282.880552	0.078050884	0.220346018	0.122366	18	Low
Uttar Pradesh	381.7675303	0.049663654	0.306298805	0.113258	19	Low
Mizoram	155.2305962	0.088863892	0.166519161	0.103256	20	Low
Jharkhand	311.549024	0.054479329	0.2817953	0.101841	21	Low
Madhya Pradesh	268.2773248	0.058394644	0.280911918	0.098747	22	Low
Tripura	312.9102845	0.057205377	0.235872491	0.098513	23	Low
Rajasthan	289.8578937	0.059797901	0.2080276	0.092949	24	Low
Arunachal Pradesh	327.8688525	0.06284153	0.128153561	0.091991	25	Low
Odisha	266.4855319	0.061105828	0.202930111	0.08921	26	Low
Bihar	220.7737443	0.043614983	0.310184694	0.070494	27	Low
Assam	291.5291116	0.047569028	0.166275466	0.066837	28	Low
Chhattisgarh	217.1450514	0.050686378	0.150709686	0.053405	29	Low
Nagaland	147.2361809	0.035678392	0.197450572	0.023084	30	Low
Manipur	126.8526591	0.036617262	0.088353437	0.00148	31	Low

Sources: Authors calculation based on Basic statistical Return of SCBs (Reserve Bank of India), Central statistical Organization

Now we have considered 2001 for finding number of accounts per thousand numbers of branches per thousand population and credit deposit as a proportion of net state domestic product. In 2001, we have taken 31 states for our analysis. Here we have found that Chandigarh, Goa and Delhi had more than 1 account per individual. The followed states are Punjab, Pondicherry, Himachal Pradesh, Kerala, Tamilnadu, Karnataka; Odisha had at least half account per individual. The remaining states had less than half amount of account per user. If we compare in terms of account per thousand then we found that Punjab Kerala and tamilnadu had secured very good scored both 1996 and 2001

Now we consider the bank branches per thousand population, we observed that Goa had the highest number of Bank branches per 1000 population followed by Chandigarh, Himachal Pradesh, Delhi, Kerala, Punjab, Karnataka, Mizoram, Pondicherry, Andaman and Nicobar Island, sikkim, Jammu and Kashmir, Tamilnadu, Meghalaya and so on. The last five states were Nagaland, Mizoram, Assam, Chhattisgarh, and Arunachal Pradesh.

Again, we observed that usage of banking services (credit- deposit as a proportion of net state domestic product) were highest in Chandigarh and followed by Delhi, Maharashtra, Goa, Andra Pradesh, Punjab, Tamilnadu, Kerala, Gujarat, and West Bengal and so on. The last five states were Nagaland, Mizoram, Assam, Chattisgarh and Arunachal Pradesh.

Now we consider the financial inclusion index and we observed that Chandigarh had highest level of financial inclusion followed by Goa, Delhi, Punjab, Himachal Pradesh and last five states are Orissa, Bihar, Assam, Chattisgarh and Nagaland. We have seen that Orissa and Assam had very low level of financial inclusion in both the time periods.

Like the previous period in this period also north eastern states became very poor performance in terms of financial inclusion index. Our west Bengal ranked 15<sup>th</sup> among 31 states though it was lower financial inclusion category. Here Manipur secured 31<sup>th</sup> ranking in terms of FII.

#### Financial inclusion indicators and its ranking in 2006

STATES	NO. OF ACCOUNTS PER THOUSAND OF POPULATION	NO. OF BRANCHES PER 1000 ADULT	CREDIT-DEPOSIT AS A PROPORTION ON NSDP	FII	RANK	Degree
Chandigarh	1583.862194	0.221214869	2.38021366	0.914687	1	High
Goa	1854.557641	0.239276139	0.916526446	0.793473	2	High
Delhi	1209.225392	0.111353848	2.208545546	0.632295	3	High
Punjab	787.8659964	0.108369469	0.652996713	0.321494	4	Medium
Kerala	733.0226965	0.110266045	0.56184822	0.30052	5	Medium
Himachal Pradesh	664.4461658	0.127033308	0.447816738	0.298051	6	Medium
Maharashtra	510.9919469	0.064606313	1.259716095	0.278093	7	Medium
Puducherry	755.9198543	0.083788707	0.468501504	0.248333	8	Medium
Karnataka	560.5247254	0.092004693	0.579127214	0.237447	9	Medium
Andhra Pradesh	485.9252651	0.069109922	0.84558018	0.221954	10	Medium
Tamil Nadu	562.2476395	0.077899747	0.624535416	0.220922	11	Medium
Sikkim	416.6666667	0.097222222	0.504195685	0.205994	12	Medium
Jammu & Kashmir	520.8847455	0.07979161	0.555247925	0.205789	13	Medium
Andaman & Nicobar	482.1002387	0.081145585	0.560681264	0.200839	14	Medium
Haryana	528.8238826	0.075662692	0.433828354	0.183468	15	Low
Gujarat	505.1201368	0.06984485	0.483422299	0.176002	16	Low
West Bengal	434.4606647	0.055306515	0.553035104	0.147337	17	Low
Meghalaya	277.3279352	0.076518219	0.405450872	0.129315	18	Low
Mizoram	198.7315011	0.084566596	0.372933011	0.1219	19	Low
Jharkhand	319.0552579	0.052049558	0.464889786	0.105863	20	Low
Tripura	336.9533314	0.054886997	0.400758915	0.105168	21	Low
Uttar Pradesh	358.8786678	0.046714898	0.461843852	0.104791	22	Low
Madhya Pradesh	287.6035548	0.053667721	0.467303675	0.102427	23	Low
Odisha	301.180343	0.059994343	0.345205106	0.098427	24	Low
Rajasthan	310.4566767	0.056394117	0.330891955	0.092365	25	Low

Arunachal Pradesh	294.2686056	0.059024808	0.256732445	0.082925	26	Low
Assam	293.3891505	0.044409559	0.301368476	0.064916	27	Low
Bihar	213.6041079	0.040186442	0.420838469	0.058444	28	Low
Chhattisgarh	236.301673	0.04695937	0.291251616	0.055994	29	Low
Nagaland	151.0146295	0.034450212	0.328911023	0.023172	30	Low
Manipur	129.1161179	0.033795494	0.204167058	0	31	Low

Sources: Authors calculation based on Basic statistical Return of SCBs (Reserve Bank of India), Central statistical Organization

After the launching no frills account in India, we observed that Goa had highest rank in terms of number of account per thousand adult population followed by Chandigarh, Delhi, Punjab, Pondicherry, Madhya Pradesh and the last six states are Meghalaya, Chhattisgarh, Bihar, Mizoram, Nagaland and Manipur. We have seen that the North East states had very poor performances in terms of number of bank account per thousand adult populations. Here Goa had 1857 bank account per thousand populations while Manipur had 129 accounts per thousand adult populations.

In 2006, we calculated the bank branches per thousand adult populations and found that Goa got highest rank followed by Chandigarh, Himachal Pradesh, Delhi, Kerala and Punjab. We observed that Goa and Chandigarh had more than twice branches per 10,000 populations. On the other hand the last five countries which had lowest branch per thousand adult populations are Chattisgarh, Uttar Pradesh, Assam, Bihar, Nagaland and Manipur. Most interestingly, Manipur had last ranking both number of accounts and number of branches per thousand individual.

In terms of credit deposit as a proportion of net state domestic product we found Chandigarh stood first followed by Delhi, Maharashtra, Goa, Andhra Pradesh. We observed that credit deposit was twice to net state domestic product at Goa state. We found last five states were Rajasthan, Nagaland, Assam, Arunachal Pradesh and Manipur.

Again we found that financial inclusion index was highest in Chandigarh and the magnitude was 0.91, Goa stood second having magnitude 0.79, the states followed these two states are Delhi, Punjab, Kerala, Himachal Pradesh, Maharashtra and so on. We found similarities both 2001 and 2006 in terms of financial inclusion index. In this case our west Bengal ranked 17<sup>th</sup> among 31 states.

### Financial inclusion index indicators and its ranking in 2011:

STATES	NO. OF ACCOUNTS PER THOUSAND POPULATION	NO. OF BRANCHES PER THOUSAND POPULATION	CREDIT DEPOSIT AS A PROPORTION OF NSDP	FII	RANK	Degree
Chandigarh	2328.91	0.319431	4.974578233	0.97259	1	High
Goa	2481.151	0.322138	1.072905175	0.743106	2	High
Delhi	1841.851	0.1566	3.775361877	0.625894	3	High
Punjab	1079.948	0.140396	1.136017033	0.311838	4	Medium



Himachal Pradesh	967.2251	0.156883	0.757382064	0.288208	5	Medium
Kerala	1013.62	0.140394	0.902199224	0.285877	6	Medium
Puducherry	1096.955	0.127404	0.739198235	0.273247	7	Medium
Maharashtra	759.5262	0.078452	2.360995911	0.269118	8	Medium
Andhra Pradesh	870.3373	0.089512	1.805778647	0.263127	9	Medium
Karnataka	876.9948	0.106686	1.081192578	0.236536	10	Medium
Tamil Nadu	866.3285	0.095139	1.091702884	0.222044	11	Medium
Haryana	846.2388	0.10611	0.819345042	0.213724	12	Medium
Andaman & Nicobar	837.2703	0.110236	0.725204341	0.210916	13	Medium
Sikkim	638.2979	0.134206	0.465866983	0.190142	14	Low
Jammu & Kashmir	725.5402	0.083008	0.823957336	0.167823	15	Low
Gujarat	701.82	0.083934	0.809426338	0.164171	16	Low
West Bengal	618.6183	0.062207	1.086920342	0.143815	17	Low
Odisha	530.3283	0.072164	0.767439495	0.120346	18	Low
Tripura	584.3767	0.067229	0.65010434	0.115466	19	Low
Uttar Pradesh	581.8419	0.055252	0.828945507	0.11285	20	Low
Mizoram	374.6582	0.091158	0.581430137	0.105486	21	Low
Madhya Pradesh	482.837	0.061313	0.761078686	0.099691	22	Low
Jharkhand	483.5395	0.060143	0.739245558	0.096999	23	Low
Meghalaya	405.7971	0.074486	0.661179653	0.096227	24	Low
Rajasthan	466.797	0.06575	0.616469878	0.092796	25	Low
Arunachal Pradesh	481.9364	0.062139	0.627918776	0.091744	26	Low
Chhattisgarh	439.0683	0.055706	0.608390618	0.076118	27	Low
Assam	471.9926	0.049542	0.617478284	0.074762	28	Low
Nagaland	327.4381	0.048004	0.62211503	0.050247	29	Low
Bihar	324.2875	0.041528	0.675667789	0.045708	30	Low
Manipur	245.098	0.029062	0.394132894	0	31	Low

Sources: Authors calculation based on Basic statistical Return of SCBs (Reserve Bank of India), Central statistical Organization

In 2011 we also calculated three dimensions and level of financial inclusion in Indian states and rank them. We found that Goa stood first in terms of number of accounts per 1000 population. We found that Goa had 2481 accounts per 1000 adult population. We also observed the states followed by Goa are Chandigarh, Delhi, Pondicherry, Punjab, Kerala all the states had more than thousand account per thousand adult population.

Now we compare the number of branches per thousand populations and found that here also Goa secured first place and the value was more than three branches per 10000 populations. The lists of states which are behind Goa are Chandigarh, Himachal Pradesh, Delhi, and Punjab. On the contrary, we found last five states which were Chhattisgarh, Uttar Pradesh, Assam, Nagaland, Bihar and Manipur. These results are quite similar with the result of 2006. Thus it can be said that the result of number of accounts and branches per thousand adult population where more or less similar in this two different time periods (2011 and 2006).

We also observed that in terms of being usage of banking services the state Chandigarh stood first in Indian states and the value is 4.97. We further found the ranking of states like Delhi Maharashtra and Andhra Pradesh Punjab Tamilnadu and so



on. The last five states are Assam, Chhattisgarh, Rajasthan, Mizoram, Sikkim and Manipur.

We now consider the level of financial inclusion in Indian states in 2011. Chandigarh stood first as its all dimensions was within top 5 in those lists followed by Goa, Delhi, Punjab, and Himachal Pradesh. We have also ranked last five states as follows Chhattisgarh, Assam, Nagaland, Bihar, and finally Manipur. Manipur became consistently last for last decade. This suggests that Northeastern states ranked lower than central and south western states.

Our West Bengal again secured the 17<sup>th</sup> position among 31 states.

### Financial inclusion indicators and its ranking in 2016:

States	NO. OF ACCOUNTS PER THOUSAND POPULATION	NO. OF BRANCHES PER THOUSAND POPULATION	CREDIT-DEPOSIT AS A PROPORTION NSDP	NO. Of ATM per thousand	No. of policies per thousand	Fill	RA NK	Deg
Goa	7181.937173	0.876963351	1.695481743	1.336387435	122.9528796	0.911424007	1	High
Chandigarh	3418.133803	0.381161972	4.993097339	0.686619718	96.73943662	0.581167041	2	High
Puducherry	3638.235294	0.344117647	1.243948484	0.755882353	51.44705882	0.406150906	3	Med
Delhi	2434.330995	0.187985222	4.487925115	0.48562403	43.02912673	0.348994395	4	Med
Maharashtra	1445.012508	0.101560723	3.047169975	0.20912682	29.88357324	0.181641299	5	Low
Punjab	1804.049417	0.211667811	1.670590698	0.253877831	21.61372684	0.178092368	6	Low
HP	1614.696843	0.21095278	1.094175956	0.251327186	31.30427494	0.173601563	7	Low
Kerala	1788.449303	0.182167852	1.443514127	0.262970675	25.04748684	0.171691883	8	Low
Tamil Nadu	1621.826221	0.136182756	1.486580388	0.317920547	21.46270517	0.158124325	9	Low
Karnataka	1612.79173	0.150087966	1.579008891	0.26357253	23.09557988	0.157488746	10	Low
Haryana	1575.450738	0.166344928	1.151573872	0.236605354	21.17719905	0.140744604	11	Low
Sikkim	1350.931677	0.198757764	0.651675196	0.284161491	23.21428571	0.140362816	12	Low
A & N	1415.816327	0.160714286	1.039710386	0.285714286	14.05102041	0.126243403	13	Low
AP	1605.691927	0.127834771	0.969042042	0.203538962	23.87942614	0.125994294	14	Low
WB	1289.275234	0.080564583	1.729162346	0.122845213	26.67971897	0.114471009	15	Low
Gujarat	1274.026213	0.114061205	1.173516314	0.178412474	21.65646582	0.108203608	16	Low
J & K	1339.613864	0.132278825	1.43667148	0.184306428	12.97666124	0.107171717	17	Low
Odisha	1148.441848	0.105894083	1.16374658	0.146239102	26.32060378	0.104614529	18	Low
Tripura	1354.672173	0.109447599	0.98689636	0.11874032	26.71966959	0.103667789	19	Low
Rajasthan	1000.673491	0.091662177	0.889693849	0.11954472	19.04695582	0.070382108	20	Low
MP	1087.620232	0.078788417	1.22875777	0.124064158	13.84475801	0.070165997	21	Low
Assam	995.326821	0.066600338	0.868024298	0.10989508	23.16301857	0.069000701	22	Low
Jharkhand	1002.793296	0.079329609	1.306964964	0.103687151	15.33653631	0.068766265	23	Low
Chhattisgarh	1088.571325	0.085089406	1.011298204	0.111276341	15.15095571	0.066201286	24	Low
UP	1055.033389	0.075265981	1.354963804	0.088589318	13.57083027	0.064829876	25	Low
Mizoram	941.227312	0.144338807	0.756621818	0.133102852	4.326707001	0.053668608	26	Low
AP	842.3577793	0.098012337	0.874015638	0.152844414	7.618917066	0.050903421	27	Low
Meghalaya	745.2860339	0.101949505	1.236588828	0.123681687	5.956855225	0.050230756	28	Low
Bihar	770.1881306	0.05644794	1.204844212	0.067220782	12.32319402	0.040232654	29	Low
Nagaland	564.717162	0.071907958	0.822686254	0.144774688	7.563758389	0.031827543	30	Low
Manipur	692.2310757	0.049800797	0.581891144	0.10126162	8.787848606	0.01851744	31	Low

Sources: Authors calculation based on Basic statistical Return of SCBs (Reserve Bank of India), Central statistical Organization

In 2016, accounts per thousand adult populations among Indian states Goa stood first in the ranking as Goanise people had more than 7100 accounts per 1000 adult population followed by Pondicherry, Chandigarh, Delhi, and Punjab. The last five states are Mizoram, Arunachal Pradesh, Bihar, Meghalaya Manipur and Nagaland.

Call the last 5 states are from North East Indian states. We have found that all the states rent highest and lowest both 2011 and 2016 respectively.

Now in terms of number of branches per thousand adult populations we observed that once again Goa secured first rank followed by Chandigarh, Punjab, and Himachal Pradesh and so on. Again last five states are Madhya Pradesh, Uttar Pradesh, Nagaland, Assam, Bihar and Manipur. Bihar and Uttar Pradesh was densely populated in that particular time period.

Again, uses of banking services like Chandigarh, Delhi, Maharashtra, West Bengal, and Goa and so on. Again, we found that last 5 states are Arunachal Pradesh, Assam, Nagaland, Mizoram, Sikkim and Manipur. Here again we found the majority of North East States Chandigarh had more than 4th times credit deposit ratio as compared to net state domestic product while Manipur had .51.

In terms of availability of ATM counters the states Goa secured 1st ranking followed by Pondicherry, Chandigarh, Delhi and Tamilnadu. On the other hand north eastern states are found in the bottom of the table: as Nagaland, Mizoram, Meghalaya and Sikkim.

In terms of Penetration of insurance, the states Goa secured 1st ranking followed by Pondicherry, Chandigarh, Delhi and Himachal Pradesh. On the other hand north eastern states are found in the bottom of the table: as Nagaland, Mizoram, Meghalaya, Sikkim and Assam.

Again, the level of financial inclusion was greater in Goa and the magnitude was 0.91 and followed by Chandigarh, PondicherryDelhi, and Maharashtra and so on. The last five states are arunachalPradesh, Bihar Assam Nagaland and Manipur. Thus, we found that in terms of level of financial inclusion Northeastern states were very poor performance again the central and southeastern states secured very decent ranking in financial inclusion. Most importantly west Bengal secured 15<sup>th</sup> ranking among 31 states but still under lower financial inclusion category.

#### Financial inclusion index's indicators and its ranking in 2019:

STATES	NO. OF ACCOUNTS PER THOUSAND POPULn	NO. OF BRANCHES PER THOUSAND POPULn	CREDIT-DEPOSIT AS APROPORTION OF NSDP	No. of ATM per thousand	No. of policies per thousand	FII	RANK	DEG
Chandigarh	3549.618	0.374894	5.238891255	0.61323155	62.39271	0.929015	1	HIGH
Goa	3754.545	0.452597	1.588170934	0.65779221	57.6961	0.854177	2	HIGH
Delhi	2566.367	0.187544	4.738437672	0.4276774	40.11936	0.595215	3	HIGH
HP	1844.384	0.223973	1.230749207	0.24890411	36.92548	0.362704	4	MED
Puducherry	1881.649	0.168218	1.367162286	0.38098404	24.2234	0.342286	5	MED
Punjab	1995.445	0.221508	1.714708718	0.24026257	23.602	0.337156	6	MED
Kerala	2092.384	0.188527	1.60251844	0.27402135	22.47035	0.331072	7	MED
Karnataka	1901.532	0.156312	1.559753969	0.27478039	27.50097	0.318014	8	MED

Tamil Nadu	1863.703	0.148041	1.555429781	0.34163419	21.60078	0.313328	9	MED
Maharashtra	1619.993	0.105957	2.98309877	0.21964258	29.75251	0.310307	10	MED
Haryana	1788.156	0.174665	1.382076916	0.23346819	25.08538	0.28937	11	MED
Sikkim	1551.205	0.215361	0.774057344	0.27560241	25.28614	0.288076	12	MED
AP	1755.424	0.135712	1.209276732	0.20610482	26.63342	0.256575	13	MED
J&K	1640.612	0.138605	1.874392428	0.19919715	14.58108	0.226494	14	MED
Odisha	1422.637	0.112523	1.289065679	0.16010625	30.59454	0.221555	15	MED
WB	1520.814	0.084309	1.75830287	0.12335665	29.93551	0.214778	16	MED
Gujarat	1453.839	0.119966	1.164161273	0.17308938	21.27017	0.193651	17	LOW
Tripura	1347.946	0.115982	1.073735897	0.11998998	29.5982	0.19228	18	LOW
Chhattisgarh	1381.11	0.0917	1.161912623	0.11676647	18.49046	0.143174	19	LOW
Rajasthan	1183.423	0.095659	1.144971414	0.14067353	19.31073	0.14216	20	LOW
Assam	1195.725	0.070102	1.02436334	0.1093226	25.36486	0.136485	21	LOW
MP	1283.345	0.082048	1.341499963	0.12538914	15.15361	0.128362	22	LOW
Mizoram	1187.919	0.161074	0.989711805	0.15184564	6.521812	0.127924	23	LOW
Jharkhand	1220.838	0.081571	1.36508961	0.09421704	15.56699	0.114744	24	LOW
UP	1201.174	0.077616	1.491843991	0.09250641	14.34339	0.110638	25	LOW
AP	1029.255	0.103059	1.364968171	0.14162234	9.571809	0.107271	26	LOW
Meghalaya	880.8933	0.10732	1.402420955	0.12189826	6.64268	0.082311	27	LOW
Bihar	1053.096	0.057873	1.396765024	0.06557898	13.27595	0.072838	28	LOW
Nagaland	687.907	0.076279	0.984466237	0.14186047	8.688372	0.052459	29	LOW
Manipur	883.9832	0.061876	0.860653754	0.10699323	11.51144	0.052425	30	LOW

Sources: Authors calculation based on Basic statistical Return of SCBs (Reserve Bank of India), Central statistical Organization

In 2019, we found the number of accounts per thousand adult populations was highest in Goa and it was 3755. The remaining four States among first five are Chandigarh, Delhi Kerala Punjab. The last five states in terms of number of accounts per thousand adult population are Bihar, arunachalpradesh, Manipur, Meghalaya and Nagaland.

Again in terms of number of branches per thousand population Goa stood first in the ranking here per thousand population 4.5 branches where available in Goa. States followed after Goa is Chandigarh, Himachal Pradesh, Punjab and Sikkim. The last five states are in Jharkhand Uttar Pradesh Nagaland Assam Manipur and Bihar.

Now we consider the usage of banking services and we found that Chandigarh had rent fast in terms of credit deposit as a proportion of net state domestic product. After Chandigarh the ranking is Delhi, Maharashtra, Jammu and Kashmir, and West Bengal and so on. On the other hand last five states are Tripura Assam, Mizoram, Nagaland, Manipur and Sikkim. We have found that Chandigarh had 5.24 deposits to net state domestic product while Sikkim had 0.77 in 2019.

In terms of availability of ATM counters the Goa secured 1st ranking followed by, Chandigarh, Delhi and Tamilnadu, Pondicherry. On the other hand north eastern states are found in the bottom of the table: as Nagaland, Mizoram, Meghalaya and Sikkim.

In terms of Penetration of insurance, the Chandigarh state secured 1st ranking followed by Goa Pondicherry, Delhi and Himachal Pradesh. On the other hand north eastern states are found in the bottom of the table: as Nagaland, Mizoram, Meghalaya, Sikkim and Assam.

Now we considered the level of financial inclusion in Indian states in 2019 in our analysis we have found that Chandigarh rank first among all other states followed by

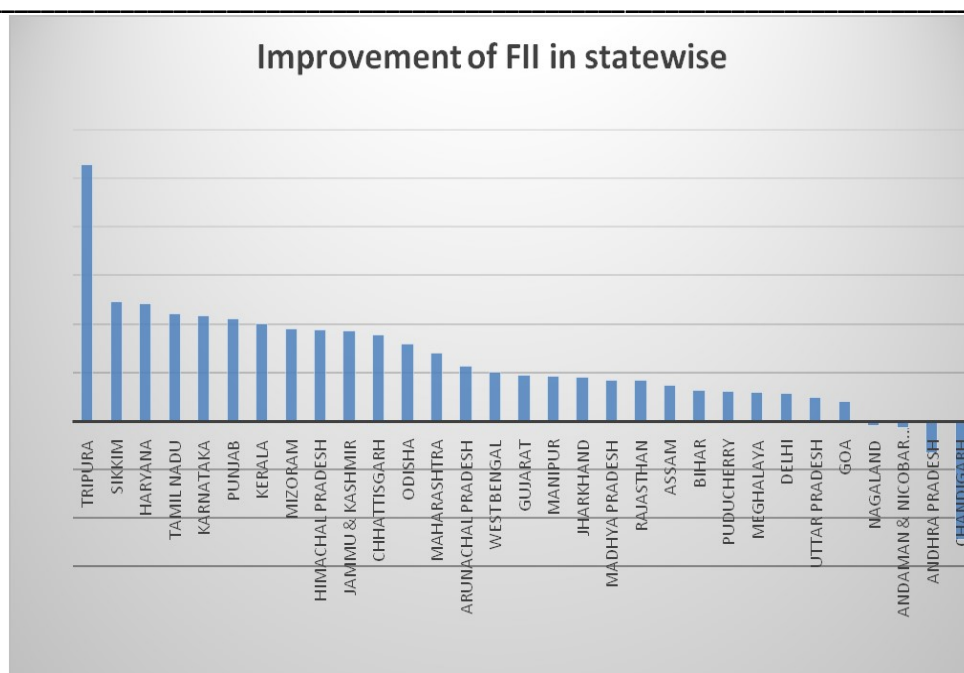
Goa, Delhi, Himachal Pradesh and Puducherry. Above mentioned states are fast five financially included States. The last five states are Arunachal Pradesh, Meghalaya, Bihar, Nagaland and Manipur. Our West Bengal stood 15<sup>th</sup> out of 30 states but most importantly we have found that its status became middle in terms of degree of financial inclusion index.

### Overall Improvement in FII for various states during 2001 to 2019:

STATES	Improvement	Rank	STATES	Improvement	Rank
Tripura	0.530315015	1	Manipur	0.091969605	17
Sikkim	0.247210182	2	Jharkhand	0.090997554	18
Haryana	0.241579359	3	Madhya Pradesh	0.08498633	19
Tamil Nadu	0.221654964	4	Rajasthan	0.08472819	20
Karnataka	0.216569367	5	Assam	0.074312033	21
Punjab	0.21112242	6	Bihar	0.063936021	22
Kerala	0.201297377	7	Puducherry	0.062040715	23
Mizoram	0.190345032	8	Meghalaya	0.060167852	24
Himachal Pradesh	0.189241255	9	Delhi	0.056678526	25
Jammu & Kashmir	0.185845499	10	Uttar Pradesh	0.049391457	26
Chhattisgarh	0.177222005	11	Goa	0.041038585	27
Odisha	0.158953592	12	Nagaland	-0.008971166	28
Maharashtra	0.140133305	13	Andaman & Nicobar	-0.013637554	29
Arunachal Pradesh	0.11289104	14	Andhra Pradesh	-0.065369726	30
West Bengal	0.100990873	15	Chandigarh	-0.243391316	31
Gujarat	0.094625272	16			

From the above analysis we have found that the highest level of financial inclusion was occurred at Tripura, followed by Sikkim, Haryana, Tamil Nadu, Karnataka and Punjab. We have also observed that the states like Nagaland, Andaman & Nicobar Island, Andhra Pradesh and Chandigarh were experienced the deterioration of financial inclusion index.

In the below diagram we have represented the improvement and deterioration of the level of financial inclusion:



### Section-III

#### CONCLUSION

From our above study we have found that during these time periods the difference between the level of financial inclusion between the highest ranking state and the lowest ranking state is almost the same or even increases as time passes by.

The south western states are ranking top of the table whereas North eastern states are consistently lower in the table: the probable cause may be geographical location and lack of education of their residents.

The central states are more or less remain middle in terms of financial inclusion index.

Over the time period Tripura, Sikkim, Haryana, Tamil Nadu, Karnataka and Punjab were improved in terms of FII, whereas the states like Nagaland, Andaman & Nicobar Island, Andhra Pradesh and Chandigarh were seen negative improvement.

Most surprisingly, our west Bengal, initially, in the year 1996, was under middle group of FII but after 2001 onwards it was under lower category of FII but it is now under the middle group of FII. It might be the effect of some central and state government developmental and inclusive schemes.

Special attention should be given by the states like Manipur, Assam, Meghalaya and Assam for financial literacy and using various services provide by the banking institutes.

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