



A Comparative Analysis of Financial Inclusion Disparities Across Indian States and Union Territories

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Citation: Gupta, S., Kumar, K., Mahajan, S., Narang, S., & Marwaha, P. (2025). A Comparative Analysis of Financial Inclusion Disparities Across Indian States and Union Territories. *Exploresearch*, 02(04), 114–126.

<https://doi.org/10.62823/exre/2025/02/04.133>

Article History:

Received:29 November 2025

Accepted:22 December 2025

Published:31 December 2025

Keywords:

Financial Inclusion, Financial Inclusion Index, Principal Component Analysis, Union Territories, Indian States.

Abstract: One of the important flagship initiatives of government of India is financial inclusion which ensures wider access to financial services. This scheme is vital for sustainable and equitable growth and as per existing literature there are significant regional variations in the country. Therefore, this study evaluates the disparities in the levels of financial inclusion between the year 2019 and 2024 across states and union territories in India. The financial inclusion index is based on three key indicators namely account access, service utilization, and financial literacy. The study identified banking penetration and service consumption as the two primary factors impacting financial inclusion levels. Results show that there is significant progress at national level, yet the results highlight persistent and substantial disparities across states. States with high levels of urbanization tend to benefit from superior infrastructure and high financial literacy rates. Rural and remote regions are lacking due to logistic challenges, lower rates of digital adoption and weaker credit market development. The research highlights the need for continued, targeted efforts to ensure equitable access to financial services for all urban as well as rural population. These results will help the policy makers in enhancing financial inclusion across urban and rural areas, thereby reducing economic divide.

Introduction

Financial inclusion ensures that all individuals and businesses, irrespective of their financial background, have access to and can afford a wide-ranging array of financial products and services. These may include banking transactions, credit, savings and insurance which are provided by formal institutional channels which operate in a fair and sustainable manner (World Bank). The main purpose is to fully integrate the segments, which are at present unbanked and underserved, into the mainstream. In Indian context, the Reserve Bank of India (RBI) specifically issues directives ensuring that vulnerable groups, like the economically weaker sections, receive these essential services at a fair cost thus, aligning with the principle of "opportunity equality and commercial sustainability."

Financial inclusion is a key enabler of sustainable development and reduction of poverty, bringing financial institutions under the ambit of formal financial system. However, the objective of comprehensive coverage remains significantly unfulfilled. This may be due to narrowing of the branch network in rural areas, fall in credit deposit ratios, high transaction cost, staff attitude or complex products (Sethy, S.K., 2016, Ahuja and Pathak, 2017). There is a strong need to rise above mere account opening and use targeted strategies to overcome these barriers. Studies suggest focusing on efficient resource utilization, financial literacy, technological leverage in achieving inclusive and sustainable economic growth in the country.

It is interesting to find extensive research relating to financial inclusion in India over the past two decades. It is found that there is transition from traditional banking access to an inclusive, technology-driven financial system in India. The previous academic efforts to measure inclusion were primarily limited to basic access indicators, such as the spatial density of bank branches and ATMs, and simple account ownership rates. Sarma, (2010) in her study used Penetration, Availability and Usage as parameters of financial Inclusion. Whereas, Arora, (2010) considered Outreach, Ease and Cost, as the variables in their study. Gupte, Venkataramani and Gupta (2012) consider the indicators Penetration, Availability, Usage as well as Ease and Cost. A study by CRISIL (2013) employed Branch penetration, Credit penetration and Deposit penetration. The Reserve Bank of India developed the Financial Inclusion Index (FII), similar to the Human Development Index, which integrates three key dimensions of accessibility, usage, and affordability to understand state-level performance (RBI, 2018). Extant literature on construction of composite indices either uses parametric methods or non-parametric methods. Studies such as Chakravarty and Pal (2013) and Sarma (2008, 2012) employed non-parametric method. In the same way, Tuesta et al. (2015) and Amidžić et al. (2014) used parametric methods, such as PCA and factor analysis, respectively for construction of composite index. Dhar and Barua (2020) utilized PCA to calculate state-wise inclusion scores.

The studies suggest that highly urbanized states, like Kerala and Tamil Nadu, constantly have superior performance in comparison to rural or low-income states. Studies also confirm that there is existence of substantial financial inclusion disparities across Indian states. Research indicates that states with high literacy rates, robust infrastructure and advanced urbanizations specifically Kerala, Maharashtra, and Tamil Nadu occupy the highest ranks in inclusion metrics. On the other hand, states namely Bihar, Assam, and Madhya Pradesh which are lower income, contributed to various challenges including weak financial literacy, limited credit penetration, and infrastructural deficits. Moreover, the North-Eastern region faces persistent problems related to physical access and technological adoption (RBI, 2022). The main reasons for lower banking outreach in the N.E. region can be attributed to the factors like difficult terrain, low density of population and cultural reservation, Dhar and Barua, (2020).

The extant literature suggests that there is a clear shift from physical to digital financial inclusion. Many authors emphasize on the significant impact of digital payment systems, fintech innovations, and mobile money platforms in reducing the cost-of-service delivery and reducing geographical barriers (Nanda & Kaur, 2017). The Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-based verification and the Unified Payments Interface (UPI) together have significantly led to digital transition. This is facilitating digital access to savings, payments and credit for many. But there are associated challenges like digital literacy and cybersecurity risks.

Although there is wide-ranging literature, most of the earlier research relies on data preceding 2019 and attach a lopsided emphasis on access rather than active usage. Moreover, few studies have focused on Union Territories or evaluated financial inclusion dynamics in the post-pandemic period. The present study aims to address these critical limitations and construct a multidimensional Financial Inclusion Index for the period 2019–2024 which covers both Indian states and Union Territories.

The objectives of the study are:

- To develop a Financial Inclusion Index for all Indian states and Union Territories.
- To assess the progress in financial inclusion across Indian states and Union Territories by calculating and analyzing data from 2019 to 2024.

The paper is organised as below. Section 2 provides a detailed research methodology, data sources, and analytical procedures to ensure rigor and replicability. Subsequent sections present the Results and Discussion, and offer statistical interpretation, potentially including an Analysis of various

tables. The paper concludes with the result of the Study (core findings), Scope for Future Research, acknowledged Limitations, and a final Conclusion.

Research Methodology

The research paper develops an overall financial inclusion among Indian States and Union Territories. Firstly, the financial inclusion index of Indian States and Union Territories is calculated using the formula which is mentioned below in the later topic of this paper. Index of Financial Inclusion is calculated considering three diverse dimensions which are:

- Bank accounts as a proportion of the population,
- Branches per 1000 people, and
- Credit-deposit ratios.

The present study is based on the methodology adopted in the previous paper by Parijat Dhar and Dr. Nissar A. Barua. (2020). Convenience sampling technique has been used for choosing the sample. The idea behind this sample is to check the financial inclusion in Indian states and Union Territories as well and then can be carried forward abroad.

The data is collected from the official site of Reserve Bank of India (RBI), NPCI and Census data, this information relates to several dimensions of financial inclusion in 2019 to 2024. The population of each state is taken from the 2011 census, which can be seen on the RBI's official website. The objective of this research paper is to assess the progress of financial inclusion in different Indian states including Union Territories, which will be done by calculating Financial Inclusion from 2019 to 2024, a composite index of financial inclusion is first created. For the construction of this Index, the authors have collected data based on following three dimensions which are Banking penetration, Availability of banking services and Usage. These dimensions are described below:

Dimension I - Banking penetration

The primary requirement for an inclusive financial system is to have more consumers. An inclusive financial system must require all people to have a bank account. Therefore, the number of people who have bank accounts is a measure of the financial system's banking penetration. The number of bank accounts per 1000 people in India (as of the 2011 census) is used as the indicators for this element to calculate the Penetration Index.

Dimension II - Availability of banking services

Financial services should be generally available to consumers in an inclusive financial system. The key variable used for evaluating accessibility is branch per 1000 Indian population (population as of the 2011 census). Using this indicator, the study developed the second dimension which is an availability index.

Dimension III - Usage

Even if the majority of the population has bank accounts, the financial system cannot be considered to be inclusive as long as banking services are used to their full potential. Financial services include transfers, deposits, loans, and payments. We utilise the Credit-Deposit Ratio to calculate the utilisation dimension for the usage index.

All the indicators were then normalised to make it unit free and comparable. For normalising the data, the best and worst values for each indicator are determined. The greatest number is regarded as the best and the lowest as the worst for positive indications. Next, the normalised values are computed using the following formula:

$$\text{Normalised Value} = \frac{(\text{Best Value} - \text{Worst Value})}{(\text{Observed Value} - \text{Worst Value})}$$

The analysis of all three dimensions is done by dividing them into three categories based on value:

- High financial inclusion, with $0.5 < \text{FII} < 1$.
- Medium Financial Inclusion, with $0.3 < \text{FII} < 0.5$
- Low financial inclusion, with $0 < \text{FII} < 0.3$.

The SPSS (Statistical Package for Social Sciences) software, version 31 has been used for Principal Component Analysis (PCA) to determine the weights of these indicators based on the normalised values, which fall between 0 and 1. By reducing the number of dimensions in the data set, the PCA approach makes sure that the most important variables are ranked highest. The normalised inverse Euclidean distance formula is used to combine the dimension indices into a single composite Financial Inclusion Index (FII). This indicator ranges between 0 to 1. Based on these, states are divided into three broad categories: high, medium, and low financial inclusion.

FII Calculation:

The following formula is used to determine the index of Financial Inclusion:

$$FII = \frac{\sum X_i (\sum |L_{ij}| \cdot E_j)}{\sum (\sum |L_{ij}| \cdot E_j)}$$

Where FII is the Financial Inclusion Index; X_i is the indicator; L_{ij} is the factor loading of the i^{th} variable on the j^{th} factor and E_j is the Eigen Value of the j^{th} factor.

After calculation of this Index, the ranking of Indian states and Union territories was done.

Results and Discussion

The data of dimensions and Financial Inclusion Index of Indian states and Union territories are presented in this section.

Banking penetration dimension is the primary indicator of financial inclusion. The calculation of this dimension is presented below in table 1.

Banking Penetration Dimension

States	2019		2020		2021		2022		2023		2024		Population as on census 2011 in thousand
	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	Total bank accounts per 1000 population	Bank Accounts as Proportion of per 1000 Population	
Andhra Pradesh	14465.30	0.17	15114.39	0.179	16651.87	0.20	18331.3	0.217	20317.78	0.24	19324.54	0.23	84581
Arunachal Pradesh	91.62	0.07	114.234	0.083	130.083	0.09	135.606	0.098	148.78	0.108	142.19	0.10	1384
Assam	4565.31	0.15	5328.692	0.171	6014.883	0.19	5531.837	0.173	5233.473	0.163	5382.66	0.17	31206
Bihar	10079.83	0.1	12646.67	0.121	13722.593	0.13	14316.91	0.138	16096.44	0.155	15206.68	0.15	104099
Chandigarh	573.78	0.54	689.948	0.654	722.264	0.68	688.165	0.652	719.278	0.682	703.72	0.67	1055
Chhattisgarh	2196.36	0.09	2621.267	0.103	3269.963	0.13	3314.296	0.13	3583.954	0.14	3449.13	0.14	25545
Delhi	5882.62	0.35	6713.375	0.4	7113.677	0.42	7372.252	0.439	8354.71	0.498	7863.48	0.47	16788
Gujarat	9404.95	0.16	11538.1	0.191	12769.737	0.21	14327.97	0.237	15470.79	0.256	14899.38	0.25	60440
Haryana	5471.36	0.22	7052.823	0.278	7643.585	0.30	8122.278	0.32	9017.016	0.356	8569.65	0.34	25351
Himachal Pradesh	939.11	0.14	1002.96	0.146	1134.908	0.17	1205.487	0.176	1284.705	0.187	1245.10	0.18	6865
Jammu & Kashmir	1805.16	0.14	2535.584	0.202	2645.543	0.21	2738.747	0.218	2990.865	0.238	2864.81	0.23	12541
Jharkhand	3328.13	0.1	4414.091	0.134	4959.862	0.15	5248.065	0.159	5736.948	0.174	5492.51	0.17	32988
Karnataka	17637.54	0.29	21089.98	0.345	22558.957	0.37	23427.26	0.383	25215.29	0.413	24321.28	0.40	61095
Kerala	13756.28	0.41	14049.45	0.421	13702.398	0.41	13611.61	0.407	14497.04	0.434	14054.32	0.42	33406
Lakshadweep	5.05	0.08	4.981	0.078	5.369	0.08	6.044	0.094	6.84	0.107	6.44	0.10	64
Madhya Pradesh	8708.17	0.12	10955.39	0.151	12471.562	0.17	13117.41	0.181	14029.17	0.193	13573.29	0.19	72627
Maharashtra	32407.97	0.29	39746.03	0.354	43477.792	0.39	55676.17	0.495	73146.45	0.651	64411.31	0.57	112374

Manipur	202.38	0.07	251.916	0.088	309.117	0.11	353.3	0.124	368.547	0.129	360.92	0.13	2856
Meghalaya	278.01	0.09	277.399	0.093	309.95	0.10	310.794	0.105	327.485	0.11	319.14	0.11	2967
Mizoram	143.57	0.13	161.832	0.148	172.99	0.16	174.667	0.159	184.844	0.168	179.76	0.16	1097
Nagaland	148.94	0.08	172.471	0.087	198.13	0.10	198.538	0.1	210.762	0.106	204.65	0.10	1979
Odisha	7126.10	0.17	8509.07	0.203	9429.978	0.22	9970.819	0.238	10502.4	0.25	10236.61	0.24	41974
Puducherry	632.88	0.51	759.321	0.608	793.865	0.64	796.548	0.638	824.586	0.661	810.57	0.65	1248
Punjab	5210.58	0.19	6192.224	0.223	6988.155	0.25	7237.21	0.267	7781.97	0.281	7509.60	0.27	27743
Rajasthan	8598.70	0.13	11063.14	0.161	12332.401	0.18	13315.28	0.194	14524.53	0.212	13919.91	0.20	68548
Sikkim	82.48	0.13	105.024	0.172	118.389	0.19	142.91	0.234	130.109	0.213	136.51	0.21	611
Tamil Nadu	31754.09	0.44	35469.82	0.492	37906.107	0.53	39708.6	0.55	42716.3	0.592	41212.45	0.57	72147
Tripura	963.09	0.26	1004.571	0.273	1141.7	0.31	1065.51	0.29	1009.613	0.275	1037.56	0.28	3674
Uttar Pradesh	19621.78	0.1	21841.54	0.109	24225.67	0.12	25307.54	0.127	28162.68	0.141	26735.11	0.13	199812
Uttarakhand	1391.40	0.14	1513.394	0.15	1692.536	0.17	1763.535	0.175	1961.119	0.194	1862.33	0.18	10086
West Bengal	13101.38	0.14	16251.17	0.178	18728.314	0.21	17386.74	0.19	18189.49	0.199	17788.11	0.19	91276
ALL INDIA	220573.88	5.98	259191	6.996	283342.348	7.600	304903	7.908	342744	8.531	323823.69	8.22	1208427

Source: Author's own calculation.

This is the Banking penetration data per 1000 population (2019–2024) that reveals a consistent improvement in India's financial inclusion. Nationwide, bank accounts per 1000 population increased from 5.98 in 2019 to 8.22 in 2024, showing a slow rise in banking outreach. States such as Maharashtra, Gujarat, Tamil Nadu, and Karnataka recorded the elevated growth, with Maharashtra reaching 64,411 thousand accounts in 2024, and Gujarat showing a significant increase from 0.16 to 0.25 thousand. These states have a better financial infrastructure and good urban banking penetration as well and these findings are also similar to that of Bhat et al. (2022) as they also noted that industrialized southern and western states play a leading role in India's Inclusion rankings as they have greater access to financial services.

On the other hand, North-eastern states such as Arunachal Pradesh, Mizoram, Nagaland and Meghalaya have shown a very slow growth in both total accounts and per capita penetration as well, showing inactive progress in financial inclusion. Densely populated states like Uttar Pradesh and Bihar showed moderate expansion of total accounts but lower per capita growth, symbolizing that population pressure continues to decrease financial accessibility. These differences support the findings of Dhar and Barua (2020) and Raichoudhury (2020), they also have noted that there are strong regional gaps in financial inclusion across different states of India. Additionally, this result also aligns with Baria and Mehta (2024), who claimed that physical banking expansion alone is insufficient without corresponding efforts in financial literacy and digital access. Overall, the above data agrees that India has achieved broad-based growth in banking penetration, though the three-dimensional inequality in inclusion remains echoing with the fusion inclusion model emphasized by Dwivedi et al. (2022), where digital financial services increasingly balance with traditional banking networks.

Table 2: Calculation of Dimension

Year	2019		2020		2021		2022		2023		2024		Population as on census 2011 in thousand
	Total no. of offices	Branch per 1000 population	Total no. of offices	Branch per 1000 population	Total no. of offices	Branch per 1000 population	Total no. of offices	Branch per 1000 population	Total no. of offices	Branch per 1000 population	Total no. of offices	Branch per 1000 population	
Andhra Pradesh	7087	0.083790	7252	0.085740	7431	0.087857	7446	0.088034	7663	0.090600	7555	0.089317	84581
Arunachal Pradesh	155	0.111994	164	0.118497	169	0.122110	172	0.124277	187	0.135116	180	0.129697	1384

Assam	2404	0.077036	2957	0.094757	3020	0.096776	3043	0.097513	3085	0.098859	3064	0.098186	31206
Bihar	6917	0.0664999	7463	0.071691	7584	0.072854	7640	0.073392	7832	0.075236	7736	0.074314	104099
Chandigarh	442	0.418957	454	0.430332	442	0.418957	438	0.415166	449	0.425592	444	0.420379	1055
Chhattisgarh	2634	0.103112	2823	0.110511	2844	0.111333	2897	0.113408	2979	0.116618	2938	0.115013	25545
Delhi	3716	0.221349	3825	0.227841	3747	0.223195	3712	0.221110	3775	0.224863	3744	0.222987	16788
Gujarat	8150	0.134844	8626	0.142720	8582	0.141992	8599	0.142273	8862	0.146625	8731	0.144449	60440
Haryana	5008	0.197546	5224	0.206067	5225	0.206106	5190	0.204726	5326	0.210090	5258	0.207408	25351
Himachal Pradesh	1635	0.238165	1652	0.240641	1683	0.245157	1674	0.243846	1734	0.252586	1704	0.248216	6865
Jammu & Kashmir	1830	0.145921	1767	0.140898	1800	0.143529	1816	0.144805	1877	0.149669	1847	0.147237	12541
Jharkhand	3051	0.092488	3169	0.096065	3190	0.096702	3206	0.097187	3298	0.099976	3252	0.098581	32988
Karnataka	10285	0.168344	10778	0.176414	10875	0.178001	10780	0.176447	11034	0.180604	10907	0.178525	61095
Kerala	6622	0.198228	6801	0.203586	6869	0.205622	6814	0.203975	6921	0.207178	6868	0.205577	33406
Lakshadweep	13	0.203125	13	0.203125	21	0.328125	21	0.328125	22	0.343750	22	0.335938	64
Madhya Pradesh	6747	0.092899	7234	0.099605	7248	0.099798	7338	0.101037	7541	0.103832	7440	0.102434	72627
Maharashtra	12943	0.115178	13578	0.120829	13648	0.121452	13590	0.120935	13972	0.124335	13781	0.122635	112374
Manipur	192	0.067227	203	0.071078	210	0.073529	225	0.078782	240	0.084034	233	0.081408	2856
Meghalaya	346	0.116616	364	0.122683	367	0.123694	368	0.124031	374	0.126053	371	0.125042	2967
Mizoram	192	0.175023	203	0.185050	210	0.191431	220	0.200547	227	0.206928	224	0.203737	1097
Nagaland	164	0.082870	176	0.088934	180	0.090955	182	0.091966	192	0.097019	187	0.094492	1979
Odisha	4914	0.117072	5223	0.124434	5289	0.126007	5367	0.127865	5548	0.132177	5458	0.130021	41974
Puducherry	253	0.202724	267	0.213942	268	0.214744	265	0.212340	272	0.217949	269	0.215144	1248
Punjab	6614	0.238402	6735	0.242764	6700	0.241502	6550	0.236096	6612	0.238330	6581	0.237213	27743
Rajasthan	7391	0.107822	7775	0.113424	7871	0.114825	7969	0.116254	8304	0.121141	8137	0.118698	68548
Sikkim	143	0.234043	162	0.265139	164	0.268412	165	0.270049	168	0.274959	167	0.272504	611
Tamil Nadu	11206	0.155322	11829	0.163957	12028	0.166715	12094	0.167630	12407	0.171968	12251	0.169799	72147
Tripura	463	0.126021	565	0.153783	579	0.157594	589	0.160316	613	0.166848	601	0.163582	3674
Uttar Pradesh	17462	0.087392	18041	0.090290	18125	0.090710	18073	0.090450	18415	0.092162	18244	0.091306	199812
Uttarakhand	2126	0.210787	2194	0.217529	2220	0.220107	2176	0.215745	2202	0.218322	2189	0.217034	10086
West Bengal	8170	0.089509	9251	0.101352	9379	0.102754	9616	0.105351	9761	0.106939	9689	0.106145	91276
ALL INDIA	139275	4.680255	146768	4.923680	147968	5.082545	148235	5.093676	151892	5.240358	150064	5.167017	1208427

Source: Authors own calculation.

India's banking infrastructure has grown continuously. According to the above data, the number of branches per 1000 people nationally increased from 4.68 in 2019 to 5.16 in 2024, showing a slow improvement in financial accessibility. The largest bank branch density was found in states like Maharashtra, Gujarat, Tamil Nadu and Karnataka, showing strong institutional presence and complex banking networks. On the other hand, poor branch density was seen in eastern and north-eastern states like Arunachal Pradesh, Mizoram and Nagaland, showing steady improvement in infrastructure and physical difficulties. Similar findings were also noted by Rajput, B.& Rajput, A. (2017) and Bhat et al. (2022), they also noted that financial inclusion in India still vary greatly between states because of the infrastructure, income level and literacy rate.

This result findings are similar to that of Dhar & Barua (2020), showing populated states like Utter Pradesh Madhya Pradesh and Bihar continued to decrease in per capita access rather high total number of branches, though physical branch networks are increasing slightly. Chandigarh and Delhi continue to be the top performers because of the financial infrastructure and urban awareness. As developed states reach penetration and undeveloped states require focused collaboration to increase both physical and digital financial access, the trend highlights India's overall progress in financial inclusion and highlights regional differences.

Table 3: Usage Dimension

States	2019			2020			2021			2022			2023			2024		
	Deposits	Credit	Credit-Deposit Ratio	Deposits	Credit	Credit-Deposit Ratio												
Andhra Pradesh	300452	373572	1.24337	324873	418830	1.28921	359770	486536	1.35235	385881	550560	1.42676	429719	641272	1.49231	407800	595916	1.459533
Arunachal Pradesh	16659	3869	0.23225	17171	4338	0.25264	19525	5897	0.30202	24121	6053	0.25094	26656	7510	0.28174	25388.5	6781.5	0.26634
Assam	147091	67360	0.45795	164299	72954	0.44403	173014	83235	0.48109	189483	95992	0.50660	207312	112374	0.54205	198397.5	104183	0.524326
Bihar	353169	124996	0.35393	375707	139590	0.37154	397492	163964	0.41250	442417	195592	0.44210	478429	231859	0.48463	460423	213725.5	0.463362
Chandigarh	68300	77956	1.14138	72552	78002	1.07512	81320	80793	0.99352	89738	82007	0.91385	99918	77839	0.77903	94828	79923	0.846439
Chhattisgarh	142656	94404	0.66176	160542	104647	0.65184	173217	115659	0.66771	197250	138103	0.70014	216407	165326	0.76396	206828.5	151714.5	0.73205
Delhi	1210108	1314165	1.08599	1238245	1370412	1.10674	1400864	1353058	0.96587	1489930	1425079	0.95647	1658866	1535986	0.92593	1574398	1480533	0.9412
Gujarat	674922	591533	0.87645	738912	611499	0.82757	830161	659772	0.79475	928468	758868	0.81733	1027453	828364	0.80623	977960.5	793616	0.811782
Haryana	409974	278875	0.68023	475352	308058	0.64806	538565	321936	0.59777	614014	372955	0.60740	702370	453537	0.64572	658192	413246	0.626564
Himachal Pradesh	95529	30332	0.31752	103545	32327	0.31220	112344	35899	0.31955	123672	40942	0.33105	136486	46720	0.34231	130079	43831	0.33668
Jammu & Kashmir	118122	54282	0.45954	128026	59202	0.46242	142897	89908	0.48922	153229	79961	0.52184	162908	92151	0.56566	158068.5	86056	0.543751
Jharkhand	218585	63245	0.28934	234106	71055	0.30352	256070	80679	0.31507	282989	92188	0.32577	304044	109382	0.35976	293516.5	100785	0.342761
Karnataka	934364	701678	0.75097	1061242	741838	0.69903	1256023	793376	0.63166	1382552	888922	0.64296	1485253	1027656	0.69191	1433902.5	958289	0.667432
Kerala	495762	334847	0.67542	545024	360892	0.66892	607649	388732	0.63973	670289	424247	0.63293	724013	489203	0.67568	697151	456725	0.654307
Lakshadweep	1096	90	0.08212	1115	97	0.08700	1239	97	0.07829	1230	118	0.09593	1413	145	0.10262	1321.5	131.5	0.099277
Madhya Pradesh	368951	262105	0.71041	396779	285989	0.72078	453372	320452	0.70682	510313	359322	0.70412	547367	411420	0.75163	528840	385371	0.727878
Maharashtra	2607845	2426920	0.93062	2807751	2511092	0.89434	3163108	2504795	0.79188	3491988	2717399	0.77818	3922908	3332739	0.84956	3707448	3025069	0.81387
Manipur	9927	4946	0.49824	10369	6129	0.59109	12323	7405	0.60091	13813	9163	0.66336	14851	11313	0.76177	14332	10238	0.712564
Meghalaya	24063	7448	0.30952	23756	8435	0.35507	25821	9785	0.37896	29441	9512	0.32309	31275	11874	0.37966	30358	10693	0.351376
Mizoram	9255	3837	0.41459	11332	4174	0.36834	12000	5063	0.42192	13102	5982	0.45657	14682	6954	0.47364	13892	6468	0.465106
Nagaland	11183	3991	0.35688	12242	4644	0.37935	12579	7208	0.57302	14579	6381	0.43768	15579	7805	0.50099	15079	7093	0.46934
Odisha	309554	127646	0.41235	341140	143879	0.42176	363567	155954	0.42896	421413	183405	0.43521	463318	216311	0.46687	442365.5	199858	0.451044
Puducherry	17818	12363	0.69385	20043	13322	0.66467	22138	14885	0.67237	24552	16156	0.65803	26469	18315	0.69194	25510.5	17235.5	0.674987
Punjab	379577	236211	0.62230	410987	244057	0.59383	459027	263532	0.57411	510138	288331	0.56520	560275	314823	0.56191	535206.5	301577	0.563555
Rajasthan	379008	325240	0.85813	420150	352425	0.83881	474438	388631	0.81914	530634	442730	0.83434	594426	515018	0.86641	562530	478874	0.850377

Sikkim	9632	292	0.30	1013	321	0.31	1060	3847	0.36	1241	5182	0.41	1355	5885	0.43	1298	5533	0.42
Tamil Nadu	798738	891030	1.11555	899038	981665	1.09191	1008731	1046952	1.03789	1117412	1158606	1.03687	1211394	1325333	1.09406	1164403	1241970	1.065461
Tripura	24880	10463	0.42054	26487	11346	0.42836	28400	12093	0.42581	31304	13562	0.43324	34065	14499	0.42563	32684.5	14030.5	0.429431
Uttar Pradesh	1041507	470245	0.45150	1144902	507550	0.44331	1277878	565113	0.44223	1394177	646284	0.46356	1548627	755489	0.48784	1471402	700886.5	0.475702
Uttarakhand	137040	53036	0.38701	149549	56551	0.37814	165333	60740	0.36738	180784	67751	0.37476	200425	77094	0.38465	190604.5	7242.5	0.379707
West Bengal	779291	403677	0.51801	827832	429211	0.51848	889011	437348	0.49195	978185	479463	0.49016	1056367	535875	0.50728	1017276	507669	0.498718
ALL INDIA	12095058	9353283	18.31095	13153198	9937426	18.19877	14728480	10443344	18.1372	16249509	11560816	18.244	17916829	13380071	19.0976	17083169	12470444	18.67078

Source: Author's own calculation.

The Credit – Deposit ratio (CDR) has shown a gradual improvement in India's credit distribution as compared to deposits, showing greater utilization of financial resources and stronger financial intervention. Moreover, annually the CDR ratio increased from 18.31 in 2019 to 18.67 in 2024, indicating slow but constant development. This increment shows that commercial banks are leading deposits towards productive loan activity. States with good economies, such as Maharashtra, Gujarat, Tamil Nadu and Karnataka had higher ratios during that time, likewise, Maharashtra's ratio was 0.93 in 2019 and 0.81 in 2024, while Tamil Nadu's ratio changed from 1.11 to 1.06. This trend reflects strong lending activity, industrial diversification and increased credit absorption capacity in this region, the same result was noted by Bhat et al. (2022) and Rajput, B. & Rajput, A. (2017).

North Eastern states with low performance, such as Mizoram, Meghalaya, Nagaland, Arunachal Pradesh have continuously shown low Credit-deposit ratios (below 0.5 during the period), showing nominal credit activity and in sufficient financial intervention. Additionally, populous states such as Bihar, Madhya Pradesh and Uttar Pradesh have shown very little improvement, with CDRs remaining around 0.4, showing limited lending as compared to deposits. These variations in results also aligns with the Raichoudhury (2020) and Baria & Mehta (2024) as well, they also identified inadequate credit flow and structural limitations as major causes for regional disparities in financial inclusion. The significantly increased ratios in southern and western states are similar to the findings of Dhar & Barua (2020) and Sharma & Dogga (2024), According to these authors, states with good institutional networks and digital banking infrastructure have greater financial efficiency. Overall, the data show that, while India's credit utilization improved over the years, regional disparities in credit deployment continues, with developed states making better use of deposits while underdeveloped regions continue to lag in credit penetration – under the need for more targeted financial inclusion and lending interventions.

State-Wise Dimension Indices

To determine the soundness of a financial system, a multidimensional approach is implemented to develop the Financial Inclusion Index (FII). Accordingly, we have calculated the state-wise FII for India with the help of data from three factor: Banking Penetration, Accessibility of Banking Services and Utilisation of Banking Services. Principal Component Analysis (PCA) technique will be employed to construct this index, as detailed in the methodology.

Table 4: State-wise Dimension Indices

Year	2019			2020			2021			2022			2023			2024		
	Banking Penetration	Availability Dimension	Usage Dimension	Banking Penetration	Availability Dimension	Usage Dimension	Banking Penetration	Availability Dimension	Usage Dimension	Banking Penetration	Availability Dimension	Usage Dimension	Banking Penetration	Availability Dimension	Usage Dimension	Banking Penetration	Availability Dimension	Usage Dimension
Andhra Pradesh	0.219	0.049	1	0.175	0.041	1	0.188	0.043	1	0.219	0.043	1	0.232	0.044	1	0.228	0.093	1.589
Arunachal Pradesh	0	0.129	1	0.008	0.132	1	0.017	0.142	1	0.176	0.006	1	0.116	0.171	1	0.129	0.103	0.311
Assam	0.168	0.0324	1	0.161	0.066	1	0.181	0.069	1	0.316	0.141	1	0.309	0.107	1	0.316	0.172	0.606
Bihar	0.064	0	1	0.076	0.002	1	0.087	0	1	0.262	0.077	1	0.26	0.084	1	0.275	0.146	0.528
Chandigarh	1	1	1	0.912	1	1	0.822	1	1	0.718	1	1	0.615	1	1	0.487	0.662	0.759
Chhattisgarh	0.041	0.104	1	0.043	0.113	1	0.073	0.111	1	0.463	0.063	1	0.454	0.059	1	0.476	0.132	0.793
Delhi	0.595	0.439	1	0.854	0.559	1	0.848	0.564	1	0.697	0.618	1	0.647	0.687	1	0.592	0.468	0.918
Gujarat	0.18	0.19	1	0.19	0.19	1	0.21	0.2	1	0.562	0.25	1	0.542	0.26	1	0.506	0.24	0.832

	7	4	84	6	9	6	2			6	2			4	7	2		
Haryana	0.31 3	0.37 2	0.5 15	0.34 8	0.37 6	0.46 7	0.36 2	0.38 5	0.408	0.40 5	0.38 4	0.384	0.43 3	0.38 5	0.391	0.33 8	0.21 8	0.738
Himachal Pradesh	0.14 8	0.48 7	0.2 03	0.11 8	0.47 2	0.18 7	0.13 6	0.49 8	0.189	0.14 5	0.49 9	0.177	0.14 9	0.50 6	0.172	0.18 1	0.25 8	0.368
Jammu & Kashmir	0.16 3	0.22 5	0.3 25	0.21 6	0.19 4	0.31 2	0.21 2	0.20 4	0.323	0.22 2	0.20 9	0.32	0.22 9	0.21 2	0.333	0.22 8	0.15 4	0.595
Jharkhand	0.07 3	0.07 4	0.1 78	0.09 7	0.07 4	0.18 2	0.11 1	0.06 9	0.186	0.11 6	0.07 9	0.173	0.11 7	0.07 1	0.185	0.16 7	0.10 3	0.389
Karnataka	0.46 6	0.28 9	0.5 76	0.46 4	0.29 3	0.50 9	0.47 5	0.30 4	0.434	0.51 8	0.30 2	0.411	0.53 2	0.30 1	0.424	0.39 8	0.18 4	0.736
Kerala	0.72 3	0.37 4	0.5 11	0.59 5	0.36 3	0.47 8	0.54 3	0.38 4	0.441	0.56 1	0.38 2	0.404	0.56 9	0.37 7	0.412	0.42 1	0.21 3	0.723
Lakshadweep	0.02 6	0.38 8	0	0	0.36 8	0	0	0.73 8	0	0	0.74 5	0	0.00 1	0.76 6	0	0.10 1	0.35 9	0.11
Madhya Pradesh	0.11 2	0.07 5	0.5 41	0.12 7	0.07 9	0.52 7	0.14 6	0.07 8	0.493	0.15 4	0.08 1	0.457	0.15 2	0.08 1	0.467	0.18 7	0.10 6	0.792
Maharashtra	0.46 5	0.13 8	0.7 31	0.47 9	0.13 8	0.67 2	0.50 4	0.14	0.56	0.71 9	0.13 9	0.513	0.94 6	0.14	0.537	0.57 3	0.12 8	0.863
Manipur	0.01 5	0.00 2	0.3 58	0.01 8	0	0.41 9	0.04 1	0.00 2	0.41	0.05 2	0.01 6	0.426	0.03 9	0.02 5	0.474	0.12 6	0.08 8	0.775
Meghalaya	0.05 8	0.14 2	0.1 96	0.02 7	0.14 3	0.22 4	0.03 3	0.14 7	0.236	0.01 8	0.14 8	0.171	0.00 7	0.14 5	0.199	0.10 8	0.13 1	0.416
Mizoram	0.13 5	0.30 8	0.2 86	0.12 1	0.31 7	0.23 4	0.12 3	0.34 3	0.27	0.11 6	0.37 2	0.271	0.10 8	0.37 6	0.267	0.16 4	0.21 4	0.511
Nagaland	0.01 9	0.04 7	0.2 37	0.01 6	0.05 3	0.24 7	0.02 2	0.05 2	0.388	0.01 1	0.05 4	0.257	0	0.06 2	0.287	0.10 3	0.10 6	0.528
Odisha	0.21 7	0.14 4	0.2 84	0.21 7	0.14 9	0.27 8	0.23 4	0.15 4	0.275	0.25 7	0.15 9	0.255	0.25	0.16 3	0.262	0.24 4	0.13 6	0.51
Puducherry	0.92 3	0.38 7	0.5 27	0.92 1	0.39 8	0.48 1	0.91 9	0.41	0.466	0.97 5	0.40 7	0.422	0.96 3	0.40 7	0.424	0.64 9	0.22 8	0.725
Punjab	0.25 5	0.48 8	0.4 65	0.25 2	0.47 8	0.42 2	0.28	0.48 7	0.389	0.29 8	0.47 6	0.353	0.30 2	0.46 6	0.33	0.27 1	0.24 5	0.609
Rajasthan	0.12 4	0.11 7	0.6 68	0.14 5	0.11 8	0.62 5	0.16 3	0.12 1	0.581	0.17 9	0.12 5	0.555	0.18 3	0.13 1	0.55	0.20 3	0.12 5	0.918
Sikkim	0.14 4	0.47 5	0.1 9	0.16 3	0.54 3	0.19 2	0.18 3	0.56 5	0.223	0.25 5	0.57 5	0.242	0.18 5	0.57	0.239	0.22 3	0.28 8	0.446
Tamil Nadu	0.78 3	0.25 2	0.8 9	0.71 8	0.25 8	0.83 6	0.73 5	0.27 1	0.753	0.81 7	0.27 6	0.707	0.84 4	0.27 6	0.713	0.57 1	0.17 8	1.177
Tripura	0.41 4	0.16 9	0.2 91	0.33 9	0.23 4	0.28 8	0.37 4	0.24 5	0.273	0.35 1	0.25 4	0.253	0.29 3	0.26 1	0.232	0.28 2	0.17 3	0.469
Uttar Pradesh	0.06 7	0.05 9	0.3 18	0.05 5	0.05 3	0.29 6	0.06 2	0.05 2	0.286	0.05 8	0.05	0.276	0.06	0.04 8	0.277	0.13 4	0.09 5	0.53
Uttarakhand	0.15	0.40 9	0.2 63	0.12 5	0.40 8	0.24 2	0.14	0.42 5	0.227	0.14 4	0.41 7	0.21	0.15 3	0.40 8	0.203	0.18 5	0.22 6	0.425
West Bengal	0.16 2	0.06 5	0.3 75	0.17 4	0.08 4	0.35 9	0.20 8	0.08 6	0.325	0.17 2	0.09 4	0.296	0.16 1	0.09	0.291	0.19 5	0.10 9	0.526
ALL INDIA	8.22 4	7.43 4	13. 576	7.95 5	7.57 2	12.8 94	8.32 3	8.16	12.33 1	8.92 8	8.24 7	11.47 4	9.09	8.3	11.45 3	8.21 9	5.43 2	20.21 5

Source: Author's own calculation.

The above data on Banking penetration, Availability dimension and usage dimension from 2019-2024 shows India's wide development in Financial Inclusion over a period of six years. When seen at the national level, the banking penetration index was seen with the increase of 0.21 from 8.22 in 2019 to 8.43 in 2024, on the other hand the availability dimension has noted a decrease of 2 from 7.4 to 5.43 in 2019 to 2024 and the usage dimension increased from 13.57 to 20.21, showing that while formal banking institution's reach expanded slowly, the intensity and diversity of financial services use have increased at the same time. This shows that India's financial inclusion efforts have shifted from physical inclusion to digital and behavioural inclusion across Indian states.

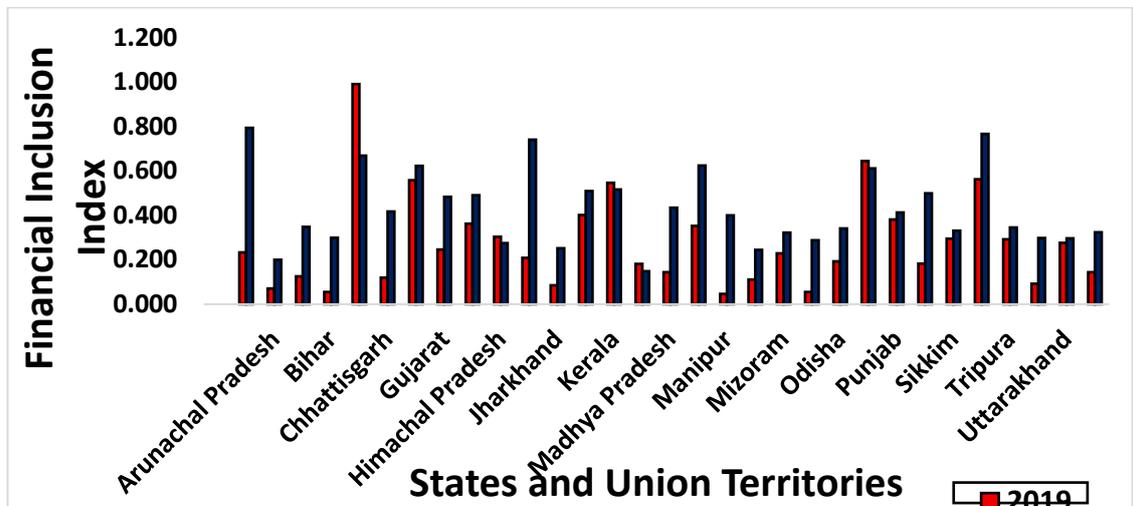
High performing states like Kerala, Tamil Nadu, Maharashtra, Gujarat and Karnataka continuously scored above the average in all three dimensions, suggesting stronger institutional networks, financial literacy and technological services adoption. institutional networks, financial literacy, and technology-driven service adoption. For example, Kerala maintained the highest usage dimension ratings throughout, which is the same with the findings of Rajput, B. & Rajput, A. (2017) and Dhar & Barua (2020), who concluded that southern states have greater inclusion success to banking infrastructure and strategic digitalization. Moreover, north-eastern states like Mizoram, Nagaland, Arunachal Pradesh and Manipur have constant low rankings showing very limited access, minimum financial product consumption and low service availability. This shows the geographical differences and emphasizing how poor infrastructure and geographical remoteness and socio-economic limitations limits participation in under-developed states, the same observation was noted by Raichoudhury (2020) and Baria & Mehta (2024). According to the analysis of Dwivedi et al. (2022) and Amnas et al. (2024), which is similar to ours has claimed that India's financial inclusion model developing into a hybrid structure in which physical branch access in increasingly accompanied by digital and financial technology driven platforms bridging gaps in previously undeserved regions. Overall, the data from 2019 to 2024 shows continuous progress towards comprehensive inclusion, with financial services coming out as an important component of India's continued inclusion momentum.

Overall, PCA trends from 2019 to 2024 shows the structural development in Indi's Financial Inclusion. Starting years were dominated by the access and infrastructure variables, whereas the later years showed active usage reflecting a national shift from account creation to engagement and digital participation.

The calculation of Financial Inclusion Index is done on the basis of 3 dimension (Weighted value of Banking penetration (d1), weighted value of Availability dimensions (d2) and weighted value of usage dimension (d3) for the year 2019-2024 for all the Indian states and Union Territories is given below:

Table 5: Calculation of Financial Inclusion Index using weighted value of all dimensions

States	2019		2020		2021		2022		2023		2024	
	FII	Rank										
Andhra Pradesh	0.232	15	0.528	5	0.283	14	0.407	8	0.436	7	0.793	1
Arunachal Pradesh	0.071	28	0.081	30	0.099	29	0.088	31	0.109	31	0.200	30
Assam	0.125	23	0.210	21	0.161	24	0.173	24	0.167	25	0.348	17
Bihar	0.055	30	0.139	26	0.082	31	0.110	28	0.121	30	0.299	23
Chandigarh	0.990	1	0.920	1	0.946	1	0.879	1	0.818	1	0.669	3
Chhattisgarh	0.120	24	0.242	17	0.163	23	0.204	22	0.229	21	0.417	13
Delhi	0.557	4	0.673	3	0.536	4	0.566	4	0.556	4	0.622	5
Gujarat	0.246	14	0.384	10	0.274	16	0.328	12	0.327	12	0.483	11
Haryana	0.362	8	0.404	9	0.380	8	0.392	9	0.400	9	0.490	10
Himachal Pradesh	0.303	10	0.192	24	0.296	13	0.271	15	0.286	14	0.275	27
Jammu & Kashmir	0.208	17	0.256	15	0.230	18	0.249	17	0.260	18	0.740	16
Jharkhand	0.085	27	0.131	27	0.108	26	0.119	27	0.124	29	0.252	28
Karnataka	0.401	6	0.463	8	0.396	6	0.414	7	0.409	8	0.508	8
Kerala	0.546	5	0.515	7	0.458	5	0.453	6	0.443	6	0.516	7
Lakshadweep	0.182	20	0.045	31	0.305	11	0.244	19	0.282	15	0.148	31
Madhya Pradesh	0.144	21	0.300	14	0.184	21	0.226	20	0.238	20	0.435	12
Maharashtra	0.352	9	0.524	6	0.364	9	0.464	5	0.505	5	0.623	4
Manipur	0.046	31	0.195	23	0.095	30	0.158	25	0.189	23	0.400	15
Meghalaya	0.110	25	0.129	28	0.119	25	0.109	29	0.126	27	0.245	29
Mizoram	0.228	16	0.195	22	0.242	17	0.249	18	0.263	17	0.322	22
Nagaland	0.055	29	0.122	29	0.107	27	0.102	30	0.125	28	0.287	26
Odisha	0.192	18	0.236	18	0.209	20	0.224	21	0.222	22	0.341	19
Puducherry	0.644	2	0.660	4	0.622	2	0.615	2	0.568	3	0.611	6
Punjab	0.380	7	0.355	12	0.387	7	0.374	10	0.372	10	0.412	14
Rajasthan	0.182	19	0.357	11	0.224	19	0.280	14	0.294	13	0.499	9
Sikkim	0.294	11	0.222	19	0.349	10	0.354	11	0.345	11	0.331	20
Tamil Nadu	0.562	3	0.715	2	0.547	3	0.606	3	0.589	2	0.766	2
Tripura	0.291	12	0.301	13	0.303	12	0.289	13	0.260	19	0.344	18
Uttar Pradesh	0.092	26	0.163	25	0.100	28	0.124	26	0.133	26	0.298	24
Uttarakhand	0.276	13	0.212	20	0.275	15	0.254	16	0.264	16	0.296	25
West Bengal	0.144	22	0.246	16	0.178	22	0.186	23	0.181	24	0.324	21



The above graph shows the Financial Inclusion Index of data of the year 2019 and 2024 highlighting the comparison and improvement of states and union territories. The above data shows the combined effect of all three dimensions (banking penetration, availability and usage). The period from 2019 to 2024 also includes the pandemic of COVID-19, how has the financial inclusion been affected by the pandemic. This result is also supported by the Bhat, et.al. (2022), they stated that modern financial inclusion in India must not be just seen with the account ownership or the infrastructure but also through the availability and the usage and also through the frequency of financial Interactions that participate economically.

According to the analysis in the pre-COVID period (2019-2020), the Financial Inclusion in Indian states and union territories have recorded very much of differentiation. Some states with good infrastructure and literate population and good economic performance showed great performance in financial inclusion such as Chandigarh performed really well and ranked 1 with FII 0.99, Puducherry with rank 2 (FII 0.64) AND Tamil Nadu with Rank 3 (FII 0.56) showing the high banking density and good institutional networks. Besides some underdeveloped North - Eastern states with low literacy rate and with lacking infrastructure such as Arunachal Pradesh, Nagaland, and Bihar performed consistently low recording FII below 0.10 in the year 2019. This low performance was the result of low banking penetration and poor infrastructure, agreeing to the result of Rajput, B. & Rajput, A. (2017) and Raichoudhary (2020), who stated that physical access, availability and socio-economic backwardness as the key barriers to the financial inclusion.

The COVID-19 pandemic era marked to be the turning point. Different government initiatives were introduced such as PMJDY (Pradhan Mantri Jan DhanYojna), DBT (Direct Benefit Transfers, and the adoption of digital payment systems (UPI, AEPS and Mobile Wallets) helped in the promotion of financial inclusion. Whereas the banking penetration remained the same but the usage component of Financial Inclusion increased sharply because of millions of existing account holders began using the digital payments application for their transactions, savings and credit. Andhra Pradesh came out to be the best adopter of the digital banking system by rising from rank 15 (FII 0.232) in 2019 to Rank 5 (FII 0.528) in 2020 supporting how much digital adoption and policy driven financial outreach can improve the inclusion dynamics. This development is also supported by the findings of Dwivedi, et.al. (2022), who suggested that the pandemic catalysed a "forced digitization" of financial behavior, and with Sharma and Dogga (2024), who noted India's transition towards a composite inclusion model powered by digital ecosystems.

During the COVID-19 recovery era (2021 -2022), the main focus was on inclusion into the service utilization rather than on access expansion. States like Maharashtra, Karnataka, and Kerala maintained the high financial inclusion levels (FIIs above 0.45), mainly due to the combined impact of digital infrastructure and financial awareness. Meanwhile, Andhra Pradesh's performance was reportedly increasing reaching to Rank 8 in 2022 and showing the stable growth in all the three dimensions-Banking penetration, Availability and the usage. At the same time the North-eastern states remained at the low performing states where Bihar ranked 28, Nagaland ranked 30 and Arunachal Pradesh ranked 31, struggling to overcome the physical limitations. As Dhar and Barua (2020) stated, these states have geographical and infrastructural disadvantages, low population, hilly terrain, and inadequate ICT networks which restrict the spread of banking services and financial education.

By the year 2023-24, the data shows that India transitioned into to a mature "existence-and-use" model of Inclusion. Andhra Pradesh made the extraordinary jump to Rank 1 in the year 2024 with the FII of 0.793, followed by the Tamil Nadu with Rank 2 (FII 0.76) and Chandigarh with Rank 3 (FII 0.69). this growth was noted because of the digital transaction intensity as in Andhra Pradesh the highest usage score was recorded. This determines how fintech innovation and mobile banking play a central role in democratizing access to financial services. The same result was recorded by Amnas, Selvam and Parayitam (2024) in their analysis of fintech's mediating role in inclusion. Similarly, Kerala (Rank 7) and Karnataka (Rank 8) maintained their good position due to good digital engagement, matching with the conclusion of Bhat et al. (2022) which states that the southern states consistently maintain their performance in both the access and adoption dimensions.

In spite of the extraordinary digital rush, the data also showed the regional inequalities. North-eastern States such as Bihar, Nagaland, Arunachal Pradesh, and Meghalaya continues to record low FIIs (below 0.30), indicating that digital adoption cannot alone overcome the structural limitations of infrastructure and literacy. As the Baria and Mehta (2024) concluded, that rural financial inclusion

requires consistent immediate investment in education and physical connectivity and technological infrastructure as well. Additionally, Raichoudhury (2020) also stated that financial access remains strongly related with the per capita income and institutional density.

Overall, the FII data from 2019-2024 gives the three-phased evolution; the pre-COVID phase categorized by infrastructure led access, the COVID phase explained by sustained usage utilization. The continuous increment of digitally advanced states and the stagnation of states with poor infrastructure confirms that India's Financial Inclusion has entered a hybrid stage, where physical outreach and digital adaptation must go together to incur the maximum financial inclusion. The above findings are also supported with the findings of Dwivedi et al. (2022) and Amnas et al. (2024), they observed that fintech driven usage have narrowed the gap in the financial participation, getting full inclusion but still demanding equal importance on infrastructure, education and accessibility.

The result of the Financial Inclusion Index (FII) analysis from 2019 to 2024 revealed a dynamic but uneven financial inclusion in India, besides the structural limitations marked the rapid digital adoption. The combined FII, reflecting Banking Penetration, Availability and the usage, that the public has shifted from access-based to usage led growth over the study period. In the first phase of pre-COVID era the inclusion was impacted by the access and the availability, urbanized states such as Chandigarh (Rank 1) and Puducherry (Rank 2) getting the perfect score (about 0.99). additionally, states like Arunachal Pradesh, Nagaland and Bihar recorded minimal access, matching the findings of Raichoudhury (2020) and Baria & Mehta (2024) stating low inclusion due to infrastructure and literacy.

During 2020–2022, the COVID-19 pandemic which acted as a digital catalyst, changing from financial inclusion from physical access to digital transactions. While several states were facing inactive account usage, Andhra Pradesh improved to Rank 1 (FII 0.793) by 2024 through incomparable growth in digital transactions, explaining that digital adoption separated inclusion from branch expansion (Dwivedi et al., 2022; Amnas et al., 2024). Similarly, Tamil Nadu, Maharashtra, and Delhi maintained best rankings due to constant digital and credit use, while north-eastern and eastern states continued to lag due to poor infrastructure and connectivity.

Overall, the data showed India's Transition from a "presence-based" to a "usage-driven" Inclusion model were financial technology modernization and mobile transactions impact growth. However, gaps in north-eastern states like Bihar, Assam, and Nagaland highlighted that digital progress cannot alone substitute for infrastructural and socioeconomic development. As noted by Baria & Mehta (2024) and Dwivedi et al. (2022), achieving best financial inclusion requires digital expansion with physical access and financial literacy, making sure that technological advancement translates into financial empowerment for all. To address these issues, targeted steps are needed, including:

- Enhancing financial literacy programs.
- Growing digital banking services.
- Upgrading banking infrastructure in underserved areas.
- Implementing inclusive financial regulations to ensure better access to financial services.

The overall conclusion is that while some large cities have achieved significant improvements, specific measures in failing areas are still desperately needed if national financial inclusion is to be attained.

Limitations and Future Scope

The Financial Inclusion Index is calculated using only three dimensions. However, additional dimensions and indicators that influence a state's or country's financial inclusion index can also be considered. The Financial Inclusion Index here is calculated only for a period of only six years, from 2019 to 2024. Longer periods can be considered to provide a more comprehensive view of the Financial Inclusion Index. The comparison of the Financial Inclusion Index can be done across different countries around the world, rather than being limited to states and union territories within India.

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