

AN ASSESSMENT OF THE IMPACT OF FINANCIAL INCLUSION PRACTICES OF BANGLADESH BANK

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Abstract

This study is intended to examine the financial inclusion practices of Bangladesh Bank and to examine the impact of this practice on socio-economic development and eradicating poverty of Bangladesh. The financial inclusion practices of Bangladesh Bank under financial inclusion department, agricultural credit department, and SME and special program department have been critically examined to identify its impact on poverty and economic growth. It has been revealed that the practice of financial inclusion by Bangladesh Bank contributes positively in advancing the number of bank branches, members in MFIs and cooperatives; number of no-frills account; disbursing SME and women enterprise credit, implementing refinancing scheme in agricultural sector; encouraging savings in school bank account, etc. The application of multivariate regression analysis also reveals the fact that the selected financial inclusion activities have significant explanatory power in describing changes in poverty level and socio-economic growth in Bangladesh.

Keywords: Financial inclusion, No-Frills Accounts, School Banking, Agent Banking, Poverty Headcount Ratio

1. Introduction

Financial inclusion (FI) or inclusive financing describes the delivery of financial services at affordable costs to sections of disadvantaged and low-income segments of society, in contrast to financial exclusion where those services are not available or affordable. Greater FI allows for financially marginalized groups to increase their income, reduce its volatility, and build assets, thereby providing resilience to economic shocks and helping create jobs and promote business activities (Mustafa, 2015). An estimated 2 billion working-age adults globally have no access to the types of formal financial services delivered by regulated financial institutions. Access to a well-functioning financial system can economically and socially empower individuals, in particular poor people, allowing them to better integrate into the economy of their countries, actively contribute to their development and protect themselves against economic shocks. Creation and expansion of financial services targeted to poor and low-income populations can play a vital role in enhancing financial access (Rahman, 2009).

Basic financial services such as deposit, credit etc. is considered as entitlement of all people in a society, this is particularly true in developed countries. Inclusiveness of a greater segment of people in financial system is prerequisite for economic development of a country like Bangladesh to facilitate employment and to ease the credit facilities. Despite a large number of bank branches and micro finance institutions in our country, a large segment of our population particularly rural poor have scant access to banking services. Bangladesh Bank has started to find a way out

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of this situation where services like deposit, small credit etc. need to be made available to the common people for the sake of eradicating poverty and enhancing economic growth in the economy. Bangladesh Bank and the Government of Bangladesh (GOB) have adopted several remedial measures to bridge these gaps in financial inclusion. This study is an attempt to examine the variety of initiatives and practices under the umbrella of financial inclusion and examine its impact on reducing poverty and ensure stability in economic growth.

2. Objectives of the Study

The broad objective of this study is to examine the role of financial inclusion practices of Bangladesh Bank on diverse segments of the economy. In this case, recent rules and regulations of Bangladesh Bank under financial inclusion activities have been thoroughly reviewed. This process has explored important insight about the contributions of financial inclusion practices, which have brought desirable results in the economy. More specifically, this study incorporates the following aspects:

- i. to examine the diverse financial inclusion practices of Bangladesh Bank in brief;
- ii. to investigate the impact of existing activities of financial inclusion practices on individuals, institutions and the economy of Bangladesh; and
- iii. to quantify, analyze and visualize the probable influence of financial inclusions in enhancing economic growth and eradicating poverty from the economy.

3. Financial inclusion or Inclusive Financing: Basic Concept

Financial Inclusion (FI) is defined as the degree of access to and use of formal financial services by households and firms. Greater FI allows for financially marginalized groups to increase their income, reduce its volatility, and build assets, thereby providing resilience to economic shocks and helping create jobs and promote business activities. Financial inclusion or inclusive financing is the delivery of financial services at affordable costs to sections of disadvantaged and low-income segments of society, in contrast to financial exclusion where those services are not available or affordable.

In its landmark research titled “Building Inclusive Financial Sector for Development” (2006), popularly known as the Blue Book has explained that financial inclusion has become an issue of worldwide concern, relevant equally in economies of the underdeveloped, developing and developed nations. Building an inclusive financial sector has gained growing global recognition bringing to the fore the need for development strategies that touch all live, instead of select few. Financial inclusion provides an access to the range of financial services at a reasonable cost for the bankable people and farms. An inclusive financial system thus has to provide access to an extended range of services to the poor.

Rangarajan Committee on Financial Inclusion (RBI, 2008) has argued that an open and efficient society is always characterized by the unrestrained access to public goods and services. As banking services are in the nature of public goods, financial inclusion should therefore be viewed as availability of banking and payment services to the entire population without discrimination of any type. Finally, the Rangarajan Committee has defined financial inclusion as “delivery of banking services and credit at an affordable cost to the vast sections of disadvantaged and low income groups. The various financial services include saving, loans, insurance, payments, remittance facilities and financial counseling/advisory services by the formal financial system.”

Figure: 1 Definition of Financial Inclusion by (RBI 2008)



Subbaro. (2013) asserts that financial inclusion does not only mean providing financial services. It also includes ‘financial literacy’, meaning financial awareness, knowledge about banks and banking channels, facilities provided by banks, advantages of using banking routes etc. It involves educating people financially, making them financially literate. Financial inclusion and financial literacy are integral to each other, they are two elements of an integral strategy. The disadvantaged people need both access to and awareness of financial services. Financial literacy is the demand side phenomena and financial inclusion is the supply side response.

3.1 Significance of Financial Inclusion Practices

The World Bank Global Financial Inclusion (Global Findex) Database portrays that 2.5 billion adults globally—about half the total adult population—have no access to financial services delivered by regulated financial institutions. While account penetration is nearly universal in high-income economies, with 89 percent of adults reporting that they have an account at a formal financial institution, it is only

41 percent in developing economies. Instead, developing economies need to depend on informal mechanisms for loans, savings and to protect themselves against risks such as uneven cash flows, seasonal incomes and unplanned needs such as sickness. Due to a lack of access, the poor are forced to rely on moneylenders for credit at high rates of interest, they use substitutes such as livestock or gold as a form of savings, and in emergencies they often have to pawn assets. In such a developing economy, the practice of financial inclusion is significant for the following reasons:

1. Financial inclusion enables the poorest and most vulnerable in society to step out of poverty and reduces the inequality in society.
2. Financial inclusion not only helps individuals and families, but collectively develops entire communities and can help drive economic growth.
3. Participation within the financial system leads to all kinds of individual benefits that includes
 - i. Ability to start and develop a business, which gives people an opportunity through micro-financing schemes for example to better long term prospects.
 - ii. Being able to pay for educating the children, which in turn enables a new generation of educated and informed individuals.
- iv. The ability to handle uncertainties that require ad hoc and unexpected payments for ‘financial shocks’
4. Financial inclusion through access to an account, savings and a payment systems of all kind enables potential and empowers men, women and whole communities. This in turn promotes investment within the community that creates employment, boost income and one’s outlook on life. Collectively this helps to invigorate economies.

4. Review of Literature

There are several studies done on financial inclusion, like Rahman A. (2009) 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.

According to Maftau, (2003) bank credit helps in expanding and reforming all types of agricultural enterprise, that are considered economically achievable and desirable to the achievement of the stated economic goals of self-sufficiency in agricultural production. Nwanyanwu, (2011) identified banks’ traditional roles include financing of agriculture, amnufacturing, and syndicating of credit to productive sectors of the economy. Toby *et al.* (2014), worked on role of banks in financing the agriculture and manufacturing sectors in Nigeria and found that Nigeria’s commercial and merchant banks lagged behind in financing agriculture when compared to manufacturing. Bashir *et al.* (2010), fund that agricultural credit plays an important role in facilitating the transformation of agriculture and raising the participation of farmers in production process.

Sarma & Pais (2011), 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. Ezazul & Salim, (2011) studied financial inclusion and the role of Bangladesh. In that study only theoretical perspective of financial inclusion has been 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. Mehta and Realini (2015) commented financial inclusion as incredible as it may seem in this hyper-connected, technologically advanced era. Half the planet's population exists as "Financial Nomads"-those who nourish and shelter themselves without using traditional banking services. While the wealthy live at the top of a metaphorical pyramid, taking financial security and banking services for granted, there are billions of people who struggle at the pyramid's base in an exhausting state of financial exclusion and insecurity.

5. Evaluation of Financial Inclusion Practices in Bangladesh

Bangladesh Bank (BB) has undertaken a comprehensive financial inclusion campaign to reach out with financial services to the disadvantaged population of the country. Along with moral suasion, a number of policy measures covering opening of bank branches, deposit and credit products, some of which are very innovative for the banking system, have been taken in this regard. Few of those financial inclusion practices by Bangladesh Bank are discussed below:

5.1 Practices under Financial Inclusion Department

Bangladesh Bank has extended formal banking services to less privileged people in urban and rural areas. BB has identified the target group of people (farmers, hardcore poor, beneficiary under the social security program, freedom fighters, small life insurance policy holder, city corporation cleaning workers, food & livelihood security program, national service program, physically challenged persons, distressed rehabilitation, RMG workers, street working children, and school students) and advised banks for opening No-Frill Accounts (NFAs).

5.1.1 No-Frills Accounts (NFA) for Farmers and other than Farmers

BB instructed the specialized commercial banks (SCBs) and development financial institutions (DFIs) to open NFAs for farmers in January 2010. Up to FY15, BB has gradually issued instructions to these banks for opening nine categories of NFAs other than farmer's account including NFAs for readymade garment workers and workers of small footwear & leather product industries and also for physically challenged persons. The total number of NFAs in different categories and their outstanding balances are presented in Table 1.

Table 1: Total number of NFAs and outstanding balance for farmers and non-farmers as of end of December 2015

Account sectors	Number of Accounts	Outstanding Balance (In Crore)
Farmer	8933944	159.26
Beneficiaries under social safety net program	3920145	205.905
Freedom fighters	192087	92.273
Small life insurance policy holder (Taka 100 A/C)	57424	3.355
National service program	17489	3.329
Hardcore poor	2046302	84.617
City corporation cleaning workers	9711	0.261
Distressed rehabilitation	1208	0.041
Food & livelihood security	65030	0.919
Physically challenged persons	115941	5.832
RMG workers	279002	85.195
LSBPC-Shoe & Leather Worker	7035	2.332
Others	293836	6.349
Total	15939154	649.668

Source: Financial Inclusion Department, Bangladesh Bank

5.1.2 School Banking

In order to broaden and deepen the financial inclusion through including the students under the age of 18, BB advised the scheduled banks to introduce school banking activities in 2010 and subsequently issued a comprehensive guideline in October 2013. Any school going student can open school banking account through parents or legal guardian by depositing a minimum of Taka 100. Total outstanding balance of school banking stood at Taka 844.19 million against 1034954 accounts at the end of December 2015.

5.1.3 Agent Banking

Bangladesh Bank issued agent banking guidelines in December 2013 for the banks with a view to safety, security and soundness of the proposed alternative delivery channel for banking services for non-privileged, under-served population and the poor segment of the society, especially from geographically remote location. Agent banking has opened the doorway to provide banking services through an outlet by banks where branch establishment is extremely difficult or not feasible. Till April 2015, number of agents stood at 295, sub-agent 671 and number of accounts was 192,283 which is presented in Table 2.

Table 2: Approved Agent banking banks, agent, sub-agent and number of accounts

Name of Banks	Date of receipt of the license	Agent	Sub-Agent	No. of Accounts
Dutch Bangla Bank Ltd	27/07/2014	163	480	115,829
Bank Asia Ltd	29/05/2014	95	123	60,831
Al Arafah Islami Bank Ltd	22/04/2015	21	36	13,363
Social Islami Bank Ltd	30/06/2015	1	10	561
Standard Bank Limited	30/06/2015	5	5	461
Modhumoti Bank Ltd	30/06/2015	6	6	784
NBR Commercial Bank	29/05/2014	4	11	454
Agrani Bank Ltd	26/10/2015			
Trust Bank Ltd	13/12/2015			
Mutual Trust Bank Ltd	7/1/2016			
First Security Islami Bank Ltd	1/9/2015			
South Bangla Agricultural and Commerce Bank Ltd	24/07/2014			
Total (15 banks)		295	671	192,283

Source: Financial Inclusion Department, Bangladesh Bank

5.1.4 Bangladesh Bank Refinance Scheme for Taka 10 Account Holders

With a view to bring the financially deprived grass root population under formal financial services and to gear up the banking activities of Taka 10 accounts, BB constructed a Revolving refinance Fund in May 2014. The size of fund is Taka 2.0 billion. Highest limit of refinance facility is Taka 50,000 under this scheme and participating banks will be provided interest subsidy under certain conditions. A detail of different account sectors and the amount of loan disbursed under this refinancing scheme till December 2015 has been presented in Table 3.

Table 3: Number of Accounts and amount of loan disbursed in BB refinance scheme for Tk. 10 Account holders

Account sectors	Number of Accounts	Amount of Loan Disbursed
Farmer	30739	113.484
Hardcore poor	695	1.979
Freedom fighters	204	0.74
Beneficiaries under social safety net program	866	0.195
Food & livelihood security	23	0.071
Others	273	1.153
TOTAL	32800	117.621

Source: Financial Inclusion Department, Bangladesh Bank

5.2 Practices under Agricultural Credit Department

Agriculture is a dominant sector of our economy and credit plays an important role in increasing agricultural production. Availability and access to adequate, timely and low cost credit from institutional sources is of great importance especially to small and marginal farmers. The major concern of BB is therefore; to bring all the farmer households within the banking fold and promote complete financial inclusion for the enhancement of agricultural activities in the economy. Few financial inclusion practices for promoting agriculture in Bangladesh are discussed below:

5.2.1 Formulation of Agriculture Credit Policy and Target

BB regularly formulates annual agricultural credit policy which helps to increase the supply of credit in the rural areas and reviving the rural economy. This policy support accelerates the agricultural production and helps to reduce rural poverty through increasing flow of funds. BB declared its annual agricultural and rural credit policy and program for FY15 with a disbursement target of Taka 155.5 billion, which was 6.5 percent higher than the disbursement target of Taka 146.0 billion in FY14.

5.2.2 Bangladesh Bank's 500 crore Refinance Scheme for Share Croppers

Bangladesh Bank undertook a special refinance scheme of revolving amount of 500 crore for the sharecroppers. It has been continued in FY15 which BB undertook in FY10. Under this scheme BB has refinanced Taka 18.23 billion to more than 10.47 million sharecroppers till FY15. In FY16 BB has already refinanced Taka 22.87 billion to 11.95 million sharecroppers up to March FY16.

5.3 Practices under SME & Special Programs Department

The SME and special program department of the central bank has been implementing different refinancing schemes with financial assistance of lending agencies such as the Asian Development Bank, World Bank (IDA credit) and Japan International Cooperation Agency. A provision has also been included in such refinancing funds so that women entrepreneurs get financing at concessional interest rate and on easy terms and conditions. One of the core objectives of the creation of the department at the central bank is to empower women through their greater participation in SME activities. To achieve this goal, the Bangladesh Bank has taken a number of policy initiatives: (a) 15 percent of the refinance fund is allocated for women entrepreneurs at a reduced interest rate of 10 percent; (b) every bank and non-banking financial institution has to have a separate desk dedicated to women entrepreneurs; (c) banks and non-bank financial institutions (NBFIs) may sanction loan of TK 25,00,000 to women entrepreneurs without collateral but against personal guarantee under refinancing facilities if borrowers are women entrepreneurs or if 51 per cent of the shareholders are women; (d) a policy of group-based lending of up to TK 50,000 or above has been instigated in order to include a large number of micro women entrepreneurs in SME credit facilities; and (e) promotion activities with traded bodies focused on women.

5.3.1 Refinance for Small Enterprises (BB Fund)

Bangladesh Bank has launched a refinance scheme named Small Enterprise Fund (SEF) of Taka 6.0 billion at bank rate to support the development of small enterprises

in the country which is being used as a revolving fund. An amount of Taka 23.3 billion (including women fund) was refinanced to 22 banks and 22 NBFIs at the end of June 15 to support 25115 enterprises (Appendix- 3).

5.3.2 Refinance Scheme for Agro-based Product Processing Industries

In order to boost up agro-based product-processing industries in the areas outside divisional headquarters and Narayanganj town, Bangladesh Bank provides refinancing facilities to banks and NBFIs at the bank rate. An amount of Taka 74.1 billion was disbursed under this scheme by the end of June 2015 among 2110 enterprises on revolving basis (Appendix- 3).

5.3.3 Refinance Fund for New Entrepreneurs under Cottage, Micro and Small Category

Bangladesh Bank has created a fund of Taka 1.0 billion to provide start-up capital to new cottage, micro and small enterprises where the prospective entrepreneurs will get financing facilities at 10.0 percent interest rate (bank rate + 5 percent). At the end of June 2015, Taka 5.3 million was refinanced to banks and NBFIs against eight new enterprises (Appendix- 3).

5.3.4 Islamic Shariah Based Refinance Scheme

Bangladesh Bank launched a special refinance fund under Islamic Shariah mode on 18 September 2014 to increase the involvement of Islamic banks and NBFIs in financing SMEs. Under this fund, Islamic banks and NBFIs will get refinance against their financing to agro-based industries, small enterprises (including women led SMEs) and new entrepreneurs in cottage, micro and small sector. At the end of June 2015, Taka 0.5 billion was refinanced to banks and NBFIs against 131 enterprises (Appendix- 3).

5.3.5 Refinance to Women Entrepreneurs

The Government and Bangladesh Bank put much emphasis on the development of SME with special focus on women-run SMEs ensuring their greater access to formal financial system. An amount of Taka 11.7 billion was refinanced to women entrepreneurs at the end of June 2015 against 12834 enterprises (Appendix- 3).

6. Methodology of the Study

The basic objectives of this study is to examine the financial inclusion practices of Bangladesh Bank and to determine its impact on enhancing economic growth and removing poverty from the economy. To accomplish these objectives the contemporary issues of financial inclusion practices of BB has been reviewed. Yearly secondary data from 2003 to 2015 supplied by the Financial Inclusion Department and different publications of Bangladesh Bank have been considered. The growth of different relevant variables have been computed which is believed to be due to the practice of financial inclusion by Bangladesh Bank. Finally, two multivariate regression model have been estimated. The 1st regression model examines the impact of different financial inclusion variables on poverty headcount ratio at national poverty line (which is the proxy measure of poverty level). Whereas the 2nd regression model examines the impact of few selected financial inclusion variables on GDP per capita in dollars (which is the proxy measure of economic growth).

7. Impact of Financial Inclusion

This study is intended to examine the impact of financial inclusion practices of Bangladesh Bank on diverse areas of economic and social development of Bangladesh. Since from the beginning of 2010, financial inclusion department, agricultural credit department and SME and special program department of Bangladesh Bank are actively serving their role in ensuring optimum economic benefit and social welfare for the populations of Bangladesh. Table: 4 presents the statistics that explain the impact of financial inclusion on the number of bank deposit account, number of MFI members and number of cooperatives between the period of 2003 and 2015. It has been found that the growth rate of the number of bank deposit account and the number of members in cooperatives have gone significant improvement from the year 2010 onwards. On the other hand, the growth of MFI members exhibit a little bit volatile during this sample period. The average growth rate of number of bank deposit account during 2010-15 is 11.53 million whereas during 2004-09 it was 4.145 million. In case of the number of members in cooperatives the average growth are 1.973 million and 3.194 million before and after the implementation of the practice of financial inclusion. The average number of MFI members was 10.1 million during the period 2003-09 whereas it is 3.79 million during 2010-14. This declining exposure may be due to unstable economic condition at the beginning of 2011.

Table 4: Impact of Financial Inclusion on No. of Bank Deposit Account, MFI Members and Members in Cooperatives

Year	Number of Bank Deposit Account (in million)	Growth Rate (%)	Number of MFI Members (in million)	Growth Rate (%)	Number of Members in Cooperatives (in million)	Growth Rate (%)
2003	31.30		14.63		7.57	
2004	31.60	0.96	14.40	-1.57	7.63	0.79
2005	33.10	4.75	18.82	30.69	7.79	2.10
2006	34.50	4.23	22.89	21.63	7.89	1.28
2007	36.30	5.22	20.56	-10.18	8.08	2.41
2008	38.60	6.34	23.45	14.06	8.31	2.85
2009	39.90	3.37	24.85	5.97	8.51	2.41
Implementation of Financial Inclusion by Bangladesh Bank						
2010	48.70	22.06	25.28	1.73	8.67	1.88
2011	55.18	13.31	26.08	3.16	9.01	3.92
2012	58.70	6.38	24.64	-5.52	9.22	2.33
2013	66.60	13.46	24.60	-0.16	9.48	2.82
2014	70.00	5.11	29.28	19.02	10.30	8.62
2015	76.20	8.86				

Source: Financial Inclusion Department, Bangladesh Bank

In the same manner, the impact of financial inclusion has been measured on the number of scheduled banks branches, population per bank branch and number of ATMs which has been presented in Table 5. It is found that the number of scheduled bank branches is significantly increased after the implementation of financial inclusion (i.e. from the year 2010) practices by Bangladesh Bank. At the same time population per bank branch is significantly decreased from the beginning of the year 2010 and onwards indicating increased availability of formal banking services for the general people. All these evidence actually reveals the positive contribution financial inclusion practices of Bangladesh Bank after 2010. In case of number of ATMs, significant development has been evident after the year 2010 and onwards. Although the growth rate of number of ATMs was higher (i.e. 61.96 percent) during 2003-09 period compared to after financial inclusion period 2010-14 (i.e. 54.132 percent) but that may be due to banking policy restrictions for unstable political atmosphere after 2010.

Table 5: Impact of Financial Inclusion on No. of Scheduled Banks, Population per Branch, and No. of ATMs

Year	Scheduled bank Branches	Growth Rate (%)	Population Per Bank Branch	Growth Rate (%)	Number of ATM	Growth Rate (%)
2003						
2004	6304		21447		115	
2005	6404	1.59	21393	-0.25	184	60.00
2006	6565	2.51	21142	-1.17	330	79.35
2007	6727	2.47	20901	-1.14	486	47.27
2008	6886	2.36	20680	-1.06	816	67.90
2009	7187	4.37	20064	-2.98	1267	55.27
Implementation of Financial Inclusion by Bangladesh Bank						
2010	7658	6.55	19078	-4.91	2121	67.40
2011	7961	3.96	18804	-1.44	3797	79.02
2012	8322	4.53	18217	-3.12	6117	61.10
2013	8685	4.36	17697	-2.85	6775	10.76
2014	9040	4.09	17235	-2.61	10324	52.38
2015	9397	3.95	16803	-2.51		

Source: Financial Inclusion Department, Bangladesh Bank

Table: 6 presents the positive trend of the number of no-frills account; the number of authorized mobile banking agents; number of registered mobile banking agent outlet; savings amount in school banking account and number of sharecroppers under BDT 500 crore refinancing scheme. In every cases, a significant growth picture has been depicted which are expected to be influenced by the impressive financial inclusion practices initiated by Bangladesh Bank after the year 2010.

Table 6: Impact of Financial Inclusion on Diverse Sectors

Year	No. of No Frills Account	Authorized Mobile Banking Agent	No. of Registered Mobile Banking Agent outlet	No. of School Bank Account	Amount of in School Banking Account (in crore)	No. of Sharecroppers (In Lac) under 500 Crore Refinance scheme
2010						0.67571
2011	9,587,184	2551	5654	29080	30.79	1.66272
2012	13,051,161	20822	25988	132537	96.51	1.97998
2013	13,845,134	59043	116830	295802	305.79	2.63773
2014	14,960,938	149692	431312	850303	717.49	2.01614
2015	15,939,154			1034954	844.19	1.62912

Source: Financial Inclusion Department, Bangladesh Bank

Another area where financial inclusion have made significant mark is the distribution of SME credit and credit to women enterprise. Table 7 presents the amount of disbursement of SME credit and credit to women enterprise during the period from 2011 to 2015. It has been found that, from the very inception of implementing financial inclusion in the year 2010, the trend of disbursement of SME credit and credit to women enterprise tends to be positive. This contribution of SME and women enterprise credit due to the implementation of financial inclusion have certainly made development in small and medium enterprise as well as enhance the growth of women entrepreneurship in Bangladesh.

Table 7: Actual Disbursement of SME Credit (Taka in billion)

Year	Service	Trade	Manufacturing	Female Enterprise	Total
2011	35.3	343.8	158.1	20.5	537.2
2012	36.3 (2.83%)	442.3 (28.65%)	219.0 (38.52%)	22.2 (8.29%)	697.5 (29.84%)
2013	46.0 (26.72%)	567.0 (28.19%)	240.2 (9.68%)	33.5 (50.9%)	853.2 (22.32%)
2014	79.0 (71.73%)	627.7 (10.71%)	302.5 (25.94%)	39.4 (17.61%)	1009.1 (18.27%)
2015	118.6 (50.13%)	735.5 (17.17%)	304.6 (0.694%)	42.3 (7.36%)	1158.7 (24.83%)

Note: Value within the parentheses indicates percentage growth rate

In order to examine the impact of financial inclusion on the socio-economic development of Bangladesh, this study develops and incorporates two regression model. In regression model:1, poverty headcount ratio at national poverty line measured as a percentage of population (used as a proxy measure of poverty level in the economy) has been considered as dependent variable. On the other hand, the 1st lag of four different variables such as number of bank deposit accounts; number of

members in MFIs; number of members in cooperatives, and number of ATMs have been considered as independent variables. Whereas in regression model: 2, GDP per capita measured in US dollar (which is a proxy measure of economic growth) has been considered as dependent variable. On the other hand, 1st lag of number of banks in 1000 km.2; all MFI branches per 1000 km.2; credit unions and other cooperative branches per 1000km.2, and number of ATMs per 1000 km.2 have been considered as independent variables. The algebraic expression of the two multivariate regression models are:

Regression Model 1: $\log(\text{poverty headcount ratio at national poverty line}) = \alpha + \beta_1 \log(\text{No. of bank deposit account}(-1)) + \beta_2 \log(\text{No. of members in MFIs}(-1)) + \beta_3 \log(\text{No. of members in cooperatives}(-1)) + \beta_4 \log(\text{No. of ATMs}(-1))$

Regression Model 2: $\log(\text{GDP per capita in \$}) = \alpha + \beta_1 \log(\text{No. of banks in 10000km.2}(-1)) + \beta_2 \log(\text{All MFI branches per 1000km.2}(-1)) + \beta_3 \log(\text{credit union \& other cooperative branches per 10000km.2}(-1)) + \beta_4 \log(\text{No. of ATMs per 10000km.2}(-1))$

Table 8: Estimates of Regression Coefficients for Regression Model: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.267607	0.486559	10.82624	0.0000
$\log(\text{No. of bank deposit account}(-1))$	0.030629	0.136868	0.223783	0.8293
$\log(\text{No. of members in MFIs}(-1))$	0.061376	0.074553	0.823253	0.4375
$\log(\text{No. of members in cooperatives}(-1))$	-0.739599	0.300555	-2.460776	0.0434*
$\log(\text{No. of ATMs}(-1))$	-0.072805	0.025961	-2.804399	0.0264*

Note: * implies statistically significant at 5 percent level.

Table 9: Estimates of Regression Coefficients for Regression Model: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.01006	19.38090	0.980866	0.3717
$\log(\text{No. of banks per 1000 km.2}(-1))$	2.288604	1.936509	1.181819	0.2904
$\log(\text{All MFI branches per 1000 km.2}(-1))$	-0.032406	0.191955	-0.168821	0.8726
$\log(\text{Credit union \& other cooperative branches per 1000 km.2}(-1))$	-3.067682	3.211044	-0.955353	0.3833
$\log(\text{No. of ATMs per 1000 km.2}(-1))$	0.196109	0.188608	1.039771	0.3461

The estimates of regression coefficient, their standard error, t-statistics and its statistical significance for Model: 1 and Model: 2 have been presented in Table: 8 and in Table: 9 respectively. In Table: 8, the number of bank deposit accounts and number of members in MFIs are found to have positive regression coefficients but these coefficients are not statistically significant. On the other hand, number of members in cooperatives and number of ATMs are found to have negative coefficients but these coefficients are found to be statistically significant at 5 percent

level. This result explains that an increase in cooperative members and ATMs significantly explain the decrease in the poverty level in the economy. On the other hand, the estimates of regression model: 2 in Table 9, the number of banks per 1000 km.² is found to have positive regression coefficient with GDP per capital measured in US dollars. This evidence implies that an increase in the number of banks per 1000 km.² have positive statistical association with the increase of GDP per capita. All the remaining four independent variables (i.e. all MFI branches per 1000 km.²; credit unions and other cooperative branches per 1000 km.², and number of ATMs per 1000 km.²) are found to have negative statistical association with GDP per capita. Surprisingly all the four independent variables in regression model: 2 are found to be statistically insignificant in describing the changes in GDP per capita.

8. Findings of the Study

Financial inclusion becomes an increasingly essential and key tool for economic development and financial stability. Bangladesh economy exhibits a satisfactory development in recent years due to providing financial services to financially excluded people through mainstream financial institutions. Financial inclusion practices of Bangladesh Bank have a significant impact on improving economic welfare of poor disadvantaged and unbanked people through enhancing per capital GDP measured in U.S. dollar. Some key finding are given below-

1. Poverty headcount ratio at national poverty line reduces from 41.3 percent in 2003 to 24.9 percent in 2015. Regression analysis shows that the number of members in cooperatives and no. of ATMs are statistically significant in reducing the poverty level in the economy.
2. Total 15.94 million No-frill Accounts are opened till 2015. Total saving is Taka 649 crore,
3. Total 1.03 million School Bank Account are opened till 2015 have a saving of Taka 844 crore. This indicates positive inclusion of children and youth in financial activities.
4. BB's refinance against Agricultural loans and BB's Taka 500 crore refinance scheme for share croppers shows positive trend in disbursement amount.
5. Different refinance scheme under SME & Special programs Department shows positive trend in loan disbursement and involvement of women entrepreneurs is remarkable. Evidence from Small Women Entrepreneur shows improvement of women's economic welfare and women empowerment through Financial Inclusion.
6. Agent banking is a brand new initiative of BB. Proper policy making and monitoring will contribute in its development in Bangladesh.
7. Changing of urban: rural branch opening rules from 5:1 to 1:1 has positive impact in branch opening as the average urban : rural bank branch opening ration is 1 : 0.88 which is close to 1:1 ratio.

9. Conclusion

The policies and measures which have been undertaken by Bangladesh Bank so far in the economy in the context of Financial Inclusion are of course essential and in the right directions and have already started creating its positive impacts. Continuation and expansion of these initiatives and practices would certainly provide the economy a better inclusive financial system. In this journey of inclusive financial system by gradually including financially excluded people and by providing better financial services to already included people, the role of Bangladesh Bank would be significant as the central bank of Bangladesh. More research works on financial inclusion can provide new thoughts and scope of its expansion. Bangladesh Bank should take necessary initiatives to measure the impact of their financial inclusion practices through research and detailed monitoring of different development programs. To eradicate poverty and reduce unemployment rate of the economy Financial Inclusion programs should be maintained regularly. In this situation, further active research on the relevant area can bring more positive impact of financial inclusion practices of Bangladesh Bank.

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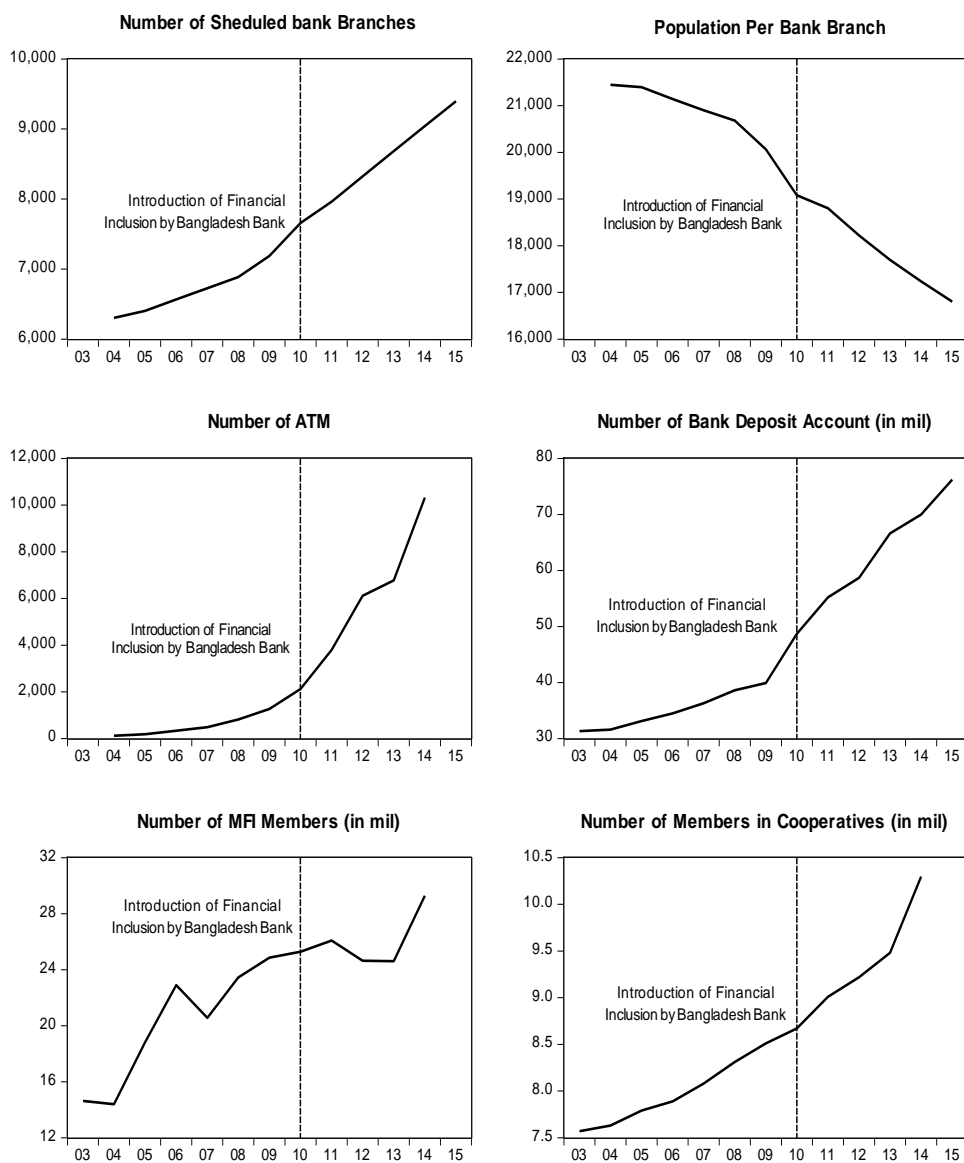
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Appendices

Appendix-1

Figure 1: Effect of Financial Inclusion Concept by Bangladesh Bank Before and After the Year 2010



Appendix-2

Table 1: Target disbursement and actual disbursement of SME credit in FY15

	FY15
Total disbursement (Target)	1045.9
Service	130.0
Trade	388.6
Manufacturing	527.3
Total Female Enterprise	59.3
Total disbursement (Actual)	1158.7
Service	118.6
Trade	735.5
Manufacturing	304.6
Total Female Enterprise	42.3

Appendix-3

Table 2: Different refinance schemes under SME department

Different refinance schemes under SME department		FY15
Bangladesh Bank Fund (BB Fund)	No. Of Enterprise	25115
	Amount (billion)	23.3
Agro-based Product Processing Industries	Number Of Enterprise	2110
	Amount (billion)	74.1
Refinance to Women Entrepreneurs	No. Of Enterprise	12834
	Amount (billion)	11.7
Small Enterprise Refinance Scheme for Women Entrepreneur	No. Of Enterprise	2814
	Amount (billion)	3.99
New Entrepreneurs under Cottage, Micro and Small Category	No. Of Enterprise	8
	Amount (million)	5.3
Islamic Shariah Based Refinance Scheme	No. Of Enterprise	131
	Amount (billion)	0.5