Financial Inclusion In India: A Case Study Of The North-Eastern States

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Abstract: The core motive of financial inclusion is to facilitate the disadvantaged groups with financial services at an affordable cost. India, though reaching heights of financial inclusiveness, is challenged by persistent inter-regional disparities. To access the situation of the North-Eastern states of the country which is geographically isolated and less developed than its counterparts, the present study analyses three dimensions of financial inclusion combining them into a comprehensive and multidimensional financial inclusion index. The empirical results revealed that Tripura is the most financially inclusive state among eight states of North East India depicting an intermediate level of financial inclusion, followed by Assam, Sikkim, Mizoram and Meghalaya. However, the extent of financial inclusion is very poor in Arunachal Pradesh, Manipur and Nagaland as exhibited by lower Financial Inclusion Index (FII).

Key words: Financial Inclusion Index, North-East, India

1. INTRODUCTION

Financial inclusion, increasingly fore-fronting in recent years can be defined as access to formal financial sector on the part of the deprived section of the society. The core motive of financial inclusion is to facilitate the disadvantaged groups with financial services. An inclusive financial system can bring in efficiency to the economy in terms of proper allocation of financial resources from surplus sector to the deficit one. Financial inclusion as defined by Committee on Financial Inclusion chaired by Rangarajan, (2008) is "the process of ensuring access to financial services and timely adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost". To quote from the report of the Committee on Financial Sector Reforms Chaired by Raghuram Rajan (2009) "financial inclusion, broadly defined, refers to universal access to a wide range of financial services at reasonable cost. These include not only banking products but also other financial services such as insurance and equity products". The Raghuram Rajan Committee (2009) also stated that households need access to financial services prominently for contingency planning and risk-mitigation, along with wealth creation depending on the level of understanding of financial services and risk perception. For a faster growing economy like India holding an emerging financial market, the challenge is greater to include all groups under single umbrella of financial inclusion. India, though reaching height of financial inclusiveness, is challenged by persistent inter-region disparities. Absence of more inclusive financial system can push the growth of informal sources of credit that can exploit the section of society who are outside the formal financial system. For ensuring fuller participation and to minimize the disparity, the constraints that exclude fuller participation must be located. With the help of a comprehensive index, the existing condition can be well-understand by the authorities for constructing more inclusive policies that can address the deprived ones. Financial inclusion index, being a multidimensional indicator can so be appropriate with complete focus on capturing the extent of financial inclusion. The index is comparable and hence can help evaluating the existing situation across states. It can further locate the dimension that needs more attention on the part of policy makers.

2. REVIEW OF LITERATURE

A well developed financial system is a prerequisite in the progress of an economy, nevertheless the studies conducted on developing a mechanism to access the level of financial inclusiveness have been a few. Realizing the importance of a comprehensive indicator, Sharma (2008) proposed to construct a multidimensional index of financial inclusion (IFI)to access the extent of financial inclusion that lie between 0 and 1. While constructing the IFI, three dimensions were considered namely banking penetration (BP), availability of the banking services (BS) and usage of the banking system (BU). As stated by Sharma, individually each indicator provides only partial information and can mislead the understanding of coverage of financial inclusion. A comprehensive measure that incorporates several aspects will be more representative of the actual scenario. Gupte et al. (2012) computed financial inclusion index for India following the formula used by UNDP to calculate HDI in 2010, as a geometric mean of four critical dimensions – outreach (penetration and accessibility), usage, ease of transactions and cost of transactions. In a cross-country analysis Sharma and Pais (2011) identified per capita income, physical and electronic connectivity and information availability as significant factors explaining the level of financial inclusion. The findings of regression analysis suggested that countries having low urbanization and literacy accompanied by poor connectivity and high income inequality tend to have less financial inclusion. To understand the existing scenario and the obstructions on proper implementation of the agenda of financial inclusion in North-Eastern region of India, Thangasamy(2014) conducted a study on the basis of banking indicators. It was mentioned that development of banking system in North Eastern Region was only a post-nationalization phenomenon. Before 1969 no commercial bank existed in many states of NER such as Arunachal Pradesh and Mizoram. According to the findings financial illiteracy and lack of awareness or understanding of financial products and services among the potential customers is one of the constraint in maximizing financial inclusion in NER. Chakma (2014), in the study expressed that in a region heavily dependent on agriculture and traditional handicraft skills, inadequate infrastructure can isolate and give way to informal-financial sector. The author

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suggested implementing public-private partnership model in the region to develop infrastructure and enhancing market linkages. The region needs sustainable industrial development based on agriculture, traditional textiles and light manufacture industries compatible with its natural characteristics. North-Eastern region of India, being geographically isolated and economically deprived, is remained in the bottom level of financial inclusiveness. Therefore, empirical analysis is much required to analyze the existing situation so that the dimensions in which the economy is remained backward can be identified.

3. OBJECTIVES OF THE STUDY

- To measure the extent of financial inclusion in India and it's eight Northeastern States by constructing a multidimensional index.
- To compare and analyze the relative position of each North-eastern state regionally and nationally by ranking them in terms of their status of financial inclusion.

4. METHODOLOGY

4.1 Scope and Data Source:

The present study proposes to construct a comprehensive and more inclusive index for eight states of North-East India, for North-Eastern Region and for the Nation as a whole for the year 2016 to access the more recent scenario. Required data on macroeconomic indicators have been obtained from authentic sources like reports released by Reserve Bank of India, Statistical Yearbook of India published by Office of Registrar General of India Ministry of Home Affairs, and various reports on State Finance Accounts by Comptroller and Auditor General of India. For statistics on population, the Population Projection by Census of India, 2001 has been used. The present study is however constrained by availability of recent database on some specific indicators that could make the index more representative.

4.2 Constructing the Financial Inclusion Index (FII):

For constructing the composite index, the method used by Sharma (2008) is followed which is much similar to the method used by UNDP to construct the multidimensional indexes for computation of the well known Human Development Index (HDI) with some methodological improvements to make IFI free from some of the widely criticized shortcomings of the HDI. For the purpose of constructing FII, initially dimension index di is calculated for i^{th} dimension. For those dimensions which incorporate more than one indicator, each indicator is normalized using the formula (1) and the dimension index is computed as simple weighted average, giving equal weights to each indicator. In an 'n'-dimensional cartesian space, the economy 'i' will be represented by a point Di = (d1, d2, d3, ….dn), higher value of dimension index will indicate higher achievement in that respective dimension. While point O= (0,0,0….0) represent the worst situation, point I= (1,1,1,….,1) will be the highest achievement in all included dimensions. Normalization ensures that $0 \le di \le 1$.

$$di = \frac{(Ai-mi)}{(Mi-mi)} \qquad (1)$$

Where,
Ai = Actual value of dimension i
mi = minimum value of dimension i
Mi = maximum value of dimension i

The composite financial inclusion index (FII) for i^{th} economy is computed by the following formula, presenting normalized inverse Euclidean distance of point Di from the ideal point I = (1,1,1….,1) , then taking inverse normalized distance.

$$FII= 1 - \sqrt[2]{\frac{(1-d1)^2+(1-d2)^2+(1-d3)^2}{n}} \qquad (2)$$

The normalization is done in order to make the value lie between 0 and 1 and the inverse distance is considered so that higher value of the IFI corresponds to higher financial inclusion Sharma (2008).

4.3 Dimensions and Indicators:

Previous studies have tried to estimate FII including various dimensions that differs from one another. Assess to banking facilities is undertaken as analogous to financial inclusion since banking services are the gateway to the most basic forms of financial services (Sharma, 2008). On the backdrop of the previous empirical studies the present analysis attempts to developed the multidimensional financial inclusion index (FII) incorporating three dimensions i.e., availability, accessibility and uses of financial services. Some specific indicators are also assigned in each dimension to capture the extent of financial inclusion. Dimension of Availability: An inclusive financial system should offer its services to its users to the highest possible extent. The availability dimension is intended to capture whether the banking services are obtainable, both in terms of geographic and demographic indictors as well. To do so, the present index incorporates four indicators in this dimension viz. i) Geographic Branch Penetration (Bank Branch per sq. km.), ii) Demographic Branch Penetration (Bank Branch per 10000 Adult Population), iii) Geographic ATM Penetration (ATM per sq. km) and iv) Demographic ATM Penetration (ATM Per 10000 Adult Population). Dimension of Accessibility: The proportion of banked population can be a significant indicator of accessing the extent of financial inclusion. Higher proportion of population holding bank account will signify more inclusion of societal groups in the formal financial system. Therefore, the present index includes proportion of population using banking services through the means of number of deposit and credit account per 1000 adult population. Dimension of Uses: Coverage of financial inclusion will be misinterpreted, if a higher segment of population holding bank accounts doesn't use it at all. A standard measure of financial inclusion should contain information on the uses of financial services among the banked population. The proposed index in this study incorporates total deposits and credits as e percentage of Gross (state) Domestic Product and credit-deposit ratio as representative of uses by the customers.

5. FINDINGS AND DISCUSSION

5.1 Dimension of Availability:

The availability dimension, as stated in table 1 is computed as a weighted average of the four indicators, giving equal importance to each. Indicators individually are computed using formula (1) so that the value ranges from 0 to 1. Sikkim performs highest in the context of availability of banking services amongst all other states, even higher than the national average. Arunachal Pradesh and Nagaland, however shows very poor level of banking services. The figures are not satisfactory for Assam as well, probably due to its high population. Manipur seeks more attention ranking first from the bottom, with d1 equal to .087. In a study conducted by Kshetrimayum (2014) it was stated that Unincorporated Bodies (UIBs) are more active in Manipur then the scheduled commercial banks acting as a supplementary. Most of their customers are the poor people that remained outside the banking-system.

Table 1: *Dimension of Availability*

States	Geographic Branch Penetration		Demographic Branch Penetration		Geographic ATM Penetration		Demographic ATM Penetration		Dimension 1	
	Bank Branches per sq. km.	d11	Bank Branches per 10000 Adult Population	d12	ATMs per sq. km.	d13	ATMs Per 10000 Adult Population	d14	d1	Rank
Arunachal Pradesh	0.0018	0.000	1.6838	0.380	0.0030	0.000	2.7878	0.408	0.197	6
Assam	0.0294	0.675	1.0916	0.094	0.0483	0.749	1.7922	0.000	0.379	3
Manipur	0.0071	0.130	0.8981	0.000	0.0147	0.194	1.8528	0.025	0.087	8
Meghalaya	0.0151	0.324	1.7846	0.429	0.0178	0.246	2.1120	0.131	0.283	5
Mizoram	0.0088	0.172	2.5619	0.805	0.0077	0.078	2.2451	0.186	0.310	4
Nagaland	0.0095	0.188	0.9658	0.033	0.0189	0.264	1.9317	0.057	0.135	7
Sikkim	0.0185	0.407	2.9645	1.000	0.0264	0.387	4.2317	1.000	0.698	1
Tripura	0.0422	0.987	1.6914	0.384	0.0466	0.722	1.8713	0.032	0.531	2
North Eastern States	0.0148	0.317	1.2447	0.168	0.0226	0.324	1.9031	0.045	0.214	-
All India	0.0427	0.999	1.7292	0.402	0.0634	0.999	2.5690	0.318	0.680	-

5.2 Dimension of Accessibility:

The accessibility dimension incorporates information on people using banking services via bank accounts (credit and deposit) per 1000 adult population. The statistics showed that overall performance of the North-Eastern Region is comparatively good, except Nagaland that have a large portion of people remaining under-banked having only 912 bank accounts per 1000 adult population. For India the scenario is quite satisfactory.

Table 2*: Dimension of Accessibility*

States	Deposit and Credit Accounts Per 1000 Adult Population	Dimension 2	
		d2	Rank
Arunachal Pradesh	1,681	0.465	5
Assam	2,083	0.707	3
Manipur	1,499	0.355	7
Meghalaya	1,526	0.371	6
Mizoram	1,935	0.618	4
Nagaland	912	0.000	8
Sikkim	2,338	0.861	2
Tripura	2,568	1.000	1
North Eastern States	1,984	0.647	-
All India	2,465	0.938	-

5.3 Dimension of Uses:

Dimension of uses, to be more representative of real condition, needs information on e-transactions that is gaining popularity among customers. However, constrained by obtainable data, and since only a small segment of the customers access such advanced facilities due to lack of knowledge and understanding, the constructed dimension index for uses of banking services does not include information on this aspect. Deposit as a percentage of GSDP is less than 50% in many states except Meghalaya and Tripura, comparing to 70% for the nation as a whole. Formal credit is only a smaller proportion (less than 20%) of GSDP in all states while for India formal credit is 52% of the gross Domestic Product, indicating to the fact that a large proportion of credit are obtained from informal sources. Low level of income and lack of understanding of banking services push people to private lenders and burden of high interest rates further deteriorating their financial condition. Lower CDR (below 40% except Assam) in entire NER compared to high (74%) CDR for India explains lack of investment and entrepreneurship activities in the region. The overall picture as depicted in the dimension of uses indicates that people holding bank accounts are having lesser transactions. As stated in the report of the Committee on Medium-term Path on Financial inclusion (2015) the supply of financial services does not adequately match the demand. Around 35 percent of the accounts across all banks were zero-balance accounts as on November, 2015. This supports the findings of this study where States, though well performed in availability of banking services were significantly deteriorated by uses of financial services.

***Table 3**: Dimension of Uses*

States	Total Deposit as a Percentage of GDP/GSDP		Total Credit as a Percentage of GDP/GSDP		Credit-Deposit Ratio (Percentage)		Dimension 3	
	%	d31	%	d32	%	d33	d3	Rank
Arunachal Pradesh	49.3249	0.432	11.81822	0.041	23.960	0.000	0.158	6
Assam	46.9790	0.369	18.93277	0.211	40.300	0.328	0.303	3
Manipur	33.3270	0.000	12.88461	0.066	38.661	0.295	0.120	7
Meghalaya	69.1647	0.968	17.89167	0.186	25.868	0.038	0.398	1
Mizoram	47.1064	0.372	17.13681	0.168	36.379	0.249	0.263	4
Nagaland	44.6131	0.305	14.06208	0.095	31.520	0.152	0.184	5
Sikkim	36.8897	0.096	10.10673	0.000	27.397	0.069	0.055	8
Tripura	55.5351	0.600	19.9417	0.235	35.908	0.240	0.358	2
North Eastern States	48.0840	0.399	17.52049	0.177	36.437	0.250	0.275	-
All India	70.3437	1.000	51.90781	1.000	73.792	1.000	1.000	-

5.4 The Financial Inclusion Index:

Utilizing the available data on each indicator, the Financial Inclusion Index has been computed for eight North-Eastern states, North-Eastern region and India as a whole. The economies are categorized into three categories (Sharma, 2008) depending on the magnitude of the respective calculated indices.

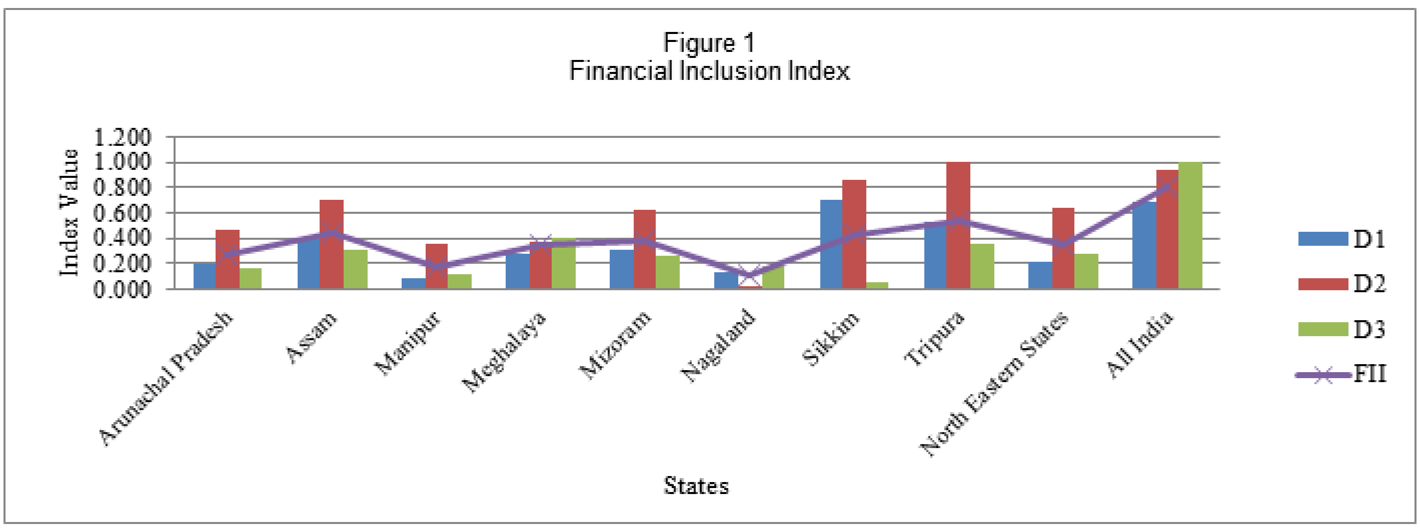
0.7 < IFI ≤ 1 – high financial inclusion

0.3 ≤ IFI < 0.7 – medium financial inclusion

0 ≤ IFI < 0.3 – low financial inclusion

***Table 4**: Financial Inclusion Index*

States	Dimension 1	Dimension 2	Dimension 3	FII	Level of Financial Inclusion	Rank
Arunachal Pradesh	0.197	0.465	0.158	0.260	Low	6
Assam	0.379	0.707	0.303	0.435	Medium	2
Manipur	0.087	0.355	0.120	0.179	Low	7
Meghalaya	0.283	0.371	0.398	0.348	Medium	5
Mizoram	0.310	0.618	0.263	0.377	Medium	4
Nagaland	0.135	0.000	0.184	0.103	Low	8
Sikkim	0.698	0.861	0.055	0.422	Medium	3
Tripura	0.531	1.000	0.358	0.541	Medium	1
North Eastern States	0.214	0.647	0.275	0.350	Medium	-
All India	0.680	0.938	1.000	0.812	High	



India is achieving financial inclusiveness indicated by a high Financial Inclusion Index value of 0.812. The North-Eastern Region, however remained in intermediate level of financial inclusion with FII score 0.350, which is lower than some of its states. Tripura is the most financially inclusive state amongst other states of the region. The financial inclusion plans are more successful in Tripura than other states of the North Eastern Region. In a study conducted by Roy (2016) it was stated that good education infrastructure, high literacy rate, better road connectivity, favorable socio-economic situation along with good political will and organizational strength are some of the factors making Tripura different from it's counterparts. Assam depicts medium level of financial inclusion of 0.435, followed by Sikkim with FII 0.422 holding the third rank. Sikkim, though well performed in first two dimensions, pulled backward in terms of uses of financial services. Mizoram and Meghalaya show FII 0.377 and 0.348 respectively. Depicting very lower level of financial inclusion, Arunachal Pradesh (0.260) and Manipur (0.179) remains amongst the worst performers. Nagaland is the most financially exclusive state showing poor performance in all dimensions, with FII 0.103. The comparison between states can be more clearly observable from figure 1. The level of financial inclusiveness is creating firm footing in policy making and accordingly committees' viz. Rangarajan Committee (2008) on Financial Inclusion and Raghuram Rajan Committee (2009) on Financial Sector Reforms were formed for documentation of India's expedience in financial inclusion. To enhance and promote financial inclusion Reserve Bank of India have taken a lot of initiatives and policy measures such as providing No-frills Account (2005), Simplification of Know Your Customer (KYC) Norms and Guidelines, Simplification of Savings Bank Account Opening Form etc. As for the recent, Pradhan Mantri Jan Dhan Yojana (PMJDY) implemented in August 2014 to ensure universal access to banking facilities with at least one basic banking account to every household, financial literacy, access to credit and insurance facilities. The authorities, though undertaken several policy initiatives for ensuring financial inclusion, the inter-state disparities may not be addressed sufficiently, which is reflected in the financial inclusion status of North-Eastern states. The policies for financial inclusion were implemented assuming it will automatically trickle down to the bottom level as well. However, it hardly impacted the underprivileged section and financial abandonment has remained unchanged over the years (Mahadeva, 2009).

6. CONCLUSION AND IMPLICATIONS

Financial inclusion ensures comprehensive and more inclusive growth and development of any economy, improving the overall socio-economic status. This paper addresses the extent of intra- regional financial inclusion for North East India on the basis of a multidimensional Financial Inclusion Index. An attempt has been made to identify the dimensions where some progress has taken place and highlight those dimensions that need further interventions. The constructed index incorporated much possible information, though constrained by the availability of authentic and reliable data. Compared to the financial status achieved by India, the North-Eastern region is underperforming in financial indicators. The study depicted that physical availability of financial services is still to meet the needs in North-Eastern states compared to the national average. The performance of all states except Nagaland is good in accessibility of banking services. The worst situation was observed for all states in terms of uses of financial services. The demographic and geographic characteristics and challenges of North-eastern region of India are widely different from other regions and hence seek more attention. Therefore, the policies should be accompanied by potentials to nullify the specific challenges persisting in the region. The study suggests undertaking initiatives to promote financial literacy and thereby ensure active participation in using financial services. Expansion of bank branches to semi-urban and rural areas along with infrastructure development can stimulate entrepreneurial and investment activities and ensure financial inclusiveness in the North-Eastern states.

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