STUDY OF CRISIL-INCLUSIX AS AN INDEX OF FINANCIAL INCLUSION

Manisha Singh[1]

Abstract

This paper attempts to understand CRISIL-Inclusix-the index to measure financial inclusion in India. On June 25, 2013, CRISIL, India's leading credit rating and Research Company launched an index to measure the status of financial inclusion in India. Inclusix was released by the Finance Minister of India, P. Chidambaram at New Delhi. CRISIL Inclusix is a one-of-its-kind tool to measure the extent of inclusion in India, in each of the 700 plus districts. CRISIL Inclusix is a relative index on a scale of 0 to 100, and combines three critical parameters of basic banking services— branch penetration, deposit penetration, and credit penetration—into one metric. It presents both national and regional analysis of financial inclusion published, for the first time as also the first analysis of trends in inclusion over a three-year timeframe.

This paper attempts to understand the methodology used in compiling this index and its success in measuring Financial Inclusion-an avowed objective of the Jan Dhan Yojana announced in 2014.Aimed at securing financial inclusion, this is one of the flagship schemes of the Modi Government and was launched with much fanfare. As on Feb 14, 2018, 31 crore deposit accounts have been opened under Pradhan Mantri Jan Dhan Yojana .

Gaining in importance since 2000s, Financial inclusion is a result of identifying poverty with financial exclusion. This index is an important and valuable addition to our understanding of financial inclusion as many studies have pointed out that lack of financial inclusion results in a loss of 1% to the country's GDP. In the Indian context, the term 'financial inclusion' was used for the first time in April 2005 in the Annual Policy Statement presented by RBI governor, Y V Reddy.

Keywords: financial inclusion, banking, jan dhan yojana, micro-finance institutions

JEL Classification: G21, G22,G38, G4, O16

Introduction

The goals of Financial Inclusion as defined by United Nations include:

[1] Asst. Prof., School of Business, Galgotias University

a) access at a reasonable cost for all households to a full range of financial services, including savings or deposit services, payment and transfer services, credit and insurance;
b) sound and safe institutions governed by clear regulation and industry performance standards;
c) financial and institutional sustainability, to ensure continuity and certainty of investment; and
d) competition to ensure choice and affordability for clients.

In India, the start of 'financial inclusion' can be traced back to 1904, with the start of the cooperative movement. The Bank Nationalization of 1969 and Lead bank scheme were steps in the same direction where bank branches were opened in large numbers in areas hitherto untouched by any banking services.

In the recent context, the term 'financial inclusion' was used for the first time in April 2005 in the Annual Policy Statement presented by Y.V Reddy, Governor, Reserve Bank of India. Banking practices were seen to be excluding rather than attracting vast sections of population and so banks were urged to review their existing practices and align them with the objective of financial inclusion. The Khan Committee on Rural Microfinance, in July 2005 following this concern of Governor Y. V Reddy on the exclusion of vast sections of the population from the formal financial system encouraged the banks to achieve greater financial inclusion in making available a basic "no-frills" banking account.

Financial inclusion again featured later in 2005 when it was used by K.C. Chakraborthy, the chairman of Indian Bank. Mangalam, Puducherry became the first village in India where all households were provided banking facilities. Norms were relaxed for people intending to open accounts with annual deposits of less than Rs. 50,000. General credit cards (GCCs) were issued to the poor and the disadvantaged with a view to help them access easy credit. In January 2006, the Reserve Bank permitted commercial banks to make use of the services of non-governmental organizations (NGOs/SHGs), micro-finance institutions, and other civil society organizations as intermediaries for providing financial and banking services. These intermediaries could be used as business facilitators or business correspondents by commercial banks. The bank asked the commercial banks in different regions to start a 100% financial inclusion campaign on a pilot basis. As a result of the campaign, states or union territories like Puducherry, Himachal Pradesh and Kerala announced 100% financial inclusion in all their districts. Reserve Bank of India's vision for 2020 is to open nearly 600 million new customers' accounts and service them through a variety of channels by leveraging on IT. However, illiteracy and the low income savings and lack of bank branches in rural areas continue to be a roadblock to financial inclusion in many states and there is inadequate legal and financial structure.

The government of India announced “Pradhan Mantri Jan Dhan Yojna,” a national financial inclusion mission which aims to provide bank accounts to at least 75 million people by January 26, 2015. To achieve this milestone, it is important for both service providers and policy makers to have readily available information outlining gaps in access and interactive tools that help better understand the context at the district level.

Financial inclusion, in its broadest sense, refers to the delivery of financial services at affordable costs to all sections, including disadvantaged and low income groups. A committee on financial inclusion headed by Dr. C Rangarajan in 2008 defined financial inclusion as: “The process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost.” In a similar vein, Dr. Raghuram Rajan’s committee on financial sector reforms defined financial inclusion as: “Expanding access to financial services such as payment services, savings products, insurance products and inflation-protected pensions.” CRISIL defines financial inclusion as: “The extent of access by all sections of society to formal financial services such as credit, deposit, insurance and pension services.” The term ‘formal’ in this definition refers to service providers that maintain official books of accounts. It is important to distinguish this aspect as several non-formal channels of financing exist in the Indian rural landscape, though these cannot be considered effective.

In February 2011, the Government of India and the Indian Banks’ Association (IBA) jointly launched Swabhimaan, a nationwide programme for financial inclusion. Swabhimaan aimed to bring the deprived sections of society into the banking network and ensure that the benefits of economic growth percolate to all levels. It looked to facilitate opening of bank accounts, provide need-based credit and remittance facilities, and promote financial literacy in rural India. RBI formulated two financial inclusion plans (FIPs). The first one was rolled out for 2010-2013 targeting 74,414 unbanked villages with population more than 2,000 and achieved 99.7% of the target. The second one was for 2013-2016 targeting 491,825 unbanked villages with population less than 2,000 and achieved 96%. Following the progress of these two, the third FIP has been outlined for 2016-2019. The government's Pradhan Mantri Jan-Dhan Yojana launched in August 2014 has made remarkable progress with over 30 crore deposit accounts opened since the launch. While the first phase of Jan-Dhan Yojana targets the provision of universal access to bank facilities in all areas, except areas with connectivity constraints, and increase in the level of financial literacy, the second phase provides access to credit, insurance and pension services. The RBI has also taken several measures to augment financial inclusion. Based on the new guidelines on differentiated banking licences for small banks and payments banks, approvals for 10 small finance banks were issued. Most of them have commenced operations. Besides, the RBI has been emphasising on financial literacy through its bank networks, complementing business correspondents with technology and actively exploring alternate delivery channels to further the financial inclusion cause. Adoption of Aadhaar and Aadhaar-based identification will also help improve financial inclusion

Need and Rationale for an Index

The need for an effective tracking mechanism for any public programme can hardly be exaggerated. Course correction, for one is not possible without a measuring instrument. Measuring financial inclusion is imperative to align policy towards achieving the goal of financial inclusion. Till now, most measures of financial inclusion focused on analysis of the aggregate amount of deposits or loans in a particular region. However, these measures were not comprehensive enough to incorporate different forms of financial services and did not attempt to look at the number of people included.

CRISIL-Inclusix

Data for computing the index has been provided by the RBI and the MicroFinance Institutions Network (MFIN), and the first edition of CRISIL Inclusix was published in June 2013. Subsequently, the second and third editions were published in January 2014 and June 2015, respectively.

CRISIL-Inclusix follows the same premise as followed by the UNDPs HDI (Human Development index) and World Bank's Ease of doing business index

CRISIL Inclusix is a relative index that incorporates various forms of basic financial services into a single metric. Moreover, the input parameters focus heavily on the 'number of people' reached/ included rather than on the 'amounts' deposited or loaned. This is because the need is to understand the extent of reach of financial services — looking at the value or amount can lead to erroneous conclusions as it can be influenced disproportionately by a few largevalue transactions that do not necessarily reflect the extent of financial inclusion. CRISIL Inclusix is a unique, robust analytical tool that comprehensively measures financial inclusion based on four tangible and critical dimensions: CRISIL Inclusix weighs financial inclusion against the ideal level for each of these dimensions. It enables districts, states and regions to track the progress made with respect to financial inclusion in their jurisdiction. Thus, CRISIL Inclusix assesses the degree of financial inclusion at the national, regional, state and district levels. CRISIL Inclusix has comprehensive coverage, which ensures greater accuracy..

Methodology used in Computing CRISIL-Inclusix

CRISIL Inclusix covers all 666 districts, 36 states/ union territories and five regions in the country as of the end of March 31, 2016.

Parameters

Several dimensions are used to evaluate the extent of financial inclusion in a country. CRISIL follows a multidimensional approach to compute financial inclusion. CRISIL Inclusix is a composite index, currently measuring financial inclusion as an aggregate of four key dimensions: branch, credit, deposit and insurance penetration. CRISIL Inclusix uses six parameters as proxies to measure the four key dimensions of financial inclusion

Dimension	Parameters	Significance	Interpretation
Branch Penetration	No. of branches per lakh of population in a district	Measures the ease with which people in a particular territory can access financial	Higher the better

		services	
Credit Penetration	No. of loan accounts per lakh of population in a district	Measures the extent of access to loan products offered in a particular territory	Higher the better
	No. of loan accounts classified in 'personal loans 'occupation group' group as per the RBI's definition or number of microfinance loans per lakh of population in a district	Measures access to credit for retail borrowers, who typically face financial non-inclusion	Higher the better
Deposit penetration	No. of deposit accounts per lakh of population in a district	Measures the extent of access to deposit products offered by banks in a particular territory	
Insurance Penetration	No. of life insurance policies per lakh	Measures the extent of access to insurance	

	of population in a district	services offered by insurance companies in a particular territory	

Interpretation:

CRISIL Inclusix measures the extent of financial inclusion at the geographical level, starting from the district level. The index can be further aggregated to compute the extent of financial inclusion at the state, regional and national levels. CRISIL Inclusix is measured on a scale of 0 to 100, where 100 is the maximum score achievable. To provide a comparative assessment, CRISIL has grouped the index (at district, state and regional levels) in four categories. In defining these categories, the all-India score of CRISIL Inclusix (50.1 for 2013) has been used as the benchmark.

Table 1: Interpretation of CRISIL Inclusix Score

CRISIL Inclusix Score	Level of Financial Inclusion
>65.0	High
Between 50.1-65.0	Above Average
Between 35.0-50.0	Below Average
<35	Low

Table 2: Yearwise CRISIL Inclusix Scores

Year	Inclusix Score (All-India)
2009	35.4
2010	37.6
2011	40.1

2012	42.8
2013	50.1
2014*	-
2015	56.2
2016	58.0

* No score available for the year

Sources of Data:

Data on banks has been downloaded from the RBI's official website - https://dbie.rbi.org.in. • Data on MFIs from fiscal 2013 onwards has been provided by MFIN. • Data on insurance has been provided by IIB and is available only for fiscal 2016. • Data on population for 2011 has been used as per Census of India 2011. • Data on population for other years has been estimated using population data as per Census of India 2001 and 2011. The estimation was done using the growth factor for population between 2001 and 2011. • Population of the reorganised and newly formed districts has been obtained from the state ministries or estimated based on the talukawise composition of the existing and newly carved-out districts or sourced from their official state or district websites, to the extent available. • Data reckoned for evaluating deposit penetration has been revised to include all deposits (current, savings and term) as against only savings deposit reckoned in the earlier editions. This change enlarges the measure of deposit accounts. • Data reckoned for evaluating credit penetration has been revised to include total loan, retail loan and agri loan accounts as against total loan, small borrower loan and agri loan accounts in the earlier editions. Small borrower loan account has been replaced with retail loan account as the latter provides more granularity on household consumption-linked credit. • In case there has been a sharp increase or decrease in the parametric value for any district.

Steps in Calculation of the index:

Step 1

Normalisation of parameters

CRISIL Inclusix is a composite index that measures financial inclusion as an aggregate of six parameters. However, these parameters have different units and cannot, therefore, be aggregated directly to arrive at a composite index. Every parameter is first normalised using the Min-Max method of normalisation: Xi value for a particular parameter for the district 'i' X (min) minimum value for a particular parameter observed across all districts X (max) maximum value for a particular parameter observed across all districts Normalisation converts data for every parameter into numbers between 0 and 100; 0 depicts the worst performer and 100 the best. Normalised values of all the six parameters may be referred to as parameter indices. The normalised parameter indices are free of units and dimensions, and are easily aggregated. This approach is similar to the one used by United Nations Development Programme (UNDP) for computation of well-known development indices such as the Human Development Index.

CRISIL Inclusix, however, employs a modified version of the Min-Max method of normalisation. Its minimum and maximum values are different from the observed minimum and maximum values. Moreover, the minimum and maximum values it uses are rebased only after five years. This facilitates inter-temporal comparison of the index to assess progress in financial inclusion over time. The maximum is set at a defined ideal value for each parameter. This ensures that the normalised scores for districts with lower values do not cluster. Hence, capping the maximum value at a lower than-observed maximum ensures a meaningful differentiation among districts with low scores.

Step 2

Aggregation using the displaced ideal method Aggregation entails aggregation of the four dimension indices (BP, average of the three CP parameter indices, DP and IP). The four dimension indices - BP, CP, DP and IP - may be represented in a four dimensional space with 0 as the minimum value and 100 as the maximum (ideal) for each dimension. Each district may be represented by a particular point in the four dimensional space (0, 0, 0, 0 and 100, 100, 100, 100) shown above. CRISIL Inclusix is measured as the inverse of the Euclidean distance from the ideal point (100, 100, 100, 100). The Euclidean Distance Method is used to calculate the distance between any two points in an n-dimensional space. In the formula, the numerator of the second component is the Euclidean distance of the district 'i' from the ideal point (100, 100, 100, 100), normalising it in order to make the value lie between 0 and 100, and the inverse distance is considered so that the higher value corresponds to higher financial inclusion. This method of aggregation, as opposed to the averaging method, satisfies all the intuitive properties of an index, including Normalisation, Anonymity, Monotony, Proximity ,Uniformity and Signaling All these properties, together called NAMPUS, are discussed in IGIDR Working Paper 2008, authored by Hippu Salk, Kristle Nathan, Srijit Mishra, and B Sudhakara Reddy.

This method of aggregation does away with the assumption of perfect substitutability among the four dimensions of the averaging method. Hence, a good performance in one dimension, say DP, does not fully compensate for poor performance in another dimension, say CP.This is so because as per CRISIL all 4 dimensions are independent of each other and for a district to score well in financial inclusion, it must score high on all dimensions.

Incorporation of life insurance data in the index in 2016

Insurance has been added as the fourth dimension in the index and incorporation in index calculation is described in step 2. In future, health insurance can also be added along with life insurance as and when granular district-wise data is available

Incorporation of MFIs (Micro-Finance Institutions) in the index in 2013

The index value for any district from 2013 onwards has been arrived at by combining the bank and MFI data at an individual dimension level. Say, for example, the BP score for any district has been arrived at by combining the normalised BP scores of banks and MFIs. The CP score for any district has been arrived at in a similar manner. MFIs do not contribute to the DP score. Rest of the methodology remains identical..

Analysis

The all-India CRISIL Inclusix registered a score of 58.0 at the end of fiscal 2016, pushed by two major factors: 1. Major increase in the number of deposit accounts, largely because of the Jan-

Dhan initiative. 2. Sharp increase in the number of credit accounts across regions. The score would have been even higher at 62.2 if we exclude the effect of rebasing and insurance. Jan-Dhan Yojana drives strong momentum in deposit accounts Strong momentum in banking services was reflected in a sharp increase in the number of deposit accounts. As many as 60 crore deposit accounts were opened between fiscals 2013 and 2016 – twice the number opened between fiscals 2010 and 2013. Nearly, one-third of these were on account of Jan-Dhan.

Bank branches showed progress between fiscal 2013 and fiscal 2016, albeit at a modest CAGR of 7%. The number of new bank branches opened in fiscal 2016 was the lowest in the past six years. This can be explained on account of increasing penetration of mobile phones and branchless banking .However, the number of new bank branches is expected to increase over the medium term because of small finance banks.

MFIs play a crucial role in financial inclusion owing to strong presence in the unbanked and under-banked regions, especially in semi-urban and rural India. Healthy growth (19% CAGR) in the number of microfinance credit accounts was witnessed between fiscal 2013 and fiscal 2016.

The government's Pradhan Mantri Jan-Dhan Yojana launched in August 2014 has made remarkable progress with over 30 crore deposit accounts opened since the launch. While the first phase of Jan-Dhan Yojana targets the provision of universal access to bank facilities in all areas, except areas with connectivity constraints, and increase in the level of financial literacy, the second phase provides access to credit, insurance and pension services. The RBI has also taken several measures to augment financial inclusion. Based on the new guidelines on differentiated banking licences for small banks and payments banks, approvals for 10 small finance banks were issued. Most of them have commenced operations. Besides, the RBI has been emphasising on financial literacy through its bank networks, complementing business correspondents with technology and actively exploring alternate delivery channels to further the financial inclusion cause. Adoption of Aadhaar and Aadhaar-based identification will also help improve financial inclusion.

Latest findings

Launched in August 2014, Jan-Dhan accounted for 31 crore new deposit accounts as in February,2018

Among regions, south India continues to lead in financial inclusion by a significant margin. Among states, Kerala was well ahead with a CRISIL Inclusix score of 90.9. But others are catching up.

The total number of life insurance policies issued in India was 34 crore, which is barely a fifth of the 165 crore deposit accounts. Over 90% of these are savings-linked insurance products.

All regions gained from microfinance, particularly the east. However, the inclusion of insurance as an additional dimension has moderated the Inclusix scores for most regions except the west and the east, which have maintained their overall scores.

For the first time, Rajasthan moved up from ‘below average’ to ‘above average’, while Haryana climbed to a ‘high’ from ‘above average’.

There was also a sharp 3.17 crore increase in new credit or loan (banks and microfinance) accounts, in the two years up to to fiscal 2016, which is the most since fiscal 2013.

Interestingly, coverage score under the National Pension Scheme rocketed threefold to 18.7 in fiscal 2016 from 6.3 in fiscal 2013, driven by two things: continuous increase in the number of government employees covered under NPS, and strong emphasis on including the economically weaker sections through the Atal Pension Yojana, which replaced NPS Lite in June 2015. A total of 1 crore new NPS accounts were opened during this period. Still, India continues to see under-penetration of basic financial services. For example, less than 20 crore borrowers had a loan from a bank or a microfinance institution, and only 34 crore out of a population of over 120 crore had an insurance policy. That’s also significantly lower than the number of deposit accounts.

The improvement in financial inclusion can be faster if there is sharper focus on enhancing branch and credit penetration beyond south India. Policy makers need to continue incentivising expansion of branch and credit penetration in districts with low CRISIL Inclusix scores. Coverage through protection-linked insurance and pension schemes also need to be ratcheted up significantly. Availability of data through a central repository can also ensure that Inclusix becomes more representative and comprehensive leading to better policy planning.

Conclusion

CRISIL-Inclusix is the first comprehensive index of measuring financial inclusion in India. The fact that it is a relative index comprising various forms of basic financial services into a single metric. Also, the input parameter focusses on ‘number of people reached or included’ and not on ‘amounts deposited or loaned’. This prevents disproportionate representation of few large transactions. It is a comprehensive index capable of measuring financial inclusion at the national, state and district level. The index can evolve and encompass other dimensions as and when available to make it more representative and comprehensive e.g. the contribution of MFIs included in 2013 and Insurance included in 2016.

The key limitations of this index include the availability and reliability of data as also its quality and quantity. Another limitation is that the data is available with a lag and at best only an ex-post analysis can be done in ascertaining the extent of financial inclusion.As the first index constructed to measure financial inclusion, Inclusix looks promising. As seen in Table 2, financial inclusion as measured by this index has been increasing steadily. However, a separate index for ‘women’ and ‘poor’ can be constructed to align policies and track policy outcomes for them. Also, a central repository of information on all these and other evolving parameters can be set up so that it is easy, convenient and quick to get inputs.

References

Chakrabarty, K.C. (2012), “Financial Inclusion: Issues in Measurement and Analysis”, Keynote address, BIS-BNM Workshop on Financial Inclusion Indicators, Kuala Lumpur, November

CRISIL (2013), “Inclusix Financial Inclusion Index”, June

Planning Commission (2009), “Report on Financial Sector Reforms” (Chairman: Dr. Raghuram G. Rajan).

"Statement by Dr. Y. Venugopal Reddy, Governor, Reserve Bank of India on the Mid-term Review of Annual Policy for the year 2005-06", *Reserve Bank of India*, October 25, 2005.

"P Chidambaram launches Crisil Inclusix", *DNA India*, June 25, 2013.

http://www.bworldonline.com/content.php?section=Economy&title=role-of-financial-inclusion-in-poverty-reduction&id=127483

RBI (2005), "Report on Rural Credit and micro finance" (Chairman: H.R. Khan).

https://www.crisil.com/content/dam/crisil/our-analysis/reports/Research/documents/2018/march/crisil-inclusix-financial-inclusion-surges-driven-by-Jan-Dhan-yojana.pdf