



# Financial development and poverty reduction nexus: A cointegration and causality analysis in Bangladesh



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## ABSTRACT

This paper contributes to the literature by investigating the relationship between financial development, economic growth and poverty reduction in Bangladesh using quarter frequency data over the period of 1975–2011. This issue is of importance for developing economics given the role of financial sector in mobilizing and allocating savings into productive investments. We use an innovative empirical approach based on ARDL cointegration with structural breaks. Our findings show that a long-run relationship between financial development, economic growth and poverty reduction exists in Bangladesh. Financial development helps to reduce poverty, but its effect is not linear.

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## 1. Introduction

The interrelationship between financial development and economic growth is extensive on the theoretical and empirical literature. The similar imperative aspects of the linkage between financial development and poverty reduction cannot be substantially found in the earlier literature. The impact of finance on poverty has been largely inconclusive and unclear from empirical front due to the change in the level of income which results from financial sector reforms, really leads to poverty reduction in developing countries. Poverty reduction strategy will take more importance in compare to the growth model for the developing countries. This is due to the fact that economic progress lead to increase in growth, does not necessarily improve the lives of poor (Todaro, 1997).

For the last couple of decades, Bangladesh has been experiencing a modest reduction in the rate of poverty of around 1.5% point a year (IMF, 2005). This improvement is also evident for the distributionally sensitive measures of poverty. Both poverty gap ratio and squared poverty gap ratio declined from 17.2% to 12.9% and 6.8% to 4.6% over the period of 1992–2000 (IMF, 2005). This record of poverty reduction since the last decade of the nineteenth century does give some hope of achieving an important target of poverty reduction set by the Millennium

Development Goals (MDGs). The poverty reduction strategy (PRS) paper of Bangladesh has also emphasized on the need of resource mobilization efforts that need to be intensified in order to realize the MDGs and PRS goals. However, the resources required for achieving these goals are beyond the capacity of the country both in the short and long run. Hence, implementation of these programs may be successful with substantial development in the financial sector which will attract resources from external sources. International organizations such as the World Bank, Asian Development Bank (ADB) and IMF have long argued for the development of sound and efficient financial sectors in Bangladesh in order to attract more foreign resources to overcome poverty (ADB, 2009; IMF, 2010). In 2001, there were more than 1 billion people living in poverty in the world, according to the frugal US\$1 a day poverty measure (Chen and Ravallion, 2004). There are also dramatic differences in poverty among countries, even among developing countries. The poverty situation in Bangladesh is that 41.2% of people are lived below poverty line based on the earlier definition of World Bank. However, the actual situation of poverty increased by considering the new definition of poverty provided by World Bank (\$1.25/per day).

Contrary to the orthodox view, it has also been argued that capital market in developing countries suffers from the problem of moral hazard and adverse selection (Stiglitz, 1998; Stiglitz and Weiss, 1981). These market imperfections may lead to an unequal distribution of credit in favor of the rich people (Jalilian and Kirkpatrick, 2005; Shahbaz and Islam, 2011). Hence, financial sector may not serve the purpose of poverty reduction. However, the causal relationship may actually run from poverty reduction to the development in the financial

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sector since financial intermediaries have more incentive to participate in a market with a smaller group of poor people.

Since its independence in 1971, the internal weakness of the banking sectors resulted in an accumulation of large non-performing loans. Reforms in the financial sectors in Bangladesh started in the early 1980s and gained the pace in the 1990s. The main focus of these reforms was to improve the process of financial intermediation by taking up series of measures related to legal, policy and institutional restructuring. The first phase of reforms in 1980s include denationalization of public banks in 1984, allowing new private banks in 1986, establishment of a National Commission on Money, Banking and Credit to identify problems in the banking sectors and prescribe policies as remedial measures. In the later phase of reforms, government allowed for market-determined deposits and lending rates. Other measures include introduction of indirect monetary instruments to replace direct credit control, improvement of capital base of commercial banks, and reforms in legal framework of debt recovery (Rahman, 2004). In 1997, ADB approved a program loan of \$80 million that was aimed at enhancing market capacity, and developing a fair, transparent, and efficient capital market (ADB, 2009). The importance of world poverty alleviation cannot be overstated.

The effective utilization of domestic resources is vital for economic growth and poverty reduction through the development of financial sector. The focus of financial sector reforms in Bangladesh which started in the early 1980s and accelerated its pace in the 1990s was to improve the process of financial intermediation by taking up series of legal, policy and institutional restructuring. As evidenced in the real gross domestic product (GDP) which grew at an average rate of 5.8% per annum during 2000–2009 as compared with 5.5% in 1995–2009, these modifications ensured efficient allocation of financial resources promoting higher investments and capital formation. During the first half of 1990s, Bangladesh experienced major financial sector reforms which included liberalization of interest rates, improvement of monetary policy, abolishing priority sector lending, strengthening central bank supervision, regulating banks, improving debt recovery and broadening capital market development. Capital account liberalization that started in 1997 (IMF, 2000) involved easing restrictions in capital and money market, derivatives, credit operations, direct investments, real estate transactions, personal capital movements, provisions specific to commercial banks and institutional investors.

While the importance of a sound financial sector in order to eradicate poverty has been long recognized, the empirical relationship between financial sector development and poverty reduction has hardly been investigated. Although in last few decades Bangladesh experienced a modest reduction in poverty and development in the financial sector, research on the relationship between financial sector development and poverty is conspicuously absent for this country. Hence, it raises a number of questions: 1) Is there any relationship between these two variables? 2) Does the causality, if there is any, run from financial development to poverty or poverty to financial development? 3) What precisely was achieved by financial liberalization in Bangladesh? The aim of this paper is to answer these questions by examining the relationship between financial development, economic growth and poverty reduction in Bangladesh. One other novelty of this paper is to allow for asymmetry in potential causal relationship between financial development and poverty reduction in Bangladesh – one of the South Asian nations.

Thus our study offers a comprehensive effort on this topic for the economy of Bangladesh. Methodologically, it has numerous contributions to the growth and poverty literature by (i) using a comprehensive measure of financial deepening; (ii) utilizing quarter frequency data over the period of 1975–2011 avoiding the issue of low number of observations; (iii) employing both conventional and structural break unit root tests; (iv) using the ARDL bounds testing approach to cointegration for long-run relationship between the variables in the presence of structural breaks; (v) studying both long-run and short-run impacts; (vi) using VECM Granger causality approach for causal

relationship and (vii) applying Innovative Accounting Approach (IAA) to test the robustness of causality analysis.

The rest of the paper is organized as follows. Section 2 outlines the literature review pertinent to Bangladesh. The data and the underlying methodology are introduced in Section 3. Empirical findings are discussed in Sections 4 and 5 presents conclusion and policy implications.

## 2. Literature review

The empirical literature on the interaction between financial development and poverty reduction provides mostly inconclusive findings. Some of the earlier studies have shown that financial development can contribute to poverty reduction in a number of ways (Odhiambo, 2009). First, financial development can improve the opportunities for the poor to access formal finance by addressing the causes of financial market failures such as information asymmetry and the high fixed cost of lending to small borrowers (Jalilian and Kirkpatrick, 2001; Stiglitz, 1998). Second, financial development enables the poor to draw down accumulated savings or to borrow money to start micro-enterprises, which eventually leads to wider access to financial services, generates more employment and higher incomes and thereby reduces poverty (Department for International Development (DFID), 2004). Third, financial development may trickle down to the poor through its influence on economic growth. This is because of the implied positive relationship between financial development and economic growth. The trickle-down theory has been widely supported by studies such as Ravallion and Datt (2002), Mellor (1999), Dollar and Kraay (2002), Fan et al. (2000) and World Bank (1995).

Some of the researchers have attempted to deal with the empirical findings on the inter-temporal causal relationship between financial development and poverty reduction has been largely inconclusive and mixed. Some of the studies that have attempted to examine the relationship between financial development and poverty reduction such as Odhiambo (2009), Jalilian and Kirkpatrick (2001, 2005), Jeanneney and Kpodar (2005, 2008), Quartey (2005), Honohan (2004), Banerjee and Newman (1993), Clarke et al. (2002), Stiglitz (2000), Arestis and Caner (2005, 2009), Dollar and Kraay (2002), Honohan (2004), Beck et al. (2007) and Honohan and Beck (2007).

Financial development has an indirect impact on the living standards of the poor through its support of economic growth (World Bank, 2001). Clarke et al. (2002) opined that there is a negative relationship between financial development and income inequality rather than an inverted u-shaped relationship but Greenwood and Jovanovich (1990) noted inverted-U shape relationship between financial development and income inequality. Recently, Odhiambo (2009) examined the causal relationship between finance, growth and poverty reduction in South Africa, using a tri-variate causality model. He reported that both financial development and economic growth Granger cause poverty reduction in South Africa where as Quartey (2005), in examining the relationship between financial development, savings mobilization and poverty reduction in Ghana, finds that although financial development does not Granger-cause savings mobilization in Ghana, it induces poverty reduction. Jalilian and Kirkpatrick (2001) tested the relationship between financial development and poverty through the growth channel. They concluded that one unit change in financial development leads to a 0.4% change in the growth rate of the incomes of the poor, assuming that there are no direct effects. Furthermore, they found that financial development contributes to poverty reduction through a growth-enhancing effect up to a certain threshold level of economic development.

Some studies have also examined the inverse association between financial development and poverty. Honohan (2004) found that a 10-percentage point increase in the ratio of private credit to GDP should reduce poverty ratios by 2.5–3 percentage points. Beck et al. (2004), while using data on 52 developing and developed countries to assess the relationship between financial development and income distribution,

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