

# The Financial Inclusion: A District Wise Study on Bangladesh

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## ABSTRACT

The financial inclusion, including all the people with the finance, is very concerned issue all over the world where Bangladesh is also trying to include all the people with the finance. The paper studied the model of Financial Inclusion Index (FII) between 2007 and 2010 in district level to analyze the changes of FII in Bangladesh. Though FII ranking of 19 districts have shown positive changes but ranking of 10 districts have not changes where 35 districts have negatively changed among the 64 districts of Bangladesh. Some of the reasons of slow financial inclusion are also discussed in the paper like lack of strong infrastructure, inadequate financial information, and high account maintenance balance, low income of people and high cost of banking product. This paper shows the status, problems and key points of financial inclusion in Bangladesh. The study used three dimensions of financial inclusion to measure the FII value which indicates the coverage, availability, input and output of banking services to compute the status, level and magnitude of financial inclusion in division/districts of Bangladesh and to give a better idea for making fruitful decision to ensure stable and equitable economic growth of the country.

**Keywords:** *Financial Inclusion, Financial Inclusion Index, Multi-Dimensional Index, Financial Inclusion in Bangladesh*

## 1. INTRODUCTION

Financial inclusion is the access to the finance system of all the people of a country including the poor and underprivileged group of people (such as farmers, landless labors, unorganized enterprises, urban slum dwellers, migrants, women, etc.) as they are the prerequisite for poverty reduction and economic development. Financial inclusion also refers to the ability of individuals to access appropriate financial products and services (House of Commons Treasury Committee, 2006). It is inevitable for the developing country to provide financial opportunities to financially excluded people as they are the almost half of the country's total population. We have to consider all the people because development cannot be possible excluding half of the total population. Even providing access to finance is a form of providing ability to the underprivileged people for the contribution of the development. And there is a positive correlation exists between financial development and economic growth (King et. al, 1993).

The financial inclusion will ensure the different types of financial services including loan, deposit, insurance, investment, SME, payments, financial awareness, and remittance facilities. Thus, financial inclusion should be one of the priority policy tools for LDCs, developing and developed countries in order to ensure stable and equitable economic growth of any country. In Bangladesh the agricultural sector (20.29 % of GDP-2010) and SME can be central role for achieving high financial inclusion growth as many poor people are included with agriculture and small business.

In this paper, Financial Inclusion Index (FII) is measured by using three dimensions such as number of branches per 100,000 people, per capita deposit and per capita credits. The model is applied through 64 districts of Bangladesh, then high and low financial inclusion are

found in districts wise based on FII. At last the paper has also identified some problems of slow financial inclusion and proposed some key points of rapid financial inclusion in Bangladesh.

## 2. LITERATURE REVIEW

There are several studies done on financial inclusion in Bangladesh, like Ezazul & Salim, (2011) studied financial inclusion and the role of Bangladesh. In this study only theoretical perspective of financial inclusion was discussed but they neither shown any quantitative measurement of financial inclusion nor any index of financial inclusion in Bangladesh. Moreover, the study has also shown the geographic and demographic penetration of banking services.

Rahman (2009a) has shown the overall financial inclusion in Bangladesh with the help of number of bank accounts, member in MFIs, cooperatives and the adult population ratio. The study highlights major weakness and steps to be taken for better financial inclusion in Bangladesh.

Sarma (2010) constructed a multidimensional index for measuring the degree of financial inclusion that includes information on bank penetration, availability of banking services and usage of the banking system. Demirgüç-Kunt et. al (2008) also compiled demographic and geographic penetration data on access of general banking branches or ATM booths.

The empirical relationship between finance and growth is well established in theoretical literature, as surveyed by Levine (2005). Financial development facilitates entry of new firms which fosters economic growth (Klapper, et. al, 2006). Wide access to finance is seen not only as expanding opportunities beyond the rich

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and the connected, but also promoting democracy and market economy (Rajan and Zingales, 2003).

Then the role of technology (Ayyagari, et. al, 2006), such as mobile, internet and new financial product, in financial inclusion was discussed with specifying the key point to be taken by the government for the better financial inclusion. Some of the determinants of FII was identified and shown as significant like irrigated area as a percent of gross shown area, number of Self-Help Groups and number of bank branches for every 100 persons (Mehrotra et. al. 2009).

### 3. METHODOLOGY

The secondary data is collected from Schedule Bank Statistics (SBS) published by Bangladesh Bank as on December 2010. At first Financial Inclusion Index (FII), as like Human Development Index (HDI), are used based on three dimensions in 64 districts of Bangladesh to know the degree of financial inclusion. Three dimensions (equal weight), such as number of Branches per 100,000 people (as accessibility & availability), per capita deposits (as input of banking system) and per capita credit (as output of banking system) of banking sector of Bangladesh, are considered to show FII value of 64 districts of Bangladesh. A scale of measurement 0 (zero means no financial inclusion) to 1 (one means high financial inclusion) is used for grading the FII value of different divisions and districts of Bangladesh for analytical purpose the range is farther categorized into 0 to .25 as low, 0.26 to 0.50 as medium and 0.51 to 1 as high financial inclusion. Others data were collected form Statistics Department of Bangladesh Banks, World Bank database (the little data book on financial inclusion 2012), Bangladesh Bureau of Statistics and different journals, articles, and publication made by different scholars.

This paper considered the data of scheduled commercial banks of Bangladesh and does not include data of microfinance, insurance or others financial institutions to compute FII value (which can be considered as a limitation of this paper). The paper considered data from 2007 to 2010 to calculate FII value.

## 4. DETERMINING FINANCIAL INCLUSION

### 4.1 Measuring the status of Financial Inclusion

There are different criteria to measure the financial inclusion used in previous studies like outreach dimension and actual usage dimension (Mehrotra et. al 2009, Sarma, et. al 2010). The indicators of outreach dimension are geographical penetration (number of bank branches or ATMs per 1000 square kilometers) and demographic penetration (number of bank branches or ATMs per 100,000 people), which show more the bank or ATM easier for the people to access to banking and finance (Demirgüç-Kunt et. al, 2008). The indicators of actual usage dimension are number of deposit and credit

accounts per 1000 people which show the input and use of banking services among the people.

In this paper the FII is measured by using three dimensions to find out the most financially inclusive and less financially inclusive districts of Bangladesh.

### 4.2 Financial Inclusion Index: Model Specification

To show the status and the progress of financial inclusion, an attempt has been made to measure the degree of financial inclusion in terms of coverage and availability, input and output of the banking system in different divisions and districts.

The methodology of this proposed Financial Inclusion Index (FII) similar to the one adopted by UNDP for constructing Human Development Index (HDI) (Sarma, 2008), where actual value, minimum value and maximum value of each dimension was calculated to measure the dimension index ( $Z_i$ ).

### 4.3 Applying Weights to the Above Dimension Index, the Following Formula Is Considered

After calculating dimension index of district, in this paper equal weight is assigned to each of the three dimensions keeping in mind all the variables have equal impact on the financial inclusion. The logics behind assigning equal weight are it is assumed that if number of branches increased then per 100,000 people will have more accessibility to the banking services consequently higher financial inclusion. Higher the per capita deposit higher the input in banking system and more the per capita credit higher the usage/output of banking system. After assigning the weight on each dimension and multiplying with dimension index FII is calculated.

**Table 1:** Grades of Financial Inclusion

| Financial Inclusion Index (value) | Financial Inclusion Grade |
|-----------------------------------|---------------------------|
| 0 to 0.25                         | Low                       |
| 0.26 to 0.50                      | Medium                    |
| 0.51 to 1                         | High                      |

The proposed index theoretically takes values between zero (0) and one (1) where 0 means 'no financial inclusion' and 1 means 'complete financial inclusion'. For the decision making purpose I have categorized the range between the values 0 to 1 into three grades depicting different grades of financial inclusion (Table 2). In this paper FII value 0 to 0.25 is used as low financial inclusion, 0.26 to 0.50 as medium financial inclusion and 0.51 to 1 is used as high financial inclusion; the third grade range is taken higher assuming that it is hard for a developing and third world county (like Bangladesh) to go higher than 0.50 FII value comparing with any developed county.

**Table 2:** Changes in FII

| Changes          | Number of Districts | % Change |
|------------------|---------------------|----------|
| Positive Changes | 19                  | 29.688   |
| No Changes       | 10                  | 15.625   |
| Negative Changes | 35                  | 54.688   |
|                  | 64                  | 100.000  |

$$\text{Dimension Index } (Z_i) = \frac{A_i - m_i}{M_i - m_i}$$

Where

$Z_i$  = Dimension Index

$A_i$  = Actual value of  $i^{\text{th}}$  dimension

$m_i$  = minimum value of  $i^{\text{th}}$  dimension

$M_i$  = maximum value of  $i^{\text{th}}$  dimension

$$\text{FII} = \sum_{i=1}^n W_i Z_i$$

Where:

$W_i$  = weight of the  $i^{\text{th}}$  dimension

$Z_i$  = Dimension Index

$n$  = number of dimensions

$$\text{FII} = \frac{1}{n} \sum_{i=1}^n Z_i$$

(equal weight)

Where:

$Z_i$  = Dimension Index

$n$  = number of dimensions

#### 4.4 Result and Interpretation

After specifying the model we have calculated the FII value for 64 districts of Bangladesh (as on December 2010 and March 2007) to know the significant of financial inclusion (as given in table 2). The output of the analysis is shown as under:

**Table 3:** Districts-wise Financial Inclusion Index and Ranking

| Districts    | FII (2010) | FII (2007) | Rank (2010) | Rank (2007) | Change of Ranking |
|--------------|------------|------------|-------------|-------------|-------------------|
| Shariatpur   | 0.064      | 0.045      | 39          | 57          | 18                |
| Cox'S Bazar  | 0.079      | 0.064      | 31          | 46          | 15                |
| Gazipur      | 0.157      | 0.108      | 8           | 20          | 12                |
| Lakshmiপুর   | 0.082      | 0.078      | 27          | 37          | 10                |
| Madaripur    | 0.058      | 0.052      | 44          | 54          | 10                |
| Comilla      | 0.085      | 0.083      | 24          | 33          | 9                 |
| Faridpur     | 0.095      | 0.094      | 20          | 27          | 7                 |
| Narsingdi    | 0.105      | 0.102      | 16          | 23          | 7                 |
| Habiganj     | 0.088      | 0.090      | 22          | 28          | 6                 |
| Sirajganj    | 0.061      | 0.062      | 42          | 48          | 6                 |
| Brahmanbaria | 0.074      | 0.074      | 34          | 38          | 4                 |
| Chandpur     | 0.083      | 0.088      | 26          | 30          | 4                 |
| Rangpur      | 0.059      | 0.063      | 43          | 47          | 4                 |
| Tangail      | 0.057      | 0.055      | 46          | 50          | 4                 |
| Narayanganj  | 0.221      | 0.199      | 5           | 8           | 3                 |
| Barisal      | 0.085      | 0.095      | 23          | 25          | 2                 |
| Mymensingh   | 0.018      | 0.011      | 61          | 63          | 2                 |
| Kishoreganj  | 0.030      | 0.027      | 58          | 59          | 1                 |
| Kushtia      | 0.103      | 0.108      | 17          | 18          | 1                 |

Applying FII in 64 districts of Bangladesh we found that Shariatpur (change of ranking 18), Cox's Bazar (change of ranking 15), Gazipur (change of ranking 12), Lakshmiপুর (change of ranking 10) and Madaripur (change of ranking 10) have a positive change of ranking 10 or more than 10. Only 5 of the districts (Comilla, Faridpur, Narhingdi, Habiganj & Shiarajganj) have a positive change of ranking more than 5 and other 9 have positive change of ranking 5 or less than 5. Few districts like Habiganj, Shiarajganj, Chandpur, Rangpur, Barisal and Kushtia have positive changes in their ranking although they have negative changes in their FII values. It may happen due to the greater reduction of FII values of other districts of Bangladesh. The significant factor is that in between year 2007 and 2010 the FII values does not changed a lot, although Shariatpur and Gazipur has a change in FII value of 0.019 and .049 respectively. Brahmanbaria does not have any changes to its FII value but it has a positive change of ranking 4.

<http://www.ejournalofbusiness.org>**Table 4:** Districts-wise Financial Inclusion Index and Ranking (No Changes)

| Districts  | FII (2010) | FII (2007) | Rank (2010) | Rank (2007) | Change of Ranking |
|------------|------------|------------|-------------|-------------|-------------------|
| Chittagong | 0.440      | 0.422      | 2           | 2           | 0                 |
| Dhaka      | 1.000      | 1.000      | 1           | 1           | 0                 |
| Feni       | 0.237      | 0.218      | 4           | 4           | 0                 |
| Gaibandha  | 0.023      | 0.027      | 60          | 60          | 0                 |
| Jamalpur   | 0.042      | 0.051      | 55          | 55          | 0                 |
| Jessore    | 0.117      | 0.127      | 13          | 13          | 0                 |
| Kurigram   | 0.002      | 0.003      | 64          | 64          | 0                 |
| Pirojpur   | 0.091      | 0.107      | 21          | 21          | 0                 |
| Sherpur    | 0.015      | 0.013      | 62          | 62          | 0                 |
| Sylhet     | 0.343      | 0.395      | 3           | 3           | 0                 |

In between these two years we found that the four top ranked districts that are the districts ranked one to four have no changes over their ranking. There are 6 other districts which do not have changes over their ranking.

Although the FII value changed (except Dhaka) over the years but their ranking does not changed. This may happened because the change in FII value is very much negligible for those districts.

**Table 5:** Districts-wise Financial Inclusion Index and Ranking (Negative Changes)

| Districts    | FII (2010) | FII (2007) | Rank (2010) | Rank (2007) | Change of Ranking |
|--------------|------------|------------|-------------|-------------|-------------------|
| 0.029        | 0.036      |            | 59          | 58          | -1                |
| 0.079        | 0.089      |            | 30          | 29          | -1                |
| Jhenaidah    | 0.052      | 0.055      | 50          | 49          | -1                |
| Khulna       | 0.185      | 0.215      | 6           | 5           | -1                |
| Lalmonirhat  | 0.033      | 0.046      | 57          | 56          | -1                |
| Moulvi Bazar | 0.176      | 0.213      | 7           | 6           | -1                |
| Munshiganj   | 0.119      | 0.141      | 12          | 11          | -1                |
| Noakhali     | 0.114      | 0.115      | 15          | 14          | -1                |
| Rajshahi     | 0.129      | 0.152      | 11          | 10          | -1                |
| Rangamati    | 0.152      | 0.191      | 10          | 9           | -1                |
| Sunamganj    | 0.047      | 0.053      | 53          | 52          | -1                |
| Bandarban    | 0.153      | 0.202      | 9           | 7           | -2                |
| Bogra        | 0.115      | 0.131      | 14          | 12          | -2                |
| Naogaon      | 0.064      | 0.079      | 38          | 36          | -2                |
| Nawabganj    | 0.063      | 0.073      | 41          | 39          | -2                |
| Netrokona    | 0.010      | 0.017      | 63          | 61          | -2                |
| Gopalganj    | 0.065      | 0.081      | 37          | 34          | -3                |
| Joypurhat    | 0.097      | 0.112      | 19          | 16          | -3                |
| Khagrachari  | 0.041      | 0.053      | 56          | 53          | -3                |
| Manikganj    | 0.056      | 0.064      | 48          | 45          | -3                |
| Nilphamari   | 0.047      | 0.054      | 54          | 51          | -3                |
| Pabna        | 0.097      | 0.115      | 18          | 15          | -3                |
| Bagerhat     | 0.066      | 0.085      | 36          | 32          | -4                |
| Patuakhali   | 0.070      | 0.086      | 35          | 31          | -4                |
| Thakurgaon   | 0.057      | 0.071      | 45          | 41          | -4                |
| Panchagarh   | 0.063      | 0.081      | 40          | 35          | -5                |
| Natore       | 0.082      | 0.102      | 28          | 22          | -6                |
| Chuadanga    | 0.075      | 0.094      | 33          | 26          | -7                |
| Meherpur     | 0.053      | 0.069      | 49          | 42          | -7                |
| Rajbari      | 0.056      | 0.071      | 47          | 40          | -7                |
| Satkhira     | 0.052      | 0.065      | 51          | 44          | -7                |
| Jhalokathi   | 0.078      | 0.098      | 32          | 24          | -8                |
| Magura       | 0.084      | 0.112      | 25          | 17          | -8                |
| Barguna      | 0.048      | 0.068      | 52          | 43          | -9                |
| Narail       | 0.080      | 0.108      | 29          | 19          | -10               |

Applying FII in 64 districts of Bangladesh we found that 35 districts have a negative change of ranking more. Only 9 of the all districts (Narail, Barguna, Magura, Jhalokathi, Satkhira, Rajbari, Natore, Chaudanga & Meherpur) have a negative change of ranking more than 5 and other 26 have a negative change of ranking 5 or less than 5. No district has negative changes in their ranking although they have positive changes in their FII values. Most of the districts have marginal negative changes of FII values over the years. Magur, Narail, Jhalokathi & Meherpur have a significant negative change of FII values between year 2007 and 2010. One of the reasons can be the population has increased but the number of people interacting with the bank has not increased consecutively.

## 5. FINDINGS AND SUGGESTIONS

- The analysis found that the FII of nine districts (Narail, Barguna, Magura, Jhalokathi, Satkhira, Rajbari, Natore, Chaudanga & Meherpur) were became worsen from June 2007 to December 2010. The magnitude of finance was not enriched in those areas where Sharitpur & Cox's Bazar have shown significant changes of raking by 19 and 15 respectively, some of the others district's performance were very much satisfactory such as Comilla, Faridpur, Narhingdi, Habiganj & Shiaraganj.
- In spite of rapid expansion of bank, MFI and cooperatives the financial inclusion in Bangladesh has much way to go to cover all the population including rural and urban sector. Most of the banks are focusing on the solvent farmers rather than landless and illiterate farmers for crop loan (credit) so those people (landless and illiterate) are excluding from the blessing hand of finance.
- Only the districts of Dhaka division have shown significant changes of FII. It may happen due to change in small time duration or people are very much centralized to the capital city Dhaka.
- The infrastructure, like transportation system, telecommunication system, availability of electricity and roads & highways, will motivate the business, entrepreneurs and agriculture through better chances of making business and to take the credit from the bank. Therefore lack of adequate infrastructure is a cause of slow financial inclusion in the rural sector.
- There is a controversial argument against the micro-credit, such as micro-credit does not help to the poorest of the poor who can't properly utilize or timely repay the credit because of old age or particular physical weakness. But when we have calculated FII value these people are also included so they should be include with the finance for the better financial inclusion and economic growth.
- The technology can be one of the most important solutions to reach excluded populations. Some banks have already started their operation of

banking using the mobile technology in the rural areas as well as urban areas where we have few bank branches. As it became very popular in the rural areas, it will increase the financial inclusion of rural people.

- The banking for women can be a new window for financial inclusion basically most of the Bangladeshi women does not have ability or intension for banking, it may be because of their lack of financial knowledge or insufficient of money in hand.

## 6. CONCLUSION

After completing the analysis on financial inclusion we can conclude that Bangladesh is trying to achieve growth from the independence particularly for the last ten years (2001-2010). The paper has shown that the financial inclusion has improved in some districts dramatically although the ranking of some of the districts have not changed between 2007 and 2010, but with the given suggestion government can make better financial inclusion.

The bank should be motivated to establish branches in the remote rural areas, provide credit at low interest rate and bank with the poor people without any operating fee. BB can reduce rules and regulations regarding the establishment of new branches, allow financial institutions to provide micro insurance services and expand the horizon of Non-Government Organizations (NGOs) and Micro Finance Institutions (MFIs). The financial inclusion will ensure the equitable finance for all the people of the society including poor, underserved and underprivileged group of people.

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