FINANCIAL LIBERALIZATION, FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: EVIDENCE FROM BANGLADESH

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Abstract

Bangladesh started the process of financial liberalization since the late 1980's. Like many other underdeveloped countries the consequences of financial liberalization in Bangladesh are dubious. Previous studies done in within the context of Bangladesh mostly pertain to the performance of economy and financial institutions. This study is focused on the impact of financial liberalization upon economic growth of Bangladesh, considering three proxies of financial development such as real interest rate, volume of intermediation, and efficiency of intermediation. The analysis shows that despite the extensive financial development in the post-reform period, financial and monetary variables are not fully contributing to growth.

Keywords: Financial Liberalization, Financial Development, Economic Growth, Bangladesh.

JEL Classification: E44, O11.

1. INTRODUCTION

Market oriented economic policies and the growth oriented financial system can prudently manage the savings mobilization and efficient allocation of resources in productive sectors to earn the best possible rate of return. Fully liberalized financial systems featured by least or no government control in

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the credit market, free entry and exit of financial institutions, bank autonomy, withdrawal of government shares from financial institutions, interest rate flexibility, free international capital movement–contribute most to the resources mobilization and allocation process in the economy (Williamson and Mahar, 1998). Conversely, financial repression is featured by controlled interest rate in the face of high and unstable inflation, controlled and directed credit to government favored sectors, and little or no competition in the financial markets. McKinnon (1973) and Shaw (1973), with their works and efforts in financial sector reforms, are pioneers who illuminated the financially impounded economies and got the economic units to be valorous enough to break the chains of repression. Afterwards, many developed, developing, and least developed economies in the world, underwent the process of financial reforms and eventually gained kaleidoscopic experiences. Many countries fostered their economic growth and efficiency; at the same time, many others got frustrating results by facing a financial crisis and halted economic growth.

The analysis of a vast volume of theoretical literature has revealed the scope of liberalized financial intermediation as a significant determinant of economic growth rate. Earlier literatures by many scholars such as Patrick (1966), Cameron (1967), Goldsmith (1969), McKinnon (1973) and Shaw (1973), insisted on and explained the role of financial institutions in the credit supply process in the economy. Their explanation was buttressed by the strong positive relationship between the extent of financial development and economic growth. Goldsmith pointed out how efficiency of investment contributes to financial development; Mckinnon and Shaw instead, asserted the role of contribution and functioning of financial post-reforms in achieving savings and investment growth. Jappelli and Pagano (1992), Roubini and Sala-I-Martin (1992), De Gregorio and Guidotti (1992) stated that the achievement of high rates of economic growth in developing economies mainly depends on the functioning of efficient financial sectors. According to the World Bank (1989), allocation of resources to the highest yielding activities is the most crucial function of an efficient financial intermediation system. Greenwood and Jovanovic (1989) and Bencivenga and Smith (1991) argued in their studies that financial intermediaries reshape their savings composition for greater capital accumulation, thereby nourishing and raising economic growth. Effects of financial variables such as real interest rate and other monetary aggregates on economic growth was explored by some other studies using different models by Agarwala (1983), Anderson (1987), Khatekhate (1988), Gelb (1989), Gallagher (1991), Odedokun (1992), and Sundararajan (1985, 1987). Most of these studies tried to detect the contribution

of financial liberalization and the relationship between economic variables and growth by taking into account the ratio of either money or credit to GDP or the real interest rate as the proxy of financial sector development and hence, economic growth. In reality, financial sector development is multidimensional and can be influenced by different variables in different ways. Moreover, these studies ignored the direct role of multidimensional financial reforms on economic growth and efficiency. Analyzing the relationship between various economic variables and real sector growth at a complex level is essentially required in designing financial sector reforms to obtain maximum benefit at the lowest cost.

The studies done in the context of the Bangladesh financial sector are very limited in scope because most of them focus on the performance of the economy and on financial institutions. What has been ascertained is the increase in financial deepening (Khalily *et al.*, 2001), credit expansion (Hoque, 2002; Khalily *et al*., 2001), productivity of the banking sector (Hoque and Khan, 2001) and the structural changes in deposit behavior as a result of financial liberalization (Hoque and Mamun, 2001). There is no study regarding the impact of financial liberalization upon the growth of the Bangladesh financial system, which is the topic of the current study. The financial sector is assumed to affect economic growth through different channels, which are proxied by the real interest rate (RIR), inflation rate, foreign direct investment (FDI), the volume of intermediation, and so on. To examine the effects of financial liberalization, analyses in this paper are conducted in two periods: the pre-reform period (1974-1989), and the post-reform period (1990-2001).

The rest of the paper is divided into four sections. Section two outlines Bangladesh external sector liberalization and growth, section three describes the framework for empirical analysis of the paper, section four reports the results of the econometric analysis, and the final section contains policy implications and concluding remarks.

2. BANGLADESH EXTERNAL SECTOR LIBERALIZATION AND GROWTH

For the last two decades Bangladesh has been undertaking a number of measures to integrate the external sector with the rest of the world to achieve faster economic growth. External sector reform measures were introduced to induce higher investments, promote exports, reduce trade deficit balance, and to make the domestic currency stronger. Apparently, identifying the impact of external sector reform measures is not easy, particularly in an environment where the process of reforms started about two decades ago. How-

ever, different economic indicators suggest that macroeconomic changes in the post-reform period are making a difference compared to the pre-reform trend. It can also be examined whether the situations in terms of the above mentioned objectives have been improved or not, after undertaking the external sector financial liberalization measures.

There has been a notable change in the level of GDP growth rate in the post-reform period compared to the pre-reform period. The annual average level of real GDP increased from 3.47 percent in the 1980s to about 5 percent during the 1990s. The per capita annual average GDP growth rate was 3 percent in the 1990s as compared to 1.6 percent in the 1980s. Domestic savings rate is low in Bangladesh, but improved in the post-reform period. The annual average savings rate (as a percent of GDP) increased to around 7 percent in the 1990s from around only 2.3 percent in the 1980s. Domestic savings growth rate, in both absolute and percentage terms, have increased during the post-reform period. Long-term domestic investment, like domestic savings, increased in the post-reform period. The annual average ratio of gross fixed capital formation to GDP increased of more than 14 percent during the post-reform period, from 10.48 percent in the 1980s. The absolute level of long-term investment (deflated series of gross fixed capital formation) also increased by about 35 percent in the 1990s as compared to the 1980s. However, the annual average percentage growth rate of gross fixed capital formation reduced marginally from 9.71 percent to 7 percent in the post-reform period.

The average return on investment (GDP to long-term investment) decreased to 7.19 percent in the 1990s from 9.85 percent in the pre-reform period. The annual average growth rate of the ratio remained negative throughout 1999-80 in both absolute and percentage terms. There was a positive correlation between private capital flows to GDP and M_2 to GDP in Bangladesh during the 1990s. M_2 to GDP experienced considerable absolute average growth in the post-reform period. Level of M_2 to GDP reached to about 38.5 percent in the post-reform period from 28 percent in the the 1980s.

Reforms towards external sector liberalization are expected to have positive impact on domestic credit. During the post-reform period the annual average level of private credit to GDP, a measure of financial development, increased to about 26 percent from only 17 percent in the 1980s. Capital market in Bangladesh is still at a initial stage despite many reform measures have been taken since the 1996 debacle.[1] The market capitalization to GDP ratio of Bangladesh was only 2.5 percent in the year 2000, against 130 percent for

[1] There was an irrational behavior in Bangladesh Stock Market in 1996 where the DSE share price index jumped from 832 on 01/01/96 to 3567 on 14/11/96.

Malaysia, 86 percent for Chile, 69 percent for Philippines, 38 percent for Brazil, 33 percent for South Korea, and 32 percent for India (World Bank, 2001, Global Development Finance, Washington D.C.). During the 1990s, the country has experienced a significant growth of merchandise exports. The average real growth of total exports was 5.19 percent during the 1987-89 period. This figure jumped to 16.22 percent during the 1992-94 period. This growth reached a 37.1 percent during 1994-95, declined to 11.8 percent in 1995-96 and slightly recovered again in 1996-97. Both the Asian crisis and September 11 affected export volume adversely and a significant slowdown caused negative export growth, particularly after the Twin Tower tragedy on September 11, 2001. Compared to the export sector, performance of the import sector was slow except for the period 1995-96. Bangladesh experienced a favorable trade during the 1990-94 period. The terms of trade improved by 2.3 percent in 1990-91, 1.4 percent in 1991-92, 3.5 percent in 1992-93 and 2.4 percent in 1993-94. However, it deteriorated in 1994-95 due to an increase in import price index.

3. A FRAMEWORK FOR EMPIRICAL ANALYSIS

A financial sector reform typically involves a set of measures such as (1) withdrawing ceilings on deposit and lending rates (2) no restrictions on the quantity of credit (3) reducing reserve requirements on deposit (4) no restrictions on the entry into banking and encouraging private ownership of banks and (5) no restrictions on capital transactions with foreigners. Although the above measures are not exhaustive, they include the major dimensions of reform measures that have been adopted by policy makers or governments of various countries to allow market forces to determine the optimum price and quantity of credit, in order to achieve higher economic growth. At the same time, liberalization has been characterized by a greater scope being granted to market forces in determining interest rates and in allocating credit (Caprio, Atiyas and Hanson, 1994). The measures of financial liberalization have their effect on economic growth through a number of channels, including the cost of capital, the volume of savings and investment funds, the distribution of funds and project selection. Cross-country evidence on the impact of financial liberalization on growth is not same because financial liberalization is a multidimensional and sequential process, which largely depends on the policy and institutional framework of the particular country. The policies adopted for a particular economy may not be suitable for another economy, because of differences in the financial structure, institutional

base and differences in international connections. As Bangladesh has been an hesitant reformer, the channels through which financial liberalization affect growth and efficiency, have not been addressed by others. In this paper these issues are analyzed.

The channels through which the financial sector affects growth are not readily observable, and hence, it is necessary to rely on a number of proxies or indicators of financial development. This paper concentrated on the impact of three proxies of financial development: (1) The level of real interest rate (2) The volume of intermediation and (3) The efficiency of intermediation, following Johnston and Pazarbasioglu (1995). The above mentioned financial reform measures are likely to affect these three proxies of financial development. For example, real interest rate should reflect capital scarcity, and thus interest rate ceilings should reduce the efficiency of capital allocation as well as the quality of investment. By reducing the scope for risk premium, loan rate ceilings discourage risk-taking by financial institutions. A large proportion of potentially high-yielding investments are being rationed out of the market. Interest rate liberalization could therefore affect the real interest rate, the volume of credit and the efficiency of financial intermediaries. Bivariate analysis may produce misleading results due to omitted variable bias (Lutkepohl, 1982). So, by entering all three proxies simultaneously into the equations for economic growth, it could be possible to differentiate the importance of the different channels. Financial reforms may affect economic growth through certain channels. First, volume of intermediation in the model may measure financial depth. Second, real interest rate may indicate the price of scarce capital in the market. Finally, spread in the model may express the efficiency of financial intermediation. The consequences of the financial sector reform can be observed partly through the movements in the proxies. Financial sector reform is also a process, which necessarily stimulates structural and institutional changes over time. Though some of the reform measures have started from mid-eighties, the full extent of liberalization measures started in 1990. Under this scenario we split the total sample into two halves – one is the pre-reform period, from 1974:Q1 to 1989:Q4 and the other is the post-reform period, from 1990:Q1 to 2001:Q1. This approach allows us to study the impact of different channels through which the financial sector affects the growth of real sector, under the conditions of financial repression and during the post-reform period.

3.1 The Model

An equation has been constructed to examine the impact of financial liberalization on economic growth for Bangladesh, where the growth rate of GDP (*GRGDP*) is a dependent variable. The relationship of growth with

three proxies of financial development has been explored: (1) The level of real interest rate (RIR) (2) The volume of intermediation (M2GDP) and (3) The efficiency of intermediation (SPREAD). The other explanatory variables include:

CPSGDP = claims on private sector by deposit money banks divided by nominal GDP.
EXIM = sum of exports and imports divided by nominal GDP.
FDIGDP = foreign direct investment divided by GDP.
RMGDP = reserve money divided by nominal GDP.
INF = inflation rate calculated as percentage change in consumer price index.

The general functional form for growth equations can be expressed as:

$$GRGDP = \beta_0 + \beta_1 CPSGDP + \beta_2 EXIM + \beta_3 FDIGDP + \beta_4 M2GDP + \beta_5 RMGDP + \beta_6 SPREAD + \beta_7 RIR + \beta_8 INF + \varepsilon_I \quad (1)$$

Where β_0 is constant and β_1 *to* β_8 are estimated coefficients. ε_i is the serially uncorrelated error term. Linearity is imposed on the equations and the expression assumes that (a) Expectation of error is zero i.e. E (ε) = 0; (b) Variance of error is σ^2 i.e.(ε) = S^2; (c) Error terms are not correlated i.e. ε_i N (0, σ^2); (d) The observations are independent.

3.2 Relationship Between the Proxies of Financial Development and Economic Growth

Real Interest Rate

Real interest rate affects financial sector development through its influence on volume of financial savings and on the cost of capital (McKinnon, 1973; Shaw, 1973; Fry, 1988; Leite and Sundararajan, 1990). Existing empirical evidence suggests that national savings rate may be affected positively by the real deposit rate of interest. However, only in countries where the deposit rate is negative, there is much scope to increase saving by raising the real deposit interest rate. As the Bangladesh economy has been repressed untill 1989, real deposit interest rate was negative (Khalily et al, 1987; Srinivasan, 1988). Negative real interest rate could not attract much financial savings, as financial deepening was lower in the repressed regime. There is greater extent of financial deepening in the financial reform regime in Bangladesh. Financial liberalization opens the door to productive invest-

ment opportunities to get sufficient funds at competitive rates. From a theoretical point of view, higher equilibrium real interest rates should be associated with more efficient investments and higher rates of return on capital, which in turn promotes higher economic growth.

Volume of Intermediation

If financial liberalization improves the rate of return for savers, then the volume of intermediation is expected to increase in the long run. Holding of financial assets and financial deepening generally increases as due to liberalized interest rates and to the introduction of new financial instruments. The financial sector reform is usually associated with the increase of financial development (deposit or currency in circulation and broad money as percentage of GDP). Recent studies by Balassa (1990), Srinivasan (1993) and Fry (1995) conclude that interest rate has a positive rather than negative impact upon savings, but the coefficients are generally small and often insignificant.

An increase in financial intermediation should involve real savings rather than a positive inflation component to affect positive and higher economic growth. In Bangladesh, the financial sector has been liberalized with no restriction on interest rate and credit. As it happened in Bangladesh, rapid credit expansion often follows the liberalization of controls on the banking system. In Bangladesh a good number of private banks have emerged in the post-reform period. Deposit and credit have expanded enormously in the liberalized regime in Bangladesh.[2] The level of real interest rate and the proxy for the efficiency of the financial system should control these factors. Hence, we anticipate that the volume of intermediation variable will play the main role in the financial system, by promoting savings and positively contributing to growth.

The study uses two alternative proxies for the volume of financial intermediation through the banking system – the share of credit to the private sectors by banks in GDP (denoted as CPSGDP) and Financial deepening (denoted as M2GDP). These two variables capture the two main functions of financial market, one is the deposit mobilization role and the other is the credit allocation role. CPSGDP is a more appropriate indicator of the volume of intermediation through the banking system, than the CREDIT variable as used by De Gragorio and Guidotti (1992) and King and Levine (1993), because it excludes the credit granted to the private sector by the central bank, which is often high during financial repression.

[2] For instance real deposit growth rate (adjusted for inflation) in post-reform period is about 9% and real credit growth rate is 8.25% in the same period.

Efficiency of Intermediation

If financial reform cannot ensure the efficient allocation of resources it can be detrimental to the long-run economic growth. If liberalization in the form of increased competitiveness and efficiency does not contribute either in terms of finance and credit availability, or in terms of the reduction of intermediation costs, then it can be said that liberalization has departed from its target.

Banking system plays a predominant role in credit allocation. Banking sector inefficiency in credit allocation is usually reflected in activities such as wide lending margins, which in turn reflect incompetitiveness in banking industry. Bad and classified loans in the banking sector are another aspect of efficiency in intermediation. Inefficient asset-liability management in banks by inefficient management body contributes to plethora of non-earning assets in banks' portfolio. This paper used two different variables to represent the efficiency of intermediation. The first one is the spread between lending and deposit interest rate (denoted as SPREAD) and the second one is the ratio of reserve money to GDP (denoted as RMGDP). The spread may not be a robust indicator of efficiency because interest rates were administered before reform measures, and after the reform, it is influenced by numerous government regulations. Reserve money is defined as the currency in circulation, plus the required and excess reserves in the banking industry. The variable RMGDP therefore, includes the currency to GDP ratio, which is a measure of efficiency of the overall banking industry in enhancing the volume of GDP.

4. ESTIMATION RESULTS

Estimation results from OLS regressions appear in Appendix 1, 2 and 3. Initially, there was serial correlation problem in the results as evidenced in low D.W. statistic. We have made a correction for serial correlation by using Cochrane-Orcutt iterative procedure. The analysis of the data show that different Macroeconomic variables influenced economic growth of Bangladesh in different ways, during pre-reform and post-reform periods. Financial intermediation variables share credit to the private sectors by banks in GDP (measured by CPSGDP), and financial deepening (measured by M2GDP) influenced economic growth almost in the same way. CPSGDP has a insignificant negative effect on growth in both the pre-reform and post-reform periods, wich indicates the inefficiency of the private sectors in using resources

obtained as loans from banks. It happened because of a faulty and prolonged privatization process that caused the creation of fake and inefficient entrepreneurs who could not get the highest reap from banks. Also the variable M2GDP has had a negative effect on economic growth, particularly in the post-reform period. This implies a weakness of the banking sector in mobilizing savings that mismatched the volume of loans.

The efficiency of financial intermediation proxied by RMGDP and SPREAD has both positive as well as an insignificant effect on growth in post-reform period. RMGDP bears significant positive impact and SPREAD bears insignificant positive impact on growth in pre-reform period. This result indicates the detrimental effect of liberalization in post-reform period. Untimely and inappropriate banking sector liberalization, as previously stated, worsen the crises of the banking sector in Bangladesh, which was caused by a huge volume of non performing loan, labor union activities, adverse selection, political influence to direct credit etc.

Trade liberalization proxied by EXIM, the sum of exports and imports over GDP has significant negative influence on growth in pre-reform period, and significant positive influence on growth in post-reform period. This result means that trade is beneficial to economic growth. After a decade of financial liberalization, there is evidence of integration with goods market and exchange market (Hoque and Kabir, 2002), which is necessary to benefit from the openig of trade.

Looking at the entire period, FDIGDP, the ratio of foreign direct investment to GDP has a positive effect on growth but the same variable has insignificant negative effect on growth in the pre-reform period. However, in the Post-reform period, FDIGDP has a positive effect though it is insignificant. As a matter of fact, the inflow of FDI in Bangladesh is relatively lower as compared to other South Asian countries, probably due to lack of better socio economic infrastructures, administrative corruption, narrow market, and political unrest. On the contrary, the recent situation is different and sees favorable conditions for the FDI inflow in Bangladesh, which is expected to have a positive effect on the economic growth.

RIR (Real Interest Rate) has a significant positive influence on growth during the entire pre-reform and post-reform periods. Real interest rate increased either because of increased deposit rate or because of decreased inflation rate. Bangladesh captured the positive impact of RIR on economic growth. Inflation rate (INF) has negative and significant effect on economic growth in both pre-post-reform and post-reform periods. This negative effect implies the fact that inflation is a setback of economic growth.

5. POLICY IMPLICATION AND CONCLUDING REMARKS

The financial sector in Bangladesh has experienced reform programs, but the result of these financial reforms is dubious. The well-documented effect of liberalization is that it increases financial deepening, foreign trade improvement, credit expansion and so on. However, the goal of financial liberalization, which is to improve growth and efficiency of the financial system, is not addressed in the literature concerning Bangladesh. The econometric analysis done in this paper improves our understanding of whether liberalization did help improving the growth of the economy, or not.

The negative impact of inflation upon growth implies the fact that inflation distorts growth and resource allocation, other than the impact of financial variables. Bangladesh government devalued its currency more than 19 times and currency devaluation is inflationary in the context of Bangladesh (Hoque and Kabir, 2002). Though currency devaluation may increase export competitiveness, this device cannot achieve its target in an economy like Bangladesh where export depends on large volume of imports, particularly in the clothing sector. That ultimate effect in economic growth through inflation is therefore detrimental.

Trade liberalization, as proxied by the sum of exports and imports over GDP (EXIM) has positive sign during the post-reform period, implying that trade-liberalization is generally beneficial to economic growth and efficiency. Tariff reductions from about 25% to 16% in 1996, permission of 100% foreign ownership in most economic activities is encouraging in this direction (Bangladesh Bank, 1997). The variable CPSGDP, the share of credit to the private sectors by banks in GDP, has an insignificant negative effect on growth in both pre-reform and post-reform periods. The results suggest inefficiency of the banking sector and weak privatization process. The role of the public sector should be reduced in economic activities. A privatization board has been created to de-nationalize public sector firms. Meanwhile 600 public firms sold off (CPD, 1996). Though some initiatives have been taken, we suggest all public sector companies should be handed over to the private sector.

Real interest rate (RIR) has a significant positive impact on growth both in pre-reform and post-reform period. Interest rates were gradually liberalized and some sectors like agriculture, exports and cottage industries enjoyed a 3% subsidy in the post-reform period. As the interest rates have not been liberalized to the fullest extent, the analysis does not show clear effects on growth.

The volume of financial intermediation (represented by M2GDP) has insignificant negative effect on growth in the post-reform period. This result is consistent for Bangladesh, with the structural weaknesses of the banking sec-

tor in savings mobilization. Though the Bangladesh banking system suffers from a lot of problems – huge loan defaults, adverse selection, political influence to direct credit – expansions still appeared as positive for growth. The efficiency of intermediation as proxied by spread has an interesting effect on growth. The effect is insignificantly positive in both pre-post-reform and post-reform periods. As there is a huge amount of non-performing loan in the Bangladesh banking sector in the post-reform period, it may affect results.

Bangladesh embarked on financial liberalization as part of its development strategy to secure sustainable economic development (Ariff and Khalid, 2000). The main concern was to increase savings and mobilize resources efficiently, which should lead to higher efficiency and ultimately to higher growth. Our analysis shows that though there is a considerable amount of financial development in the post-reform period, financial and monetary variables are not contributing fully to growth. The sequence of financial sector liberalization has been found to be crucial to the success of liberalization. In Bangladesh, the domestic sector has not been fully liberalized before the trade sector liberalization. It hampered the ability of domestic industries to compete with the world market. Similarly, trade and capital account liberalization need to be done carefully. More specifically, McKinnon (1982) suggested that trade liberalization should be done after fiscal deficit has been eliminated. Policy makers need to take into account all these factors to take appropriate steps to ensure robust economic growth.

References

Agarwala R.K., 1983, "Price Distortions and Growth in Developing Countries", *World Bank Working Paper No. 575*, Washington, World Bank.

Anderson D., 1987, "Economic Growth and the Returns to Investment", *World Bank Discussion Paper*, *No. 12*, Washington, World Bank.

Ariff M. and A.M. Khalid, 2000, "Bangladesh: Restructuring and Liberalization did help" in *Liberalization, Growth and the Asian Financial Crisis: Lessons for Developing and Transitional Economies in Asia*, Edward Elgar Publishing Limited.

Balassa B., 1990, "The Effects of Interest Rates on Savings in Developing Countries" *Banca Nazionale del Lavoro Quarterly Review*, 172, pp. 101-118.

Bangladesh Bank, 1997, *Annual Report of Bangladesh Bank*.

Bencivenga V. and B. Smith, 1991, "Financial Intermediation and Endogenous Growth", *The Review of Economic Studies*, Vol. 58, No. 2, pp. 195-209.

Cameron R., 1967, *Banking in the Early Stages of Industrialization*, New York: Oxford University Press.

Caprio G. Jr., I. Atiyas and J. Hanson, 1994, *Financial Post-reform: Theory and Evidence*, Cambridge: Cambridge University Press.

Centre For Policy Dialogue, 1996, *Growth or Stagnation*?, Dhaka, Bangladesh: University Press.

De Gregorio J. and P. Guidotti, 1992, "Financial Development and Economic Growth", *IMF Working Paper 92/101*, Washington DC, International Monetary Fund.

Fry M.J., 1995, *Money, Interest and Banking in Economic Development*, 2nd edition, Baltimore and London: Johns Hopkins University Press.

Fry M.J., 1988, *Money, Interest and Banking in Economic Development*, Baltimore and London: Johns Hopkins University Press.

Gallagher M., 1991, *Rent-seeking and Economic Growth in Africa*, Boulder, Colorado: Westview Press.

Gelb Alan H., 1989, *Financial Policies, Growth and Efficiency*, Washington: World Bank, June.

Goldsmith R., 1969, *Financial Structure and Development*, New Haven: Yale University Press.

Greenwood J., and B. Jovanovic, 1989, "Financial Development, Growth, and Distribution of Income", *Journal of Political Economy*, Vol. 98, No. 4, pp. 1076-107.

Hoque Hafiz Al Asad Bin, 2002, "Comparative Performance of NCBs, SBs, FCBs, PCBs and IBs Financial Post-reform Regime - An Evaluation", *Journal of Institute of Bankers*, Bangladesh.

Hoque Hafiz Al Asad Bin and Sarkar H. Kabir, 2002, "Conintegration, Error Correction and Tests of Purchasing Power Parity Doctrine: Evidence From Bangladesh", *Savings and Development*.

Hoque Hafiz Al Asad Bin and A.R. Khan, 2001, "Financial Performance of Banks: A Statistical Analysis", *Dhaka University Journal of Business Studies*, University of Dhaka, Vol. 22, No. 1, June 2001, pp. 27-49.

Hoque Hafiz Al Asad Bin and Ashraf Al Mamun, 2001, "Deposit Behavior in Bangladesh - An Econometric Analysis of Structural Shift in Deposit" Mimeographed.

Jappelli T. and M. Pagano, 1992, "Saving, Growth, and Liquidity constraints", *CEPR Discussion Paper*, No. 662, London: Center for Economic Policy Research, May.

Johnston R.B. and C. Pazarbasioglu, 1995, " Linkages Between Financial Variables, Financial Sector Post-reform, and Economic Growth and Efficiency", *IMF Working Paper, 95/103.*

Khalily M.A Baqui, R.L. Meyer and L.J. Hushak, 1987, "Deposit Mobilization in Bangladesh: Implication for Rural Financial Institutions and Financial Policies", *The Bangladesh Development Studies*, Vol. XV, No. 4, December 1987, (85-117).

Khalily M.A.Baqui, M. Islam and S.A. Khan, 2001, "Financial Liberalization, Banking Sector and Industrial Finance: Stagnancy or Dynamism?", Paper presented in DC-CI Seminar, Dhaka, Bangladesh.

Khatekhate D.R., 1988, "Assessing the Impact of Interest Rates in Less Developed Countries", *World Development*, Vol. 16, No. 5 pp. 577-88.

King R.G. and R. Levine, 1993, "Finance and Growth: Schumpeter might be Right" *Quarterly Journal of Economics*, 108: 717-37.

Leite S.P. and V. Sundararajan, 1990, "Issues in Interest Rate Management and Liberalization", *Staff Papers,* Vol. 37, pp. 735-52, International Monetary Fund.

Lutkepohl H., 1982, "Non-causality due to Omitted Variables", *Journal of Econometrics,* Vol. 19, pp. 367-378.

McKinnon R.I., 1973, Money and Capital in Economic Development, Washington DC: Brookings Institution.

McKinnon R.I., 1982, "The order of economic liberalization: lessons from Chile and Argentina", in K. Brunner and A. Metzler (eds), *Economic Policy in a World of Change: Carnegie-Rochester Conference Series on Public Policy*, Vol. 17, Amsterdam: North Holland.

Odedokun M., 1992, "Multi-Country Evidence on the effects of Macroeconomic, Financial and Trade Policies on Efficiencies of Resource Utilization in the Developing Countries", *IMF Working paper* 92/53, Washington: International Monetary Fund.

Patrick H.T., 1966, "Financial Development and Economic Growth in Under-Developed Countries", *Economic Development and Cultural Change*, Vol. 14, pp. 174-89.

Roubini N. and X. Sala-I-Martin, 1992, "Financial Repression and Economic Growth", *Journal of Development Economics*, Vol. 39, pp. 5-30.

Shaw, L., 1973, "*Financial Deepening in Economic Development*", New York: Oxford University Press.

Srinivasan A., 1988, "A Multiproduct Cost Study of Rural Bank Branches in Bangladesh", Unpublished Ph.D. Dissertation, Ohio State University.

Srinivasan T.N., 1993, "Saving in the Development Process" in J.H. Gapaniski, ed., *The Economics of Saving*, Dordrecht: Kluwer.

Sundararajan V., 1985, "Debt-Equity ratios of Firms and Interest Rate Policy: Macroeconomic effects of high leverage in Developing Countries", *Staff Papers,* Vol. 32, September, pp. 533-44, International Monetary Fund.

Sundararajan V., 1987, "The Debt-Equity Ratios of Firms and the Effectiveness of Interest Rate Policy: Analysis With a Dynamic Model of Savings, Investment, and Growth in Korea", *Staff Papers*, Vol. 34, June, pp. 260-310, International Monetary Fund.

Williamson J. and M.A. Mahar, 1998, *"A survey of financial liberalization", Essays in International Finance*, No. 211, Princeton University, Princeton, New Jersey, USA.

World Bank, 1989, *World Development Report*, New York: Oxford University Press.

World Bank, 2001, *Global Development Finance*, Washington D.C.

Appendix 1

Estimation Results: Growth Equations

Entire period: (1974:Q1 – 2001:Q1)

Equation	Constant	CPSGDP	EXIM	FDIGDP	M2GDP	RMGDP	SPREAD	RIR	INF	R^2	DW
1	-10.01 (-.75)	-47.96 (-1.02)	-291.86* (-1.92)	25.08 (.89)		263.25 (1.44)		2.26*** (19.40)		0.81	1.89
2	3.60 (.43)	-51.38* (-1.83)	-101.61 (-.89)	11.69 (.70)		218.98* (1.86)			-1.87*** (-14.76)	0.71	1.67
3	-5.69 (-.44)		-321.68** (-2.05)	18.00 (.63)	-30.20 (-.45)	241.17 (.95)		2.24*** (19.58)		0.82	1.89
4	13.36 (1.23)		-276.10* (-1.89)	9.67 (.41)	-39.80 (-.69)	280.28 (1.24)			-2.21*** (-19.05)	0.81	1.90
5	-.84 (-.09)	-21.38 (-.64)	-273.94* (-1.84)	17.10 (.64)			1.60** (1.99)	2.23*** (19.15)		0.81	1.90
6	22.78** (2.51)	4.61 (.15)	-275.49* (-1.91)	9.71 (.39)			-.07 (-.09)		-2.21*** (-18.92)	0.81	1.90
7	-1.09 (-.10)		-325.50** -2.14	10.17 (.38)	3.50 (.10)		1.47* (1.75)	2.24*** (19.38)		0.82	1.89
8	20.27** (2.05)		-319.85** (-2.18)	5.67 (.23)	25.32 (.79)		-.20 (-.26)		-2.22*** (19.14)	0.81	1.89

N.B. One, two, and three asterisks represent 10%, 5%, and 1% level of significance respectively. The figures in parenthesis are *t* statistics.

Appendix 2

Estimation Results: Growth Equations

Pre-reform period: (1974:Q1 – 1989:Q4)

Equation	Constant	CPSGDP	EXIM	FDIGDP	M2GDP	RMGDP	SPREAD	RIR	INF	R^2	DW
1	-12.23 (-.71)	-160.13** (-2.14)	-405.03** (-2.15)	-626.39 (-.83)		604.72** (2.24)		2.19*** (14.75)		0.82	1.86
2	-1.05 (-.06)	-90.10 (-1.27)	-387.98** (-2.10)	-720.35 (-.10)		652.28** (2.49)			-2.20*** (-14.80)	0.82	1.90
3	-2.99 (-.17)		-402.30** (-2.04)	-1072.58 (-1.34)	-192.57* (-1.71)	851.71** (2.07)		2.21*** (14.95)		0.83	1.85
4	4.59 (.29)		-386.04** (-2.02)	-972.31 (-1.32)	-116.31 (-1.11)	812.38** (2.10)			-2.01*** (-13.75)	0.82	1.89
5	6.80 (.39)	-1.74 (-.02)	-410.08** (-2.07)	-337.18 (-.40)			1.56 (.75)	2.24*** (14.57)		0.82	1.87
6	33.65** (1.99)	-1.74 (-.02)	-410.08** (-2.07)	-337.18 (-.40)			-.68 (-.33)		-2.04*** (-15.53)	0.82	1.87
7	-12.16 (-.56)		-450.61** (-2.28)	-499.73 (-.66)	89.26 (1.08)		2.89 (1.61)	2.23*** (14.56)		0.81	1.90
8	14.64 (.68)		-450.61** (-2.28)	-499.73 (-.66)	89.26 (1.08)		.66 (.37)		-2.20*** (-11.06)	0.81	1.90

N.B. One, two, and three asterisks represent 10%, 5%, and 1% level of significance respectively. The figures in parenthesis are *t* statistics.

Appendix 3

Estimation Results: Growth Equations

Post-reform period: (1990:Q1 – 2001:Q1)

Equation	Constant	CPSGDP	EXIM	FDIGDP	M2GDP	RMGDP	SPREAD	RIR	INF	R^2	DW
1	-44.07** (-2.95)	-33.80 (-.56)	473.09 (2.37)	8.21 (.76)		69.49 (.53)		1.63*** (8.45)		0.72	2.14
2	-.08 (-.01)	-56.19 (-.87)	320.37* (1.56)	.80 (.07)		79.10 (.57)			-1.76*** (-9.09)	0.75	2.03
3	-39.66* (-1.77)		487.27* (1.84)	9.93 (1.05)	60.70 (.46)	162.43 (1.06)		1.58*** (8.03)		0.72	2.18
4	18.21 (.95)		536.28** (2.08)	.26 (.03)	200.14 (1.58)	171.42 (1.15)			-1.76*** (-8.38)	0.74	2.20
5	-40.26*** (-4.14)	-40.05 (-.78)	403.39* (1.95)	1.49 (.13)			1.40 (1.08)	1.68*** (8.81)		0.74	2.10
6	-6.15 (-.69)	-41.87 (-.78)	321.79* (1.52)	3.62 (.30)			-.72 (-.54)		-1.73*** (-8.96)	0.74	2.06
7	-25.48 (-.90)		395.38* (1.75)	.75 (.05)	83.40 (.62)		2.42 (1.33)	1.61*** (8.17)		0.73	2.10
8	17.14 (.64)		384.63* (1.68)	1.69 (.12)	136.26 (1.01)		.88 (.48)		-1.77*** (-8.25)	0.74	2.09

N.B. One, two, and three asterisks represent 10%, 5%, and 1% level of significance respectively. The figures in parenthesis are *t* statistics.

Résumé

Le Bangladesh a commencé le processus de libéralisation financière depuis la fin de la décennie 1980-90. Les conséquences de cette libéralisation sont ambiguës ; cette étude se concentre sur l'impact de la libéralisation sur la croissance économique en considérant trois *proxies* du développement financier : le taux d'intérêt réel, le volume des fonds intermédiés, et l'efficacité de l'intermédiation. L'analyse démontre que, malgré un fort développement financier dans la période après réforme, les variables financières et monétaires ne contribuent pas totalement à la croissance.