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CAPITAL MARKET DEEPENING AND ECONOMIC GROWTH IN BANGLADESH

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ABSTRACT. This paper examines the impact of capital market deepening on economic growth of Bangladesh using the time series data on market capitalization-GDP ratio, total market turnover-GDP ratio and Savings-GDP ratio over the period covering from the year 1991 to 2011. The economic results found by applying Ordinary Least Square shows that the capital market deepening has little contribution to the economic growth of the country. This is because of the low market turnover and relatively high savings rate that ultimately find its way to be invested somewhere else. The findings of this paper also indicates that there might be some other variables apart from the variables considered here that also affect the economic growth of the country.

Keywords: *Bangladesh, Capital Market Deepening, Economic Growth, Time Series Analysis*

JEL Classification: C22, E44, O16

1. Introduction

Financial Deepening, which refers to the development of financial system, plays an imperative role for the economic development of a country. Capital market deepening refers to an increase in the stock of financial assets. The more financial instruments are available in a country, the

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more effective financial system becomes. Recognizing this, Bangladesh reformed the stock market in 1996. Also, important steps have been taken to improve the functioning of the inter-bank and Treasury bill markets. Despite these initiatives, the stock market of Bangladesh is termed as shallow, shaky and insensitive. Bond market is still on its infancy attracting more of the government bonds compared to the corporate bonds. Development Financial Institutions (DFIs) set up prior to and after independence to meet up capital need confronted several problems that constrained their performance. As a result investors have to depend on the banking sector for short and medium term loans. Furthermore, the shallow capital market offers a thin basket of financial instruments.

Long term capital plays a pivotal role in the economic development of a country (Demirguc-Kunt and Levine, 1996). Capital market is the major source of long and midterm financing. Capital market lowers transaction costs, lessens the problem of adverse selection and moral hazard by reducing asymmetric information, assists in risk transfer and price discovery, ensures liquidity, increases financial savings, and improves efficient allocation of resources. Overall, Capital market facilitates long term project implementation promoting country’s economic growth and ease foreign financial resource inflow.

The development that Bangladesh seeks to achieve in its vision 2021 requires effective mobilization of domestic resources. The financial sector of Bangladesh is dominated by banking sector which has not been very effective in providing long term financing. To achieve the anticipated investment level financial deepening is essential to meet the investment need.

The Stock market of Bangladesh has experienced a colossal rush of investors in the both primary and secondary market in 2008 due to liberalization of margin loan facility. This provides evidence that investors seek basket of diversified financial instruments rather keeping deposits in the bank. This liquidity shifts persuade some banks to compete for deposits by increasing the deposits rates. This demonstrates that the access to alternative financial asset heightens competition in the sector. Capital market development enables financial deepening by providing investors opportunity to diversify their financial asset basket and also offers institutions alternative sources of funding.

2. Review of Literature

There exist a numerous studies concerning the relationship between capital market, financial deepening and economic growth. An early contribution in this area came from Schumpeter (1912). Schumpeter argued that banks help to facilitate economic growth in a well functioning financial system by funding entrepreneurs and implementing innovative products. Banks are efficient in collecting funds, screening and mobilizing these for the entrepreneurial activities. As individuals fail to carry out these activities efficiently, Greenwood and Jovanovic (1990) also stressed the growth enhancing role of financial intermediation. Goldsmith (1969), Shaw (1973) and McKinnon (1973), emphasized the importance of the financial system in economic growth. Levine (1991) argued that developed stock market reduces both liquidity shock and productivity shock of businesses. In case of developing country Mishra et al. (2010) found linkage between capital market deepening and economic development.

The stock market development does not merely follow economic development, but provides the means to predict future rates of growth in capital, productivity and per capita GDP. Studies on different countries supported this. In Belgium Nieuwerburgh, Buelens and Cuyvers, (2005) investigated the long-term relationship between financial market development and economic development. They found strong evidence that stock market development leads to economic growth in Belgium. Bolbol, Fatheldin, and Omran (2005) analyzed the effect of financial markets on total factor productivity and growth in Egypt and contended that capital market development had a positive influence on factor productivity and growth. In Taiwan, Korea and Japan, Liu and Hsu (2006) emphasized the positive effect of stock market development on economic growth. In Romania, Brasoveanu, Dragota, Catarama and Semenescu (2008), Barna and Mura (2010), found a positive correlation between capital market development and economic growth. For Nigeria, Ewah, Esang and Bassey (2009) concluded that, the capital market remain one of the mainstream in every economy that has the power to influence economic growth, hence the organized private sector is encouraged to invest in it. In Kenya, Ngugi, Amanja and Maana (2009) also concluded that capital market deepening facilitates economic growth.

By investigating the neighboring country Nepal, Surya Bahadur and Suman Neupane (2006) confirmed that the Nepalese stock market plays a significant role in determining economic growth. Nazir, Nawaz and Gilani (2010) found that the economic growth can be attained by increasing the size of the stock markets of a country as well as the market capitalization in an emerging market like Pakistan.

Contrary to these views, some scholars argue that financial system does not really matter for the economic growth of a country. Robinson (1952) and Lucas (1988) argue that financial systems do not matter for growth and financial development simply follows or reflects anticipation of economic development. Shliefer and Summers (1988) asserted that stock market development may hinder economic growth by promoting counter-productive corporate takeovers. Singh (1997) also opined that stock market may not be important in attaining higher economic growth.

Given these incompatible views, it is left to the empirical exploration to determine whether or not deepening of stock market development accelerates economic growth of a country. Although several studies regarding market efficiency, volatility of the market index and seasonality of the market have been conducted in Bangladesh, no previous study regarding the impact of capital market deepening on economic growth is carried out. Given the scenario, this study is important because, it examines whether or not the deepening of stock markets influences the economic growth of Bangladesh.

3. Capital market development in Bangladesh

The capital market of Bangladesh consists of stocks, bonds, debentures and mutual funds. The Dhaka Stock Exchange (DSE) Ltd. was established as East Pakistan Stock Exchange Association Limited on April 28, 1954. Formal trading of the bourse began in 1956. The service on the stock exchange continued uninterrupted until 1971. The trading was suspended during the liberation war and resumed in 1976 with the change in economic policy of the government. Currently 281 companies are listed in DSE. Bond market is still in its formative years with only 3 corporate bonds though 221 treasury bonds are outstanding. Development financial institution has failed to perform the role. Though several reforms have been made, stability is yet to come.

3.1. The Stock Market

Stock market has always been a vital player in economic development. Recognizing its importance, development authorities such as International Monetary Fund (IMF), Asian Development Bank (ADB) and World Bank have provided guidelines for the development of the emerging countries' stock market. The government of Bangladesh also carried out the Capital Market Development Program (CMDP) recommended by the ADB in 1997. The CMDP aimed to broaden market capacity and develop a fair, transparent, and efficient domestic stock market to attract larger amounts of investment (Bepari and Mollik, 2008). However, the performance(s) of the market is an indication that the policies have not worked very well. The assigned authorities and regulators have failed to ensure surveillance and the outcome of this is 2010 stock market crash, the biggest share market scam in the country. The market capitalization declined by 34% and the trading volume declined by almost 70%. The DSE General Index (DGEN) dropped from approximately 9,000 points to 5,000 points.

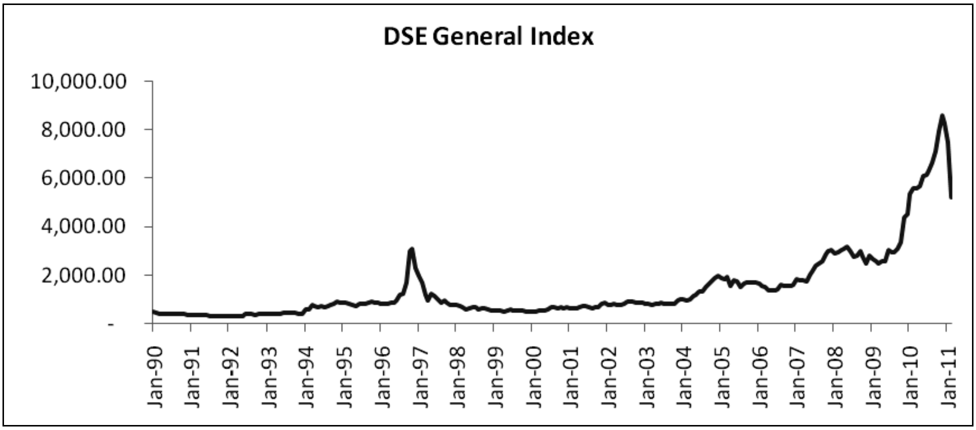

Figure 1. DSE General Index 1990-2011

Source: DSE, December, 2011

The market has witnessed the centralization and automation, the purpose of which was to reduce transaction time and abolishment of the open outcry system and dematerialization of paper share. But the settlement period for the 'A' category share is still T+3 which are pretty longer in comparison to advanced markets. The investments bankers have entered into the market and providing services like underwriting and issues management. The market capitalization is 21.05% of the country's Gross Domestic Product (GDP) (December, 2011) which is far behind than the neighbor India (86%).

3.2. The Bond Market

Bond market in Bangladesh is dominated by the Treasury bond (221 bonds). The corporate bond market is in its infancy with only three bonds trading in the market. These are ACI 20% Convertible Zero Coupon Bond, Subordinated 25% Convertible Bonds of BRAC Bank Ltd. and IBBL Mudaraba Perpetual Bond which shares profit. Along with the bonds, only eight debentures are outstanding, most of which are convertible. The bond market of Bangladesh is the 'smallest' in South Asia, which contributes only around 0.11 % of the country's GDP. The bond market has remained under developed for several reasons. As debt financing from commercial banks are easily obtained and is widely used in Bangladesh, limited numbers of investors invest in bonds. Also, weak regulations and market infrastructure make risk averse investors reluctant to invest in these type of risky corporate securities. The list of outstanding debt securities and their features are given below:

Table 1.

Features of Existing Corporate Debt Securities in Bangladesh

Serial no.	Securities	Year of issue	Features	Size (BDT million)
1	17% Beximco Knitting Debenture	1994	20% Convertible	240
2	17% Beximco Fisheries Debenture	1994		120
3	14% Beximco Textile Debenture	1995		250
4	14% Beximco Denims Debenture	1995		300
5	14% BD Zipper Debenture	1995	20% Convertible	40
6	14% BD Luggage Debenture	1996	20% Convertible	150
7	14% Aramit Cement Debenture	1998	20% Convertible	110
8	15% BD Welding Electrodes Debenture	1999		20
9	IBBL Mudaraba Perpetual Bond	2007	Profit Sharing	3,000
10	ACI Zero Coupon Bond	2010	20% Convertible	1,070
11	Sub Bonds of BRAC Bank Ltd	2011	25% Convertible	3,000

Source: DSE, December, 2011

4. Data and Methodology

The objective of this study is to examine the impact of capital market deepening on the economic growth of Bangladesh. The methodology used in this study is the multiple regression analysis with Ordinary Least Square (OLS) estimation techniques. The OLS technique has been chosen because it gives Best Linear Unbiased Estimators (Wannocott and Wonnocott, 1972; Koutsoyiannis, 1985; and Nyong, 1993). The study period spans from 1999 to 2011. In the study, the capital market deepening is measured by a number of factors, which include the amount of savings to GDP ratio (SAV), amount of total turnover to GDP ratio (TUR) and the amount of market capitalization to GDP ratio (MCAP). The variable of economic growth is measured by Gross Domestic Product (GDP). As savings equal investments, these figures measure the amount available for being invested which is taken as an indicator of access to credit, a vital issue of financial deepening. Market capitalization measures how the capital mobilization depends on market size. Turnover refers to the total value of shares traded during the period.

The model used in the study is $GDP = f\,(SAV, MCAP, TUR)$ and can be specified as follows:

$$GDP_t = \alpha + \alpha_1\, SAV + \alpha_2\, MCAP + \alpha_3\, TUR + \varepsilon_\tau$$

All the data have been collected from Bangladesh Economic Report and SPSS have been used for data analysis.

5. Result and Discussion

Before we estimate the relationship between economic growth, financial deepening and stock market development, it was necessary to perform stationarity test on the time series variables. Stationarity test measure whether the mean, variance and autocorrelation structure are constant over time.

Table 2.

Results of the stationarity test

Variables	ADF Test statistic	P Values	Test Critical values		Order of integration
GDP	-5.4470	0.0004	1% level	-3.8573	Stationary at first difference
			5% level	-3.0404	
			10% level	-2.6606	

Variables	ADF Test statistic	P Values	Test Critical values		Order of integration
SAV	-4.261354	0.0040	1% level	-3.8313	Stationary at first difference
			5% level	-3.0299	
			10% level	-2.6552	
MCAP	-4.4455	0.0028	1% level	-3.8314	Stationary at first difference
			5% level	-3.0300	
			10% level	-2.6552	
TUR	-5.9869	0.0001	1% level	-3.8573	Stationary at second difference
			5% level	-3.0404	
			10% level	-2.6606	

Finally, Ordinary Least square method was used to measure the relationship between economic growth and the variables. The result of the estimation is given in the table below:

Table 3.

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.828	.686	.630	.53985	.686	12.373	3	17	.000	2.083

Table 4.

Anova

	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.818	3	3.606	12.373	.000[a]
Residual	4.954	17	.291		
Total	15.772	20			

Table 5.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.666	.780		2.137	.047
SAV	.129	.031	.942	4.188	.001
MCAP	.071	.040	.417	1.805	.089
TUR	-.085	.047	-.537	-1.830	.085
a. Dependent Variable: GDP					

The regression results reveal that the amount of savings to GDP ratio has a significant positive effect on economic growth at 5 percent level of significance. α_1 = 0.13 indicated that 1% increase in the Savings-GDP ratio raises the economic growth by almost 0.13% provided that rest of the independent variables remain unchanged.

However, the coefficient of market capitalization to GDP ratio α_2 = 0.07 indicates that, the coefficient is positive, but not statistically significant. Furthermore, the coefficient of Market Turnover to GDP ratio, although negative, is not statistically significant. Thus, Market Turnover to GDP ratio and Market capitalization to GDP ratio have little power in explaining the economic growth of the nation. The GDP of the country grew at more than 6% despite the lessening of market capitalization and market turnover in the last couple of years. The test results are thus consistent with the actual economic scenario of the country.

The relationship between the variables was explained by the help of multiple coefficients of correlation (R). From the model summary table it is evident that R=0.83 which indicates a high degree of positive relationship between the variables. The explanatory power of the independent variables was assessed with the help of the coefficient of determination (R^2). The regression statistics table indicates R^2 = 0.69. This indicates that 69% of the variation in economic growth can be explained by the independent variables.

Durbin-Watson statistic of larger than 2 indicates no serial correlation in the residuals. The F-value is 12.32 with a corresponding p-value of 0.000, which means that the overall fitness of the model is well justified.

6. Conclusion

This paper examines the impact of capital market deepening on economic growth of Bangladesh using the time series data on market capitalization-GDP ratio, total market turnover-GDP ratio and Savings-GDP ratio over the period covering from the year 1991 to 2011. The economic results found by applying Ordinary Least Square shows that the capital market deepening have little potential of contributing to the economic growth of the country unlike other developing countries such as Nepal, Pakistan, Kenya and Nigeria. This is the result of low market turnover and relatively high savings rate, which ultimately find its way to be invested. The findings of this paper also indicate that there might be some other variables apart from the variables considered that also affect the economic growth of the country. The GDP of the country grew at more than 6% despite the lessening of market capitalization and market turnover in the last couple of years. The test results are thus consistent with the actual economic scenario of the country. Therefore, in case of Bangladesh we conclude that, not only the capital market deepening but rather the overall financial deepening contributes to the economic growth of the country. As several studies on developing countries found strong relationship between capital market deepening and economic growth, Bangladesh can adopt capital market friendly policies to enhance its contribution in national economy. Thus, policy implications should be such which will increase the efficiency of firms, encourage them to access capital market, augment the capacity of the Bangladesh Security and Exchange Commission to facilitate the growth of the stock market, restore the confidence of stock market participants and uphold the interest of shareholders. Domestic as well as foreign investors should be encouraged to penetrate the market with investments and greater capitalization so as to ensure the sustainable growth of the country.

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