



Evaluation Of Financial Inclusion Of Jharkhand GraminBank Through Financial Inclusion Index

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Abstract:

Over the past decade, as financially inclusive policies have been put in place financial institutions have started experimenting with different models for reaching the excluded and for offering various services to the target population. Since an all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services. *Financial inclusion is the ease of access, availability and usage of the formal financial system by all members of the economy.* While the importance of financial inclusion is widely recognized, the literature lacks a comprehensive measure that can be used to estimate the extent of financial inclusion through Gramin Bank across economies at a regional level. In this research study an attempt is made to fill this gap, and thus, an original contribution to the literature. In this present, by proposing an index of financial inclusion of working of Gramin Bank in Jharkhand the researcher made an effort to fill the Gap.

Key words: Financial inclusion, Dimensions of inclusion, Financial index, Jharkhand Gramin Bank.

Introduction

The Government of India is committed to ensuring financial inclusion for the whole population as a policy objective. This is apparently reflected in the policy initiatives taken over the last few years. These policies have been stimulated by the recommendations of the committees set up for suggesting strategies for promoting financial inclusion and improving the health of rural financial structures. Over the past 14-15 years, as financially inclusive policies have been put in place financial institutions have started experimenting with different models for reaching the excluded and for offering various services to the target population.

The most important pattern is equal access to finance by all segments of the society, i.e. inclusive nature of financial system. Some important dimensions of financial inclusion are that all sections of the society should have timely and adequate availability of financial services to ensure access at affordable cost. **This article studies the Index of Financial Inclusion is to measure level of financial inclusion through Jharkhand Gramin Bank in the State of Jharkhand in the present condition.**

Defining Financial Inclusion in the Indian Context

Financial inclusion has been defined as “the process of ensuring access to financial services, timely and adequate credit for vulnerable groups such as weaker sections and low-income groups at an affordable cost”. (Committee on Financial Inclusion - Chairman: Dr C Rangarajan, RBI, 2008).

Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segment of rural population and plays its own role in the process of economic development. Further, by bringing low-income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances. Financial inclusion also mitigates the exploitation of vulnerable sections by the usurious money lenders by facilitating easy access to formal credit.

Objective of the Study

- To study the role of financial inclusion in inclusive growth.
- To identify the important indicators to construct a FII in Jharkhand.
- To study the relative importance of indicators of financial inclusion.
- To propose an Index by which financial inclusion may be measured in terms of direction, degree and intensity in the context of Jharkhand.
- To study the degree of association between human development and financial inclusion in Jharkhand.

Need for financial inclusion index

It has been observed that even ‘well-developed’ financial systems have not succeeded to be ‘all-inclusive’ and certain segments of the population remain outside the formal financial system. The importance of an inclusive financial system is widely recognized in the policy circle in recent years and financial inclusion is seen as a policy priority in many countries. An inclusive financial system facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management of finances. An inclusive financial system can help reducing the growth of informal sources of credit (such as moneylenders) which are often found to be exploitative.

Thus, an all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services. **Financial inclusion is the ease of access, availability and usage of the formal financial system by all members of the economy.** While the importance of financial inclusion is widely recognized, the literature lacks a comprehensive measure that can be used to estimate the extent of financial inclusion through Gramin Bank across economies at a regional level. In this research study an attempt is made to fill this gap, and thus, an original contribution to the literature. In this study, by proposing an index of financial inclusion of working of Gramin Bank in Jharkhand the researcher made an effort to fill the Gap.

Mandira Sharma (2008) made an attempt to develop *Index of Financial Inclusion (IFI)* across different countries of the world. Following her approach, an attempt is made in this research to develop an ***Index of Financial Inclusion (IFI)*** for Jharkhand state following a multidimensional approach. This concept of Index of Financial Inclusion (IFI) captures information on several dimensions of an inclusive financial system. The IFI preferred here has used to compare the different levels of financial inclusion across district and regions of Jharkhand at a particular point of time. It can also be used to monitor the progress of policy initiatives for financial inclusion over a period of time. And, the most important is, the present index is of interest to the research community in order to investigate relationship between development and financial inclusion. The IFI selected here incorporates information on various dimensions of an inclusive financial system.

Methodology

As an inclusive financial system should be judged from several dimensions, we follow a multidimensional approach while constructing the *Index of Financial Inclusion (IFI)*. Our approach is similar to that used by UNDP for computation of some well known development indexes such as the HDI, the HPI, and the GDI and so on. As in the case of these indices, our selected IFI is computed by first calculating a dimension index for each chosen dimension of financial inclusion. The dimension index for the i -th dimension, d_i , is computed by the following formula,

$$d_i = (A_i - m_i) / (M_i - m_i) \dots\dots\dots(1)$$

Where, A_i = Actual value of dimension i m_i =

minimum value of dimension i

M_i = maximum value of dimension i

Formula (1) ensures that $0 \leq d_i \leq 1$. Higher the value of d_i , implies higher district's achievement in dimension i . If n dimensions of financial inclusion are considered, then, a district i will be represented by a point $D_i = (d_1, d_2, d_3, \dots, d_n)$ on n -dimensional Cartesian space. In the n -dimensional space, the point $O = (0,0,0,\dots,0)$ represents the point indicating the worst 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 district, then, is measured by the normalized inverse Euclidean distance of the point D_i from the ideal point $I = (1,1,1,\dots,1)$. The exact formula is as below:

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

In formula (2), the numerator of the second component is the Euclidean distance of D_i from the ideal point I , normalizing it by n and subtracting by 1 gives the inverse normalized distance. 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.

The present index

In the Index of Financial Inclusion presented here, we have taken into account three basic dimensions of an inclusive financial system: **Banking Penetration (BP)**, **Availability of the banking Services (BS)** and **Usage of the Banking System (BU)**. These dimensions are largely motivated by two factors data availability for different districts of state and recent development in the literature. Apart from these three dimensions, one can think of many other dimensions of an inclusive financial system. For example, “Affordability” and “Timeliness” can be very important aspects of an inclusive financial system, as pointed out by the Rangarajan Committee *Report on Financial Inclusion in India* (Rangarajan Committee, 2008).

Limitations of the study

However, data for measuring such dimensions, such as “transaction cost” and “time taken” for a bank transaction, has not readily available at this micro level. Therefore, these dimensions have not been incorporated in the present index.

Literature Review

Asian Development Bank (2000) defines financial inclusion as —Provision of a broad range of financial services such as deposits, loans, payment services, money transfers and insurance to poor and low-income households and their micro-enterprises

In Stephen P. Sinclair (2001) words, —financial exclusion means the inability to access necessary financial services in an appropriate form. Exclusion can come about as a result of problems with access, conditions, prices, marketing or self-exclusion in response to negative experiences or perceptions

Scottish Government (2005) views financial inclusion as —access for individuals to appropriate financial products and services. This includes having the capacity, skills, knowledge and understanding to make the best use of those products and services. Financial exclusion by contrast,

is the converse of this

World Bank (2008) is of the view about financial inclusion that —broad access to financial services implies an absence of price and non-price barriers in the use of financial services; it is difficult to define and measure because access has many dimensions

Table (1) Various variables used in construction of Financial Inclusion Index by various Researchers

S. No.	Author	year	Variables used
1.	Sarma	2008	1) Bank Penetration, 2) Availability of Banking Services and 3) Usage of Banking System
2.	Gupte	2012	1) The Outreach Dimension 2) The usage Dimension 3) The Ease of Transactions Dimension and 4) The Cost of transactions Dimension
3.	Arora	2012	1) Outreach Dimension 2) Ease of Transaction Dimension and 3) Cost of transaction Dimension
4.	Demirguc-Kunt and Klapper	2012	1) The mechanics of the use of formal accounts 2) Focuses on savings behavior 3) Focuses on sources of borrowings and 4) Focuses on use of insurance products

The following table shows financial inclusion index indicators used in the present study in a nut shell. The parameters to the selected dimensions consist of both primary and secondary datasets collected by the researcher. Financial inclusion index indicators are tabulated as following-

Table (2) Financial inclusion index indicators

Dimension	Significance	Parameter description
Access	Number of bank accounts in the study area	Opening operative bank account Stepping stone for financial inclusion. Opening a bank account to operate financial transactions.
Availability	No of access point in the study area,	Bank branches ATMs(both on site and off site) Business correspondents
Usage	Accounts hold by the respondents.	Saving account Deposit account Loan account Credit account

In study for the supply side indicators Information gathered from financial institutions in person or website, based on the availability and for demand side indicators. Information gathered from the respondents. Details of various dimensions are as under:

Banking Penetration (dimension 1): An inclusive financial system should have as many users as possible, that is, an inclusive financial system should penetrate widely amongst its users. The size of the “banked” population, i.e. number of people having a bank account is a measure of the banking penetration of the system. It is estimated as number of total deposit accounts per lakhs of total population. There may be persons having more than one bank accounts co-existing with others who may have none.

Availability of Banking Services (dimension 2): The services of an inclusive financial system should be easily available to its users. Availability of services can be indicated by the number of bank outlets (per 1000 population) and/or by the number of ATM per 1000 people, or the number of bank employees per customer. In the absence of comparable data on the number of ATMs and number of bank staff, we use the number of bank branches per 1000 population to measure the availability dimension. It is estimated as number of bank offices per lakhs of total population.

Usage of the Banking System (dimension 3): This dimension is motivated by the notion of “under banked” or “marginally banked” people, as observed by *Kempson et al (2004)*. Merely having a bank account is not enough for an inclusive financial system; it is also imperative that the banking services are adequately utilized. In incorporating the usage dimension in our index, we consider two basic services of the banking system – credit and deposit. Accordingly, the volume of credit and deposit as proportion of the district’s GDP has been used to measure this dimension.

Thus, considering the above three dimensions – penetration, availability and usage – we can represent a district *i* by a point (p_i, a_i, u_i) in the three-dimensional Cartesian space, such that $0 \leq p_i, a_i, u_i \leq 1$, where p_i, a_i and u_i denote the dimension indexes for district *i* computed using formula (1). In the three-dimensional Cartesian space, the point (0, 0, 0) will indicate the worst situation (complete financial exclusion) and the point (1, 1, 1) will indicate the best or ideal situation (complete financial inclusion). The Index of Financial Inclusion in the study for the district *i* is measured by the normalized inverse Euclidean distance of the point (p_i, a_i, u_i) from the ideal point (1, 1, 1). Algebraically,

$$IFI = 1 - \sqrt{[(1-p_i)^2 + (1-a_i)^2 + (1-u_i)^2] / 3} \text{ ----- (3)}$$

Computation and discussion

On the basis of above three dimensions viz. penetration, availability and usage the Index of Financial Inclusion has computed for the 15 selected district of Jharkhand for the five years from 2011 to 2015. For the data driven decision regarding the determination of level of financial inclusion, the criteria suggested by CRISIL has incorporated in the study. The various criteria for financial inclusion index can be shown as below:

Financial Inclusion Score	Level of Financial Inclusion
<i>More than .55</i>	<i>High</i>
<i>Between .40 to .55</i>	<i>Above average</i>
<i>Between .25 to .40</i>	<i>Below average</i>
<i>Less than .25</i>	<i>Low</i>

The colors have shown to depict the level of financial inclusion conveniently.

Computation of financial inclusion index for Jharkhand

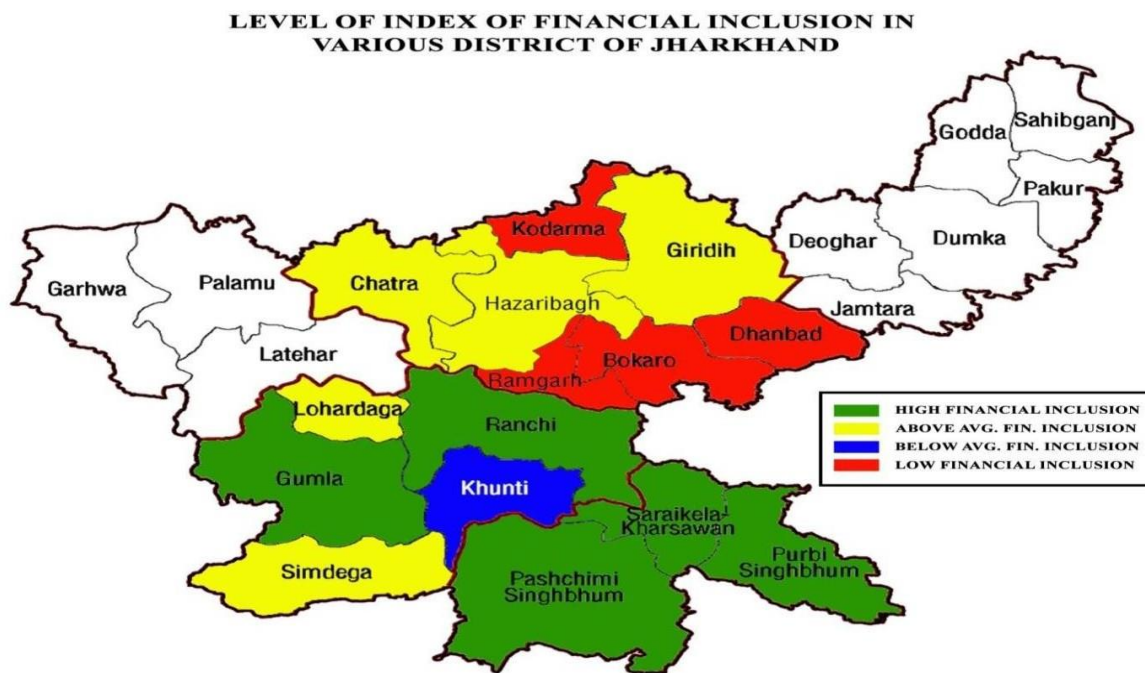
Since banks are the gateway to the most basic form of financial services, it is only the extent of accessibility, availability and usability of banking services, that has been treated as equivalent to financial inclusion for the purpose of present research work. The Index of Financial Inclusion score and ranking discussed are based on the analysis and calculation for the year ending information provided by the office of Gramin Bank of Jharkhand in support of the selected fifteen districts for the period of five years from 2011 to 2015. The following tables shows district wise and year wise Financial Inclusion Index computed on the basis of three dimension- banking penetration, availability of banking facility and usage of banking services by the citizen of Jharkhand.

Table (3) Statement showing year wise district wise Index of Financial Inclusion

S. No.	District/year →	2011	2012	2013	2014	2015
1.	Bokaro	0.17	0.14	0.11	0.13	0.13
2.	Chatra	0.48	0.40	0.25	0.44	0.44
3.	Dhanbad	0.00	0.00	0.02	0.00	0.00
4.	Giridih	0.44	0.39	0.26	0.40	0.41
5.	Gumla	0.59	0.56	0.29	0.57	0.54
6.	Hazaribag	0.42	0.39	0.28	0.45	0.44
7.	Khunti	0.41	0.37	0.18	0.38	0.38
8.	Kodarma	0.10	0.10	0.06	0.11	0.11
9.	Lohardaga	0.46	0.42	0.22	0.43	0.42
10.	West Singhbhum	0.68	0.66	0.32	0.64	0.63
11.	East singhbhum	0.79	0.72	0.38	0.74	0.73
12.	Ramgarh	0.13	0.14	0.09	0.14	0.13
13.	Ranchi	0.67	0.62	0.41	0.66	0.65
14.	Saraikela-Kharsawan	0.69	0.66	0.37	0.68	0.66
15.	Simdega	0.49	0.51	0.26	0.44	0.44

Source: Primary Source.

Diagram (1) District wise diagram of Jharkhand to show Financial Inclusion



The overall state of the above diagram is that from districts of Jharkhand the selected 15 districts are showing with their level of financial inclusion which has been computed by using data on 3 dimensions of financial inclusion, through this calculation selected districts may know their Index of Financial Inclusion values. On the basis of financial inclusion index the districts selected for the study can be provided ranking as follow to facilitate the convenience in analysis-

Table (4) Ranking of districts as per yearly average of IFI

District	2011	2012	2013	2014	2015	Average	Rank
East Singhbhum	0.79	0.72	0.38	0.74	0.73	0.67	I
Saraikela-Kharsawan	0.69	0.66	0.37	0.68	0.66	0.61	II
Ranchi	0.67	0.62	0.41	0.66	0.65	0.60	III
West Singhbhum	0.68	0.66	0.32	0.64	0.63	0.59	IV
Gumla	0.59	0.56	0.29	0.57	0.54	0.51	V
Simdega	0.49	0.51	0.26	0.44	0.44	0.43	VI
Chatra	0.48	0.4	0.25	0.44	0.44	0.40	VII
Hazaribag	0.42	0.39	0.28	0.45	0.44	0.40	VIII
Lohardaga	0.46	0.42	0.22	0.43	0.42	0.39	IX
Giridih	0.44	0.39	0.26	0.4	0.41	0.38	X
Khunti	0.41	0.37	0.18	0.38	0.38	0.34	XI

Bokaro	0.17	0.14	0.11	0.13	0.13	0.14	XII
Ramgarh	0.13	0.14	0.09	0.14	0.13	0.13	XIII
Kodarma	0.1	0.1	0.06	0.11	0.11	0.10	XIV
Dhanbad	0	0	0.02	0	0	0.00	XV

Sources: Calculated from Primary Source.

Empirical study regarding financial inclusion index shows that out of fifteen selected district of Jharkhand five districts occupies high financial inclusion index. For the concentrated analysis of IFI scores for the five years from 2011 to 2015 converted in to an average to allow ranks to respective district on the basis of scores.

Situation analysis of financially excluded region

In the second stage of this chapter, the researcher calculated Gramin Bank's financial inclusion index for 15 districts of Jharkhand. The researcher found three districts has low IFI rank, it means low financial inclusion. These districts are Bokaro, Dhanbad and Giridih.

Since for the intensive analysis of the role of Gramin bank in financial inclusion of Jharkhand the entire districts undertaken for the study has been divided in the four regions. The region wise financial inclusion index also points out that the Giridih districts having low financial inclusion through Gramin banks operation. It's appalling to see the calculated IFI of Dhanbad which shows financial exclusion so, it becomes necessary to analyse the three districts which are Bokaro, Dhanbad and Giridih (having low financial inclusion index) in detail in the following table. The table is followed by some diagrammatic presentations to compare demographic dividend of three said districts with information related to state of Jharkhand. Diagrams also showing assessment of certain parameters in the midst of the districts:

Coefficient of variation in financial inclusion across districts

To analyse variation within the region or across districts coefficient of variation for various regions have been calculated. **Singhbhum region demonstrated least variability across districts, which is followed by Ranchi and Hazaribagh region.** Variation within the district has also the least in Singhbhum, as indicated by the coefficient of variation of 0.07622 (Table -5 for the year 2015). The highest variation continues in Giridih region from 2011 to 2015.

Table (5) Year wise Coefficient of variation across district

Region	2011	2012	201	2014	2015
Ranchi	0.19998	0.20492	0.32199	0.23278	0.22428
Singhbhum	0.08449	0.05094	0.09013	0.07329	0.07622
Giridih	1.09144	1.11811	0.93262	1.15473	1.16400
Hazaribagh	0.69147	0.62004	0.65329	0.64982	0.66046

The above table shows a significant variation across districts which is less or more in various region, one point is very interesting that in all the districts under study there is increase in deposit amounts and also in advance amount. Jharkhand Gramin bank is competing with the performance of collective schedule commercial bank branches.

End points

Financial inclusion is increasingly being recognized as a key driver of economic growth and poverty alleviation the world over. Access to formal finance can boost job creation, reduce vulnerability to economic shocks and increase investments in human capital. Without adequate access to formal financial services, individuals and firms need to rely on their own limited resources or rely on costly informal sources of finance to meet their financial needs and pursue growth opportunities. At a macro level, greater financial inclusion can support sustainable and inclusive socio-economic growth for all.

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