Factors Affecting Financial Inclusion: A Study of Selected Districts in Tamil Nadu

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Abstract

This paper made an attempts to identify the factors affecting financial inclusion in the state of Tamil Nadu using a district level Financial Inclusion Index (FII) developed by the author. The study has been undertaken by considering Per Capita GNI, Literacy, Rural Population, Unemployed and Households as the main socio-economic determinants of financial inclusion. The techniques of correlation and step-wise regression have been applied to identify the important determinants of financial inclusion. Among the Five variables, except the indicator concerning Unemployed and Households, the rest all three indicators were found to have significant positive association with the level of financial inclusion.

Introduction

Finance is the main spring of the economy and a key to ensuring sustained and inclusive economic growth. Financial services in terms of savings, deposits, payment services and credits are critical for faster economic growth. The banks located in Tamil Nadu are to be capable of mopping up the disposable income at the command of the people and channeling them into productive purpose. Banks in Tamil Nadu at present are taking care of the public utility services. Tamil Nadu has ranked 7th in the country in the financial inclusion index. The ultimate goal of the Government is to make the State the number one in the Country in terms of financial inclusion. Towards achieving this, the State has entrusted the responsibilities of distribution of social security pensions, wages under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), scholarship to the students, salary payment to the staff and collection of taxes on behalf of the Government.

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The RBI continued its focus on financial inclusion through four essential pillars: (i) priority sector and MSME lending; (ii) financial inclusion plans; (iii) strengthening of the BC network; and (iv) financial literacy. While continuing to monitor performance under the priority sector, the RBI has now operationalized a platform to enable trading in priority sector lending certificates (PSLCs) through its core banking solution (CBS) portal (e-Kuber). On 2 November 2018, Honourable Prime Minister dedicated the new portal (https://www.psbloansin59minutes.com/signup) – a digital initiative to ease the application and sanction process for MSME loans up to Rs 1 crore. The PSB Loans in 59 minutes is an online marketplace, which will enable In-Principle approval for MSME loans up to INR 1 Crore in 59 minutes from Public Sector Banks. Along with it, the Prime Minister also announced a slew of supporting measures like 2% interest subvention, increase in Government's mandatory procurement from micro and small enterprises from 20 to 25% and compulsory onboarding of PSUs and companies with turnover of more than Rs500 crore on TReDS - online electronic institutional mechanism for facilitating the financing of trade receivables of MSMEs through multiple financiers.

Review of Literature

DilipAmbarkhane et.al (2014), Measuring Financial Inclusion of Indian States, "We have taken into consideration other financial services in addition to banking services, and have tried to measure financial inclusion based on indicators of three dimensions, namely demand, supply, and infrastructure. This index also takes into account the impact of negative factors termed as drag factors on financial inclusion. The index is developed for 21 major states of India and ranking is done. Comparison with other studies is made which shows that index computed, corroborates with them and focuses on poor".

A Study of Financial Inclusion in India, **SupravatBagli, Papita Dutta (2012),** “This study seeks to examine the achievement of the Indian states regarding the financial inclusion. Applying the methodology of Rotated Principal Component Analysis this study has computed a comprehensive measure of financial inclusion for each state. Ranks of the states in accordance with the Composite score show that although the state of Goa is the best, most of the states in southern region have performed better in terms of financial inclusion. However, the levels of financial inclusion of the states in India have a low mean and high disparity. This study has revealed a strong positive association between the human development and the financial inclusion of the states in India.

M.P.Desai (2016) Present Scenario of Financial Inclusion in India, “This paper attempts to study the present scenario of financial inclusion of rural and urban households. The study included a brief introduction of the subject and provided significant definitions of Financial Inclusion. The study found that, although India has adopted several measures to advance financial inclusion, an estimated 40 percent of its population is still without access even to basic financial services”.

Financial Inclusion in India- An Empirical Study, **KunalSamanta(2018)**, “The paper aims to focus on utilizing the existing resources such as Mobile phones, Banking Technologies, India Post Office, Fair Price Shops and Business Correspondents (BCs) thereby making it more efficient and user friendly for the interest of the rural population as well as the formal sector”.

Objectives of the Study

The main aim of this paper is (i) To Measure the level of Financial Inclusion Index of Selected Districts in Tamil Nadu, (ii) To identify the factors affecting financial inclusion index.

Methodology

The form of the dimension index (Z) and the FII suggested by **Sarma (2008)** are given as:

$$\textbf{Dimension Index (Zi)} = W_i * \frac{Ai - mi}{Mi - mi} \qquad \text{------------ (1)}$$

Where,

Z_i = Dimension Index, A_i = Actual value of i^{th}dimension, M_i = Minimum value of i^{th} dimension, M_i = Maximum value of i^{th} dimension

The Financial Inclusion Index (FII) is the weighted average of the dimension indices, where the weights assigned are equal. If all the dimensions (which have been incorporated) are considered to be equally important, then the FII is reduced to an equally weighted index.

$$\textbf{Financial Inclusion Index(FII)} = 1/n \sum_{i=1}^{n} Z_i$$

Where: Z_i= Dimension Index

n = number of dimensions

The dimensions of financial inclusion has been considered in this present study as D_1 – Coverage, D_2 - Access and Availability, D_3 - Input of the Banking System and D_4 – Use/Output of the Banking System.

For the analysis of Regression Equation as

$$(FII)_{it} = \beta_1(Per\ Capita\ GNI)_{it} + \beta_2(POP)_{it} + \beta_3(Litearcy)_{it} + \beta_4(Unemployed)_{it} + \beta_5(Households)_{it} + U_{it}$$

The variables in the above equation stated as

FII	-	Logarithmic Transformation of FII
Per Capita (GNI)	-	Logarithm of GDP Per capita (in 20017-2018) Constant
Literacy	-	Percentage of literate people in total population
Pop	-	Percentage of total population living in rural areas
Unemployed	-	Percentage of unemployed people in total labor force

Table - 1 Level of Financial Inclusion Index selected Districts in Tamil Nadu

Seleected Districts	D1	D2	D3	D4	FII	Rank
Coimbatore	0.25	0.25	0.25	0.25	1	1
Cuddalore	0.036	0.065	0.042	0.082	0.225	11
Dindigul	0.033	0.039	0.069	0.066	0.207	13
Erode	0.065	0.105	0.048	0.086	0.304	6

Kancheepuram	0.107	0.145	0.146	0.04	0.438	2
Kanyakumari	0.032	0.109	0.063	0.053	0.257	9
Madurai	0.113	0.145	0.094	0.063	0.415	3
Salem	0.08	0.124	0.056	0.044	0.415	3
Thanjavur	0.053	0.07	0.056	0.035	0.214	12
Tiruvallur	0.085	0.095	0.036	0.056	0.272	7
Thiruchirappalli	0.097	0.13	0.084	0.041	0.352	5
Puddukottai	0.035	0.043	0.044	0.045	0.167	15
Tirunelvali	0.091	0.098	0.052	0.026	0.266	8
Thiruvannamalai	0.047	0.073	0.035	0.024	0.179	14
Toothukudi	0.028	0.038	0.044	0.056	0.166	16
Vellore	0.086	0.091	0.043	0.032	0.252	10
Virudhunagar	0.04	0.025	0.027	0.029	0.121	17

Source: Authors Calculation by using RBI Data

It is evident from the Table – 1, in the group of 17 selected Districts in Tamil Nadu for which the FII was estimated by using data on four dimensions of Financial Inclusion, Coimbatore led with the highest value and it belonged to the high financial inclusion with the values of 1. It is found that kancheepuram ranked 2nd place, Madurai & Salem ranked 3rdPlace and Thiruchirappalli ranked 5th place, Eroderanked 6th place formed the group of medium financial inclusion, with FII values between 0.3 & 0.5. Again, the remaining 15 Districts, that is, Kanyakumari, Puddukottai, Thanjavur, Tiruvallur, Vellore, Thiruvannamalai, Toothukudi, Virudhunagar formed the group of low financial inclusion, with FII values ranging between 0.1 and 0.3.

The results of Descriptive Statistics of Financial Inclusion Index (FII) for Selected Districts are given in **Table 2** It is clear from the Table, the calculated values of Financial Inclusion Index ranged between 0.112 & 1 while its range was between 0.145 & 0.895 in 2018.Similarly, the mean IFI values 0.307 in 2018 and the standard deviation value 0.180 in 2018. It is clear from the Table that there was an improvement in the level of Financial Inclusion in Tamil Nadu (Districts) during the period from 2007 to 2011. However, it is important to improve the access to affordable financial services through financial education, leveraging technology and generating awareness for the rural and vulnerable areas in Tamil Nadu.

Table - 2 Descriptive Statistics of Financial Inclusion Index (FII) for

Selected Districts in Tamil Nadu

Descriptive Statistics	2018
Minimum	0.145
Maximum	0.895
Mean	0.307
Standard deviation	0.180
Co-efficient of variation	0.592
Total No. of Districts	17
High & Medium FII Districts	8
Low FII Districts	9
Proportion of Low FII %	65 %

Source: Authors Calculation by Using table 1

The results of the Regression Analysis for Financial Inclusion Index (FII) on Socio-Economic Variables are presented in **Table – 3**. It is evident to be noted that the Socio-Economic Variables used in this study, cover Per Capita GNI, Literacy, Population, Unemployment and Households. The analysis reveals the fact that the coefficient of In (GDP) and Unemployed was found to be positively associated with the level of Financial Inclusion and its p-value (0.027) and (0.013) was lesser than the value at 0.05 levels. It indicates that there was statistically significant association between Per Capita GNI & Unemployed and the Financial Inclusion Index. It is clear that income levels had high influence on the Financial Inclusion. It is followed by the coefficient of Population, Literacy rate and Households that showed negative association with the FII and its p-value (0.066) was significant but lesser than the value at 0.1 level, which indicates that there was statistically significant (negative) association between Population, Literacy rate and Households and FII. From the Model Summary, the value of R^2 (0.845) explains that the 84.5 % of the socio-economic variables had significant association with the Financial Inclusion Index. It is clear from the Table that the co-efficient of Income, Literacy and Ginicoeff (Households) was significant at 5 % where F-value was 12.008. Hence the Null hypothesis (NH4), namely, '**there is no significant association between FII and Socio-economic variables',** was rejected and the alternative hypothesis, namely, '**there is significant association between FII and socio-economic variables',** was accepted.

Table – 3 Regression Analyses for Financial Inclusion Index Selected Districts in Tamil Nadu on Socio-Economic Variables

Variables	Coefficient	Std Error	t	Sig P-value
In(GDP)	0.327*	0.000	0.919	0.027
Literacy	-0.542**	0.000	-2.045	0.066
Pop	-0.299	0.011	-1.153	0.274
Unemployed	0.700	0.075	1.607	0.013
Households	0.144	0.672	0.336	0.743
Constant	-0.508	0.426	-1.21	0.096

Model Summary of Regression Results

Model	R	R Square	Adjusted R Square	Standard Error of the estimate	F-value	Sig p-value
1	0.919	0.845	0.775	0.09927	12.008	0.000

Note: Dependent Variable – FII and Number of Observations, N = 20

*- Variable significant at 0.05 level

Source: Authors Calculation by using www.districtsofindia.com

The Linear Equation is expressed as follows

$$\mathbf{Y= 0.327X_1+ (-0.542)\ X_2+ (-0.299)\ X_3+0.700X_4+0.144X_5-0.508}$$

Table – 4 Correlation Matrixes between Financial Inclusion Index and Socio Economic Variables for Selected Districts in Tamil Nadu

		FII	In GDP	Literacy	Pop	Unemploy	Ginicoeff
FII	Pearson Correlation	**1**	**0.601****	**0.551***	**0.479***	**-0.046**	**0.302***
	Sig.		0.003	0.023	0.021	0.407	0.039
	N	20	20	20	20	20	20

Source: Authors Own Calculation by Using SPSS

Table – 4 presents the Correlation Matrix between Financial Inclusion Index and Socio-Economic Variables for Selected Districts in Tamil Nadu. The Correlation Matrix was used to test the correlation among selected socio-economic variables and FII. The analysis of correlation reveals that most of the socio-economic variables showed positive relationship with the FII. The values for socio-economic variables, namely, GDP per capita, Literacy, Rural Population, and

Ginicoeff (Households) were 0.601, 0.551, 0.479, and 0.302 respectively. The value of other variable, namely, Unemployment (-0.046) was found to have negative relationship. It is evident from the above Table clearly defines that out of six variables, only five variables, namely, Per Capita GNI, Literacy, Population, Households were found to have positive relationship with FII and one variable i.e. Unemployment recorded negative relationship with the Financial Inclusion Index (FII).

Conclusion

The study found that among the socio-economic factors affecting Financial Inclusion Index, Per Capita GNI and Literacy rate turned out to be the most important factor contributing to the financial inclusion level of districts of Tamil Nadu. Unemployed have also been found to be associated statistically at 0.1 % Significant with financial inclusion and turned out to be important predictors of the regression model but their contribution is not as high as that of the Low Financial Inclusion which alone accounted for 65% of the variations in financial inclusions for selected districts of Tamil Nadu. According to K.C.Chakrabarty (2010) &RBI Deputy Governor "Even today the fact remains that nearly half of the Indian population doesn't have access to formal financial services and are largely dependent on money lenders". Mere opening of no-frill bank accounts is not the purpose or the end of financial inclusion while formal financial institutions must gain the trust and goodwill of the poor through developing strong linkages with community-based financial ventures and cooperative. Financial Inclusion has not yielded the desired results and there is long road ahead but no doubt it is playing a significant role and is working on the positive side.

Reference

1. Ambarkhane, Dilip and Singh, ArdhenduShekhar and Venkataramani, Bhama (2014),**"Measuring Financial Inclusion of Indian States".** Available at SSRN: https://ssrn.com/abstract=2485776 or http://dx.doi.org/10.2139/ssrn.2485776.
2. Dr. Anupama Sharma, Ms. SumitaKukreja (2013), **"An Analytical Study:Relevance of Financial Inclusion For Developing Nations"**Research Inventy: International Journal Of Engineering And Science Issn: 2278-4721, Vol.2, Issue 6 (March 2013), Pp 15-20.
3. KunalSamanta (2018), **"Financial Inclusion in India- An Empirical Study",** International Journal of Information Movement, Vol.2 Issue X (February 2018) Website: www.ijim.in ISSN: 2456-0553 (online) Pages 5-8.

4. Kuldeep Kumar (2014), **"Financial inclusion progress and strategies towards future growth in India",** ELK Asia Pacific Journals,Volume 5 Issue 3, July (2014).
5. M.P.Desai (2016),**"Present Scenario of Financial Inclusion in India",** Indian Journal of Research PERIPEX, Volume: 5 | Issue: 3 | March 2016.
6. Supravat Bagli, Papita Dutta (2012), "A Study of Financial Inclusion in India", https://www.researchgate.net/publication/266203101_A_Study_of_Financial_Inclusion_in_India.
7. Shivangi Bhatia & Dr. Seema Singh (2015), Financial Inclusion – A Path To Sustainable Growth, International Journal Of Science Technology & Manage- ment ,Volume No.04, Special Issue No.01, pp 388-397.