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# Effects of Financial Inclusion on the Economic Growth of Developing Countries: An Empirical Analysis of the Bangladesh Economy

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#### **ABSTRACT**

Financial inclusion in its widest meaning refers to inexpensive access to an extensive variety of financial facilities. These include banking products, insurance, stock investments, and other financial services. Financial inclusion helps economic development by widening the financial system's resource base and encouraging rural residents to save. It also helps the rural economy grow. In this study, from 2011 to 2020, the connection between financial inclusion and economic development is examined. Financial inclusion is assessed by the number of Automated Teller Machines (ATMs) and the credit-deposit ratio (CDR), among other factors. Multiple regression analysis was used to analyze secondary data, along with other approaches. Before analysis, the data were checked for completeness and correctness. VIF and Durbin-Watson tests examined multicollinearity and autocorrelation in the data. The study's policy implications include that financial inclusion, in all of its forms, is determined to be one of the most important components of economic development. The study focuses that the government and other policymakers must strive to preserve and promote sustainable and inclusive growth, which may be achieved via the expansion of financial inclusion. Furthermore, the results provide support to the government of Bangladesh's social banking initiatives, which are being carried out in order to promote financial inclusion. The research found that ATMs significantly boost the country's GDP. Nonetheless, the CDR has a little beneficial influence on the GDP.

**Keywords:** ATM, Bangladesh, Credit-Deposit Ratio, Developing Country, Economic Growth, Financial Inclusion, GDP.

## INTRODUCTION

When key institutional players in a society make available low-cost financial services and products to all segments of society, including vulnerable segments like weaker parts and low-income groups, this is known as financial inclusion. To reduce severe poverty and promote equitable and sustainable development, financial inclusion is essential (Global Financial Development Report, 2010). Without limits on people's access to credit, fewer people would be able to find employment, which would slow down economic growth (Khaki & Sangmi, 2017). Institutional financial services in Bangladesh continue fall short of addressing the requirements of many people, despite the government's efforts. However, there are no definitive numbers available, a number of studies have shown that more than 40% of Bangladesh's population is still not part of the country's formal financial system (Uddin, 2020; Lateef & Al-Jassam, 2022; Siddiqui, 2022). Financial exclusion is caused by a number of factors, including a lack of income-generating activities and financial literacy, easy access to alternative lenders, and the indifference of commercial banks. The country of Bangladesh suffers from a lack of accessible, affordable, and appropriate financial services.

A strong and comprehensive financial system is required for the country's progress (Iqbal & Sami, 2017). Financial inclusion is the provision of financial services, including banking products as well as equity and insurance products. However, banks are essential for financial inclusion since without them, achieving the appropriate degree of financial inclusion is difficult. Financial inclusion is promoted through increasing banking penetration and accessibility (Raman, 2012; Begum & Khan, 2022). To help the country's economy flourish, banks operate as financial intermediaries, identifying entrepreneurs who have the potential to start new financial businesses (Chakrabarty, 2013; Alam & Hoque, 2022; Noor, 2022). Savings, credit, remittances, and insurance are required in the early stages of financial inclusion and can only be provided by banks since they have a vast integrated network of commercial banks, County Countryside Banks, cooperatives, and advanced technology and human resources. Our study looked at the present state of financial inclusion in Bangladesh. We also looked at the influence of financial inclusion on economic development in Bangladesh.

Globally, authorities and development organizations are prioritizing financial inclusion. Since 2010, about 30 countries have adopted or are developing financial inclusion as a national policy, and over 55 nations have committed to adopting it (World Bank, 2017). The World Bank has set a target of universal financial access (UFA) by 2020, calling it a game changer in reducing poverty

and increasing shared prosperity. Various nations have promoted financial inclusion. M-PESA in Kenya, G-Cash in the Philippines, Celpay in Zambia, and MTN in South Africa are examples of successful mobile financial services (Wang & Guan, 2017). The G-20 confirmed its commitment to adopt the G-20 high-level principles for digital financial inclusion.

A literature study finds limited research assessing the influence of financial inclusion on India's economic development, with varied findings. In this context, the research sought to assess the influence of financial inclusion on Bangladesh's economic development.

There is a wealth of literature on the causes and effects of financial exclusion. We are not aware of any studies conducted in Bangladesh on the topic of banking products for financial inclusion. The results of this investigation are meant to add to the existing body of work. We also analyzed how financial inclusion has affected growth in Bangladesh's economy.

#### **OBJECTIVES OF THE STUDY**

The present study's aims are as follows:

- (1) To assess present financial inclusion in Bangladesh.
- (2) Analyze the influence of financial inclusion metrics on Bangladesh's GDP.
- (3) Propose ways to improve financial inclusion.

The rest of the article is organized as follows: Section II examines the literature. Fig. 3 illustrates the theory Section IV observes the research design. Section V examines the data and presents the empirical findings. Section VI concludes.

## LITERATURE REVIEW

## Financial Inclusion

Many researchers have looked at the nature and breadth of financial inclusion. A solid financial system is vital for economic growth. So, everyone must participate. Consumers with low income are more prone to financial exclusion, which further entrenches them in poverty (Bayero & Abdullahi, 2015). Worldwide, about 2 billion people lack access to proper financial services, with over 50% of individuals in the poorest families unbanked. Financial inclusion will significantly reduce poverty and increase prosperity. Lack of a bank account restricts access to financial counsel, weakens financial capability, and leads to a bad credit score (Jones, 2008).

With no-fee accounts, Bangladesh seeks to make banking accessible to everybody. Bangladesh's financial inclusion initiatives relax license requirements for ATMs, new bank branches, business correspondents, microfinance institutions, retired bank or government personnel, retail proprietors, and even SHG officials (Kapoor, 2014). Despite the large penetration of bank accounts, financial inclusion in India is still not reached (Cnaan, Moodithaya, & Handy, 2012).

# Financial Inclusion and Economic Growth

(Sharma, 2016) researched the relationship between financial inclusion and economic development in Bangladesh and found that financial inclusion is one of the primary economic drivers. The findings also showed that banking penetration, availability, and use in terms of deposits are vital for economic development. (Beck, Senbet, & Simbanegavi, 2015) researched financial inclusion and innovation in Africa and concluded that it benefits economies and society. Financial inclusion reduces inflation and hence stabilizes prices, allowing the economy to grow (Lenka & Bairwa, 2016). Developing nations must embrace inclusive financial policies to reduce poverty (Zulkhibri, 2016).

#### Financial Inclusion and the Bank's Role

Specifically, Kumar's 2013 research looked at the current level of financial inclusion in India, as well as the factors that influence it. The results demonstrated that financial inclusion in banking was a reality. Central banks and regulatory agencies will need affordable, flexible, and innovative measures to ensure that excluded groups are accessed by various banks in order to make financial inclusion feasible via the institutional framework (Ghosh, 2013). In addition to official financial services, microfinance organizations and self-help groups have been encouraged as a means of reaching out to those who are economically disadvantaged. Ultimately, according to Nelson (2010)'s research, authorities should place a greater emphasis on local banks rather than international institutions in order to attain better levels of financial inclusion. Banking institutions, both large and small, play a vital role in promoting financial inclusion among young people (Friedline & Rauktis, 2014). In order to achieve sustainable development via financial inclusion, central banks must support a diverse range of institutions (commercial, development, and community banks) and encourage their cooperation (Ghosh, 2013).

## RESEARCH HYPOTHESIS

**H<sub>1</sub>.** Financial inclusion has a substantial influence on the economic progress of Bangladesh, as has been shown.

# Sub-hypothesis

**H**<sub>1.1</sub>. Automatic Teller Machines (per 100,000 individuals) have a substantial influence on Bangladesh's gross domestic product (GDP).

**H**<sub>1.2</sub>. The Credit Deposit Ratio has a substantial influence on the Gross Domestic Product (GDP) of Bangladesh.

# RESEARCH METHODOLOGY

# Independent variables

According to the results of a study performed by the International Monetary Fund in 2012, there are three fundamental characteristics of financial inclusion via banking:

- a) Number of deposit accounts and number of loan accounts owned by a financial institution are two ways to gauge the extent to which a banking institution has penetrated a certain market.
- b) It is measured by the availability of banking institutions and automated teller machines, as well as the percentage of the population that has access to such facilities.
- c) Customers' demand for the company's baked goods.

With these three factors in mind—banking system penetration, availability of financial services, and actual consumption of financial services—Sarma (2008) developed a comprehensive reach index. The number of automated teller machines, loan accounts, savings accounts, and bank branches per 100,000 individuals were among the first external metrics we considered. Due to autocorrelation and multicollinearity, we had to combine two variables (the number of loan accounts and deposit accounts) and delete one (the number of bank branches per 100,000 people).

# **Dependent Variables**

Because the study's purpose is to assess the impact of financial inclusion on India's economic growth, the dependent variable is GDP (growth rate). The US Gross Domestic Product (GDP) at current prices is used to gauge economic growth. GDP is used to analyze economic growth since it is a dependable indicator (Wong, 2008). Sharma (2016) shows a link between financial inclusion and economic development.

**Table 1:** *Variables of the Study* 

Year	GDP (in Billion)	No. of ATMs (Per 100,000 adults)	Credit Deposit Ratio (in %)
2010-11	128.638	7.73	96.00
2011-12	133.356	4.04	82.00
2012-13	149.99	4.955	80.00
2013-14	172.885	5.771	75.00
2014-15	195.079	7.094	74.00
2015-16	221.415	8.028	77.00
2016-17	249.711	8.538	80.00
2017-18	274.039	8.888	84.00
2018-19	302.571	9.397	84.00
2019-20	323.057	10.184	78.00

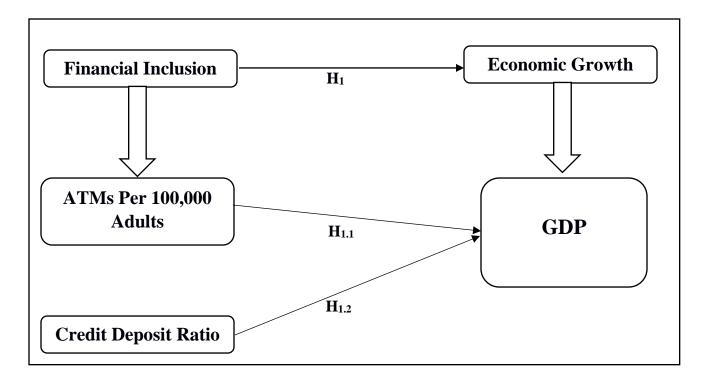
[Collected by the author]

#### **DATA SOURCES**

The data came from secondary sources. The researcher intended to gather data from 2001, the year of the Bangladesh Economic Review. But there was no data on financial inclusion indicators. As a consequence, data was collected for ten years, from 2010-11 to 2019-20. The researcher transformed the monthly credit-deposit ratio from the Bangladesh Bureau of Statistics into an annual credit-deposit ratio using the World Bank's database.

The model of the study and regression equation is as follows:

 $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + E$ ; Where, (Y= Gross Domestic Product,  $\alpha$  = constant,  $\beta$ =slope, X1 = ATMs per 100,000 adults, X2 = Credit-Deposit Ratio,  $\epsilon$  = error term)



## **TOOLS OF ANALYSIS**

Multiple regression analysis has been used as the primary statistical method in order to examine the data. Several tests were carried out before to the application of the regression analysis to verify that the data was adequate. These tests included testing for autocorrelation, multi-co linearity, and normal distribution of the data.

# RESULTS AND DISCUSSION

# Results from Multiple Regression Analysis

A country's GDP is the most often used proximate indicator of economic growth. The GDP at current prices for the ten-year period from 2010-11 to 2019-20 is used as the dependent variable in the research. There are a variety of financial inclusion indicators, including the number of ATMs per 100,000 individuals and the ratio of credit to deposit. The number of ATMs has steadily increased over the years, from a low of 3.709 in the 2010-11 fiscal year to a high of 10.184 in the 2019-20 fiscal year. The number of ATMs has increased by 7.73 per cent in the last decade (Table 3). Over the course of the investigation, the Credit-Deposit ratio displays an inconsistent tendency. During the financial year of 2010-11, the CDR was at its highest, and at its lowest, in 2014-15.

**Table 2:** *Model Summary* 

Model	R	R <sup>2</sup> Adj. R <sup>2</sup>				<b>Durbin-Watson</b>	
	K	K	Auj. K	F Change	Sig. F Change		

0.957a	0.887	0.834	24.651	0.001	1.197

a. Predictors: (Constant), CDR, ATMs

# b. Dependent Variable: GDP

Table 2 displays the results of a model summary for a multiple regression study. The results of the model reveal that the coefficient of correlation (R) between the dependent and independent variables is 957, suggesting a significant association between them. The model's results show an R-Squared value of 0.887 and an adjusted R-Squared value of 834. The P-value for the regression model is 0.001, which is less than 0.05, indicating that the model is well-fitted and statistically significant. There may be a problem with autocorrelation in the data if the result of the Durbin-Watson test is less than one or more than three. In this case, the Durbin-Watson statistic of 1.197 indicates that there is no autocorrelation problem with the model.

 Table 3: Regression Coefficients

Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig. Tolerance	Co linearity Statistics	
		Std. Error	Beta				VIF	
	(Constant)	-3.057	2.461		-1.134	0.276		
1	ATMs	0.053	0.187	0.614	3.017	0.019	0.331	2.256
	CDR	0.051	0.035	0.311	1.423	0.172	0.331	2.256

# a. Dependent Variable: GDP

The findings of the regression analysis of financial inclusion and GDP are shown in Table 3. VIF is used to test for the presence of multicollinearity in the data. As a rule of thumb, a value of VIF more than 10 is considered unacceptable and indicates the presence of a multicollinearity issue. Because the value of VIF for all of the independent variables is less than 10, the model does not have an issue with multicollinearity, as shown by the data in the table. Following analysis, it was discovered that the beta value of ATMs is 0.053 and the P-value is 0.019 at the 5% level of significance. This demonstrates that ATMs have a positive and statistically significant influence on the economy's gross domestic product. Furthermore, the beta value of CDR is 0.051, indicating that CDR has a positive influence on the economy. The p-value, on the other hand, is 0.172,

indicating that the influence on GDP is statistically negligible. The following is the regression equation that was obtained:

#### DISCUSSION

When comparing people with greater education to those with lesser education, those with higher education are more likely to hold and use a bank account (Asuming, Osei-Agyei, & Ibrahim, 2018). The likelihood of receiving better financial services improves with the amount of knowledge since individuals with greater levels of awareness make the most of their savings and investing opportunities. The findings of the study indicate that automated teller machines (ATMs) have a positive and statistically significant impact on GDP, suggesting that financial inclusion can be achieved much more quickly if banks begin targeting untapped rural areas with modern banking facilities such as ATMs and internet banking. Financial inclusion will be a critical component in guaranteeing access and equality, which are essential building blocks for our country's long-term development. Furthermore, the findings of the research demonstrate that the credit-deposit ratio has a beneficial influence on GDP, which suggests that financial services should be made available to people who do not have access to the financial services sector or who have very limited access to financial services. Increased money, improved knowledge, and the introduction of novel financial products may all help to raise the degree of financial inclusion. To achieve economic progress, it is essential that underprivileged sections of society have access to adequate financial goods and services, as well as that they are integrated into the mainstream to participate in development activities.

## **CONCLUSION**

With this study, we want to learn more about the dynamics between financial inclusion and growth in the Bangladeshi economy from 2010-2011 to 2019-2020. The widespread presence of banking institutions throughout the globe was a factor in the decision to study the Bangladeshi economy. Therefore, full financial inclusion is essential to Bangladesh's complete economic growth. This study used multiple regression analysis to probe the connection between financial inclusion and growth in Bangladesh's economy. Results from the regression analysis show that all measures of financial inclusion have a positive and statistically significant effect on GDP, with the exception of the credit-deposit ratio, which has a positive but insignificant effect. These findings also highlight the initiatives undertaken by the Government of Bangladesh and the Bangladesh Bank

to expand access to formal financial services for the country's citizens, such as the creation of Self-Help Groups, cooperatives, and regional rural banks, and the expansion of the country's branch network of scheduled commercial banks. Bangladesh Bank has adopted a bank-led approach and eliminated all regulatory impediments in an effort to expand the country's access to financial services. Despite this, there is an immediate need to analyze financial inclusion in the context of the digital economy. The lack of familiarity with basic financial concepts is a major barrier to financial inclusion. Stakeholders' inability to understand the potential benefits and risks associated with financial inclusion renders such participation useless in the absence of financial literacy. The growth of financial inclusion will be greatly aided by the combination of digital banking and financial literacy. Therefore, financial inclusion is crucial to reaching the objective of bringing India's underserved populations into the mainstream of development efforts.

There are a number of drawbacks to the research, as well as some strengths. While this research is confined to banking institutions, it will provide better findings if Self Help Groups (SHGs) and Microfinance Institutions (MFIs) are also included since SHGs and MFIs have a greater presence in rural regions than conventional financial services. Second, the research will only last 10 years, with the possibility of extending it even longer if necessary. The third point is that just three factors of financial inclusion are taken into account, which does not provide a comprehensive view for the fourth time, more sophisticated statistical methods may be utilized to get better outcomes. Finally, since the research is limited to the Bangladesh economy, the findings cannot be applied to a larger range of situations. Consequently, in order to generalize the findings, a cross-country study must be performed.

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