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Financial Inclusion and Its Measurement

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Abstract

This short article dwells upon the concept of financial inclusion (FI) of a population, discusses it around the banking sector and its role in this context. It then considers measuring FI and suggests a few new quantitative measures of the same, along with their data requirements, which are not difficult to meet in practice. A brief mention is made about the Pradhan Mantri Jan Dhan Yojana (PMJDY) and its implications. Scope for some further work is indicated.

Key Words and Phrases: *Banking Sector, CRISIL Index, Deposit Penetration, Financial Inclusion/ Exclusion, National Sample Surveys, Reserve Bank of India.*

1. Introduction

The two critical factors of economic growth are the safety nets: education and health. The factor which influences velocity of growth is financial services. The technological innovation in banking has been enabling transfer of payments without intermediaries. It is here that financial inclusion would activate growth process in an acceptable manner. In fact, the UNO has observed that "most poor people in the world still lack access to sustainable financial services, whether it is savings, credit or insurance", particularly in developing countries like India. It is estimated that more than 560 million are deprived of financial inclusion in our country. This has prompted vigorous efforts at government and non-government levels to bring all households under the fold of banking habits. Accordingly, policy makers have been emphasizing on this aspect in order to

1. To promote saving habit.
2. Provide a means for formal credit and
3. To make public subsidies and welfare programs effective.

The benefits of financial inclusion and the need for promoting the same in the Indian society are well accepted in academic circles as well as by the policy makers.

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The Reserve Bank of India (RBI), the apex financial regulatory body in the country, has been proactive campaigning for financial inclusion through its policies and guidelines. It has been promoting an array of programs aimed at this goal.

Three good examples are:

a) Initiation of 'no frills' account;

b) Banking service at the doorsteps through business correspondents &

c) Electronic Benefit Transfer (EBT).

In fact, the RBI intends to promote schemes to unleash the potential from the poor and the vulnerable *section* of Indian society. These measures can ensure a new revolution of financial growth and development. The rest of the paper sequences the role of RBI, concepts of FI, its need and priority, major causes for financial exclusion, evidences from NSSO data on FI and incidence of indebtedness, measurement of FI and qualitative indices for the same, the new FI scheme (PMJDY) and an overall discussion.

1.1 A Real Priority

About 3 billion people in the world are at present not financially included, of which about 560 million are in India. A large chunk of the latter (approx. 457 million) spends $1.25 per capita per day, reflecting a seriously inadequate situation. The reasons driving financial inclusion (FI) include scalable growth of wealth in the middle class and progress in the area of telecommunication, Information technology, automotive, life sciences and space technology.

India's growth process is challenged by the disproportionate distribution of national income, leading to serious disparity between the rich and the poor. About 90% of the wealth is in the hands of just about 10% of the persons at top end of the financial spectrum, while about 42% struggles to live on just about $1.25 per day per person. All this have caused more than half the population being excluded financially. This has no formal access to financial services and hence is identified as suffering from poverty, illiteracy, malnutrition, high mortality and inadequate health care.

FI is a real priority for our country and other developing nations for policy development, regulatory reform and new funding agencies. Government of India had set a target of 100% banking penetration by the end of the year 2015. This is achievable at least in near future through micro financing, a concept globally elevated by the Nobel laureate (2006) Prof. Md. Yunus who successfully established Gramin Bank in Bangladesh.

2. The Concept of FI

FI is the process of ensuring a fair, timely and adequate benefits in the form of savings, credits and insurance at a reasonable cost by financial institutions (Rangarajan Committee). In fact the issue of FI is emerging as the new paradigm of growth. Thus FI may be considered in concrete terms symbolically as FI = Govt. agencies + Banks + No Frill Account + Financial Institution +Micro-finance institution

2.1 FI: A Key Factor

FI is almost imperative for ensuring similar opportunities to all sections of the society, for providing inclusive growth, societal development and business opportunities to all segments of people. India's national inclusion mission is to usher in nearly 600 million new customers to the banking services. The RBI and Govt. of India play a crucial and central role in promoting FI for economic growth and to improve banking penetration in the country. State Bank of India was set up in 1995, Commercial banks were nationalized in 1969 and in 1980, and the lead bank concept was initiated in 1970, and NABARD and Regional Rural Banks (RRB) were set up in 1982 and 1975 to provide refinance assistance in agri credit. This promoted bank expansion to the rural areas and also controlled the credit interest rates.

2.2 Need for FI

FI is a pivotal issue for the individuals and households in low income bracket both in rural and semi urban areas. Basically, it tackles non-availability of financial services to the poor. Putting this differently, certain section of people do not have access to low cost and secure financial products and instruments. Types of exclusion are:

1. Not at all having any access to formal banking or financial services.

2. A limited access to services of formal banks and institutions.
3. Cases of having unsuitable (inappropriate) products.

The report of the Rangarajan Committee may be summarized as follows:

2.3 Extent of Exclusion: (Rangarajan Committee Report, 2011)

- Out of 89.3m of farmer households, 45.9 million (51.4%) do not access credit, either from institutional or non-institutional sources (NSSO data).
- Only 27% of total farm households have borrowed from formal sources (of which one-third have borrowed from informal sources also).
- 95.91%, 81.26% and 77.59% of farm households in the North Eastern, Eastern and Central Regions respectively have not accessed credit from formal sources.
- Thus coverage is not only low to the poorer section of the society but also varies widely across regions, social groups and asset holdings.

2.4 Major Causes for Exclusion

Abidi (2014) has identified the following common reasons for financial exclusion in her study, concerning Ranchi District of Jarkhand State:

1. Geographical Exclusion in terms of limited access to banks in the area.
2. Financial illiteracy.
3. Cumbersome documentation procedures.
4. Language barriers.
5. Uncomfortable feeling for bank transactions.
6. Physical distance from banks and inconvenient timings.
7. Lack of awareness about the schemes and programs
8. Fear of refusal and failed attempts.

3. Micro foundation: NSSO data

Individual micro level data on households is needed for measuring the exclusion aspects. As such, no data are available on financial inclusion in public domain so far, which include all aspects of financial inclusion\ exclusion. However, for one important aspect of financial inclusion viz., credit, NSSO data can be a good source.

3.1 Importance of Credit

Credit is the most important aspect in view of savings, investment and growth linkage.

Self-employed persons have a special need for credit, which requires financial inclusion.

3.2 Rural non-farm Enterprises

We provide a glance at the distribution of Enterprise Type in rural areas of selected States in India based on NSSO (Round 67, Enterprise Survey) findings in the following table:

Table 1: Distribution of Enterprise Type in Rural Areas of Selected States

States	Type of Enterprise		
	Owned Account Enterprise	Establishment	Total
Gujarat	89.6	10.4	100
Kerala	80.9	19.1	100
MP	93.2	6.8	100
Punjab	85	15	100
WB	93.7	6.3	100
India	91.4	8.6	100

(Source: *Analysis based on 67th round unit level NSSO data - Enterprise Survey*)

Most of the above are own account enterprises, hence need credit to a large extent. It is noted that, establishment for generation of employment in order to absorb disguised labor is very poor. This needs immediate corrective steps.

4. NSSO data as a base

The present analysis utilizes unit level data for households from the All India Debt and Investment Survey (AIDIS) and the Situation Assessment Survey (SAS) conducted as part of the 59th round of NSSO. This is the most recent available macro level data which provides information on debt and investment of 1, 43,285 households both rural and urban engaged in a variety of occupations.

4.1 Situation Analysis Survey: NSSO

In order to understand farmers level of living, income and productive assets and their access to credit, Situation Analysis Survey of farmers (SAS) was conducted by the NSSO, as part of 59th round covering a period of January to December 2003.

The survey of 51,770 farmers in 6,638 villages was conducted in Karnataka. 2009 households spread over 256 villages were covered and recent data on cost was obtained at macro level.

4.2 Incidence of Indebtedness

NSSO data provide information regarding households that have outstanding loans as on a per-specified date in the form of an indicator the incidence of indebtedness (IOI).

4.3 IOI: Measure of Accessibility

A region wise examination of the above data reveals that IOI is directly proportion to income of households. Economically advanced states have higher level of IOI. IOI is lower in Scheduled tribe households than in General or OBC category. IOI is more taken as a pointer of access to credit. However, it also measures the extent of distress for relatively poor and needy.

4.4 IOI for self-employed households: AIDIS

Table 2: IOI of Self-Employed Households in Rural and Urban Areas of some States

State	Rural	Urban
Chhattisgarh	23.3	17.5
Madhya Pradesh	32	15.4
Punjab	30	11.9
Haryana	33.3	17.7
West Bengal	23.8	15.6
Karnataka	38	19.8

Source: *59th round NSSO-All India Debt and Investment Survey (AIDIS)*

4.5 Table 3: Incidence of indebtedness: farmer households

Sector	2002			1991		
	Formal	Informal	Total	Formal	Informal	Total
Rural	13.4	15.5	**28.9**	15.6	9.8	**25.4**
Urban	9.3	9.4	**18.7**	11.8	9.4	**21.2**

5. Measuring inclusion

A quantitative measure of any characteristic is highly desirable as it provides a precise assessment as well as allows comparisons across places and time points. In very general terms, an inclusion index shows the level of mixing of two related sets of units: set A and set B, the former may be a set of banks, ATMs, institutions like post offices or hospitals or even bank accounts.

In this setting, we enlist some macro and micro indicators as follows:

Macro indicators of FI are :

(a) Number of bank branches per lakh population.

(b) Number of ATM centers per lakh population.

(c) Distance to the nearest bank branch or ATM center.

(d) Monthly frequency of bank branch operations per 10000 population with a break up of credits and debits.

(e) Monthly frequency of ATM operations per 10000 population.

(f) Number of credit /debit cards per lakh population and frequency of their use.

A few micro indicators (household or individual level pointers) may be obtained from the NSSO data, available in the form of rounds (latest being the 70th round, year 2014), though usually there is a lag in its analysis. The aspects of indebtedness, investment, savings, access to credit, sources of credit etc. are covered in these studies.

5.1 Inclusion Indices

An inclusion index is often in the form of a ratio or a composite of a few ratios. Thus

$$I_1 = (n_B / n_A)\,k \qquad \ldots (1)$$

Where n_A and nB denote the sizes of the two sets and *k* is a scale factor. The common choices for *k* are 100 (per cent) and 1000, though other choices are not uncommon. 'I_1' expresses the number of units of B for *k* units of A. For example, number of bank branches per 1000 population obtained by using k =1000.

A composite index may be a simple (unweighted) average or a weighted average as formed at (2) and (3) below:

$$I_2 = (1/m) \Sigma (n_{Bi} / n_{Ai}) \qquad \dots (2)$$

Where m is the number of ratios averaged.

$$I_3 = \Sigma W_i (n_{Bi} / n_{Ai}) \qquad \dots (3)$$

Where the weights *W i* add up to 1, and they reflect the relative importance of the m components. An example of (3) is discussed below as CRISIL index. More complex indices may also be developed, though their use may be seriously limited by non-availability of data.

5.2 CRISIL: A key inclusion index

A comprehensive index for objectively analyzing and measuring the progress of FI in a country in terms of district level.

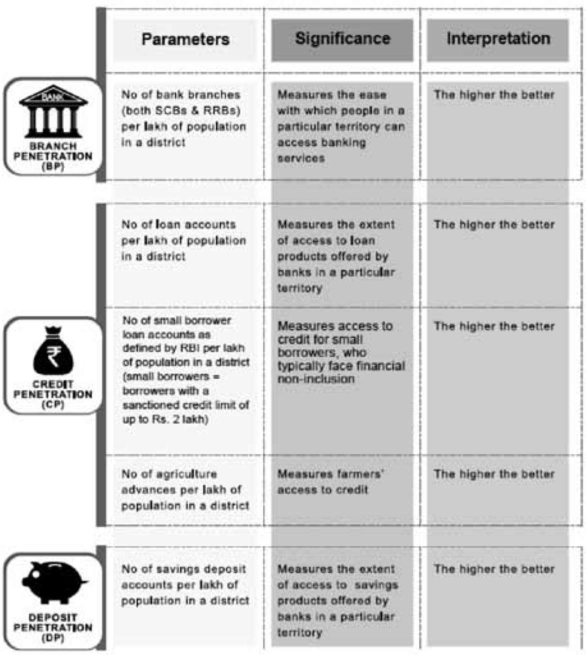

Figure 1: Compact view of CRISIL Methodology

This methodology of computing CRISIL is similar to that for other global indices. An example is that of UNDP's ***Human Development Index*** (HDI) which gives suitable weights to the price index, longevity of human life and level of schooling in the country. Likewise CRISIL measures FI on the three parameters of basic banking services:

1. *Branch level penetration*
2. *Deposit level penetration* and,
3. *Credit penetration.*

The focus of measurement is on number of people who have deposited or borrowed money from banks/financial institution then amount deposited or borrowed. ***Higher the score, higher is level of financial inclusion.***

6. Key Findings

The key findings: Report on financial inclusion metrics in 632 districts of the country (2009-2011):

- On a scale of 100, the all-India CRISIL Inclusix score is 40.1. It is very low (2% branches in almost 50 bottom scoring districts, which reflects under-penetration in terms of formal banking facility in the country.
- The number of savings bank accounts is 624 million which the number of loan accounts at 160 million is almost four times.
- The bottom 50 scoring districts in India have only 2,861 loan accounts per lakh of population, which is one-third of the all India average of 8,012 which implies need for focused efforts to enhance branch presence and availability of credit.
- The CRISIL Inclusix score at an all-India level has improved to 40.1 in 2011, from 37.6 in 2010 and 35.4 in 2009. Improvement in deposit penetration score has contributed to the same.
- There exists wide disparities in terms of number of bank branches with 11% of bank branches in India's six largest cities and one each in four districts in the North-Eastern region.
- The top 50 districts showed a significant performance and increase in inclusion in terms of both Deposit

score being 9.3 and addition to bank branches by 2824 in 2011 over 2009. This is almost increase by one-fourth of total branches in the country.

- Bottom 50 districts revealed improvement of 20% (6073) deposit accounts as on 2011 compared to 4919 in 2009.
- The main parameter for improvement in the inclusion score in top 50 districts is improvement in credit penetration (CP).

7. Literacy on Debt Management

Lack of tangible skills have resulted in poor success and penetration of financial literacy programs. But training programs unless designed effectively are seldom successful at the same time consumes high cost, time and resources. This is well evidenced by the experience of Micro finance institutions. A film and training material developed by Ujjivan Financial Services and Parinaam foundation has gained popularity among large number of customers as it was showcased in ten regional languages. Unitus Labs are convinced that customer centric financial literacy training programs have led to customer engagement inspite of logistic and scheduling issues. Parinaam foundation used comic strips, free calculators, diary, certificates in their workshops and class room training. This has helped in ensuring high attendance. Diksha program has also come out with Impact Evaluation component to measure financial literacy.

Innovative financial inclusion models are the only solution spreading banking services in India which has been a mammoth challenge for RBI and the government. More than half the adult population in Asia's third largest economy (India) lack access to formal financial services. Promoting financial inclusion or the process of spreading banking services to the far flung corners of the country is a priority.

8. Two New indices

Constructing a representative index or summary number is a task. On one hand, it has to be quite reflective of the ground reality and on the other, its data requirements must be met by the available inputs. The indices discussed earlier refer to a region as base. Alternatively one may evaluate the case of specific geographic points (like a remote village) and how much included (or excluded) it is from the view point of access to financial products like bank accounts. Taking the village center as the origin of measurement, one may compute the physical distances to facilities like ATM, bank extension counter, regular bank branch, post office or cooperative society with banking facility. Then we may compute the simple average distance

$$I_4 = (1\backslash m) \sum d_i \qquad \ldots (4)$$

Or, to reflect the differences in importance, a weighted average:

$$I_5 = \sum W_i d_i \qquad \ldots (5)$$

With non-negative weights $W_{i \text{ adding}}$ up to unity. Larger values of I_4 and I_5 point to lower level of inclusion of the place in question, unlike the interpretations of the values of the first three indices I_1, I_2 and I_3.

8.1 A comprehensive FI scheme:

Pradhan Mantri Jan-Dhan Yojana (PMJDY)

This scheme introduced in August 2014 has three major changes as compared to the earlier financial inclusion programs (a) Focus on coverage of households (rather than village as a basic unit), (b) inclusion of both rural and urban areas and (c) implementation on Mission Mode with comprehensive coverage through a six pillar approach as follows:

1. Universal access to banking facilities by mapping each district into sub-service areas (SSA) each of 1000-1500 households.
2. Financial literacy program reaching out to SSA level
3. Providing basic bank accounts with limited overdraft facility
4. Creation of a credit guarantee fund to cover defaults in overdraft facility
5. Micro-insurance, and
6. Pension schemes for the unorganized sector.

9. Discussion

Financial exclusion of substantial segments of a population is a serious impediment for economic development and growth of an economy. India suffers from this malaise as evidenced from field studies (e.g. by the NSSO). Schemes like PMJDY for financial inclusion of the bottom of population pyramid are crucial and their effectiveness is to be enhanced via corrective steps. A few new measures of financial exclusion have been proposed which are both simple and computable from minimal database.

PMJDY, though appears to be ambitious, has had a vigorous start. Monitoring its progress and using necessary mid-course corrections hold key to the success of the program. Appropriate research in this nascent stage is called for and is worthy. This may be carried out keeping in view the demonetization of high value notes in November 2016 and it's after effects. Examining the role of other institutions (like cooperatives, post offices) and the negative role of private money lenders in the sense of exploitation of people in the context of FI would also be helpful for proper policy formation by the Government.

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