

## **GROWTH OF SECURITIES MARKETS AND ECONOMIC DEVELOPMENT OF BANGLADESH: THE ROLE OF MACROECONOMIC INDICATORS**

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### **ABSTRACT**

Within the frame of financial reforms, the development of stock markets in many developing countries has been engaged in reaching their growth and development. This paper examines the role of the stock market development indicators of Dhaka Stock Exchange to show the growth pattern for entire study period. The evidences of the study reveal that Dhaka Stock Exchange has experienced a smooth development upto 2008 with a trend break for the rest of the period under study. Finally, this paper shows the impact of some selected macroeconomic variables on the growth of market capitalization of Dhaka Stock Exchange.

**Keywords:** *Stock market, development indicator, Market size, Stock market liquidity, Stock market liberalization, Gross domestic product, Stock market trend, Macroeconomic variables, Market capitalization ratio, Value traded ratio, Turnover ratio.*

### **INTRODUCTION**

For rapid growth and economic development and emancipation both direct and indirect financing should be considered complementary. The role of the stock market in the process of such development has been well recognized. The scale and rapid growth of the population translate into massive capital investment requirements and resulting long term recruiting costs in most of the developing countries (Chiang and Chiang 1996). A well developed and smooth functioning stock market is a sine-qua-non to national economic growth with a view to providing an additional channel to support industrialization through savings mobilization, to ensure improvement in the production of investment through proper allocation of capital, to ensure managerial discipline through the market for corporate control. In a underdeveloped country like Bangladesh, most of the resources remain unutilized due to the lack of proper intermediation activities regarding deposit mobilization as well as accumulation of capital that augment the industrialization. As a consequence, capital costs influence and largely determine maintenance and operating costs, any initial capital investment infrastructure and other facilities has far reaching implications for future allocation of resources (Arias 1996) Under these circumstances, an effective and efficient with autonomous power and good governance may influence national savings, allocation of those savings, firm financing decisions. The recent development towards privatization seeks the need of efficient capital markets. It performs various functions in the process of economic development. The securities markets provide both savers and users with a broad spectrum of investment choices that can increase the level of both savings and investment. Securities markets can attract the investors as it offers higher return to the investment portfolio. This investment portfolio easily can draw more savers in the investment process that in turn involves institutions like

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brokerage house, investment banking, money investing firms etc. However, Bangladesh being an underdeveloped country should liberalize its stock markets in order to attract foreign portfolio equity flows so that the huge amount of capital may be available from developed countries (Kunt and Levine 1996). Under the scheme of Foreign Direct Investment (FDI), securities markets attract external sources from developed and developing countries to improve stock markets internally. In a liberalized economy stock markets can augment the growth; development and stability of a country's financial structure, increase the allocation of savings, allocation of existing real wealth and ensure the distribution of income (Kunt and Maksimovic 1996). After independence Bangladesh has adopted a very strong and liberal industrial policy to attract both domestic and foreign investments. To ensure legal protection to foreign investment against nationalization and expropriation, Bangladesh government set-up Foreign Private Investment (Promotion & Protection) Act, 1980. No permission of the government is required to set-up new industries which need only to be registered with the Board of Investment for obtaining some selected industrial facilities like importation of capital machinery and raw materials, tax rebate, duty facilities, electricity, gas and sewerage connection etc. There is no limitations pertaining to equity participation i.e., upto hundred per cent foreign private investments are allowed. Liberal industrial policies are also adopted to encourage export-oriented production industries like garments and textiles. Except five reserve sectors, all industries are open for private investment. The principal industries of the country are garments, paper, jute, textiles, tea, fertilizer, leather, sugar, cement, fish processing, pharmaceuticals, chemical, etc. However, there is now an increasing recognition in Bangladesh that given the competition for foreign funding and limited availability of domestic resources, DSE can play a beneficial role in providing capital to the productive sector as well as facilitate the process of privatization.

The return on investment is made up of both capital gains (or losses) and dividends. It is assumed that the dividends and capital gains are equally valuable to the investors though this may not always be the case as tax treatments sometimes favor capital growth over dividends. A general question may arise in the mind of the shareholders that the corporate dividend policy affects the wealth of the shareholders. Hence, the corporate dividend policy should have a relatively direct bearing on cyclical fluctuations and longer term growth trends in the economy (Levine and Zervos 1996). A perusal of the stock market development indicators reveals that the Bangladesh stock market has witnessed phenomenal but uneven growth over the years under the new economic policy. The uneven growth is reflected in the sharp breaks that the indicators exhibit. Therefore, it seems to be interesting of the concerns to see the changes in the stock market growth in Bangladesh in the presence of trend breaks that may have occurred over the years. The principal objective of this study is to evaluate the stock market development indicators of Bangladesh within the context of financial liberalization. To this end, the present study analyzes different measures of stock market development of Bangladesh. To address this issue, we have exhibited the trend breaks over time by using data associated with Dhaka Stock Exchange (henceforth DSE). The rest of the paper is designed as follows. Section II describes the selected stock market indicators of Bangladesh. Section III exhibits a brief discussion on the trend and growth pattern of DSE over time. Section IV presents empirical results of the study and section V concludes the paper.

### **STOCK MARKET INDICATORS**

The efficient market hypothesis asserts that security prices in a stock market reflect fundamental macroeconomic information. The concept of such efficiency implies that a stock market is working efficiently and effectively and the prices are determined depending on macroeconomic available information prevailing in the economy (Schwert 1989). The stock returns both in the form of dividends or capital gains (losses) reflecting macroeconomic performance should, therefore, be appropriate and the investors can expect a fair return. Furthermore, efficient market hypothesis holds a significant linkage of the stock markets with the real economic variables like GDP, industrial production, inflation, interest rates, and unemployment. Schwert (1989), Ferson and Harvey (1991) find that stock

return volatility is closely related to the movement of macroeconomic variables. Several international factors play a crucial role in determining stock market volatility especially when there exist degrees of interdependence and causal relations among national stock markets. For example, foreign stock return volatility may sometimes be transmitted to the domestic stock market, given exchange return volatility because rational agents often use information from stock price changes in other markets for portfolio adjustment. International transmission of price volatility plays a more important role in transmitting price volatility to other markets resulting regional co-movement in stock markets (King and Wadhvani 1991). The surge of international capital movement into developing and underdeveloping countries has been focused on in the finance theory because it seriously affects a national stock market. Fischer and Palasvirta (1990), Ko and Lee (1991) and Malliaris and Urrutia (1992) investigate the interest in the integration of international financial markets has been growing continuously and has led to many works on interactions and interdependence across national stock markets. The movement of international capital flows is definitely affected by the interest rate changes in the developed countries (Arshanapalli and Doukas 1993). Though the wave of capital inflows is also a function of domestic macroeconomic performances and national creditworthiness, the surge in capital inflows is mostly the result of external factors (Singh 1997). However, some crucial economic indicators from Bangladesh profile are exhibited in table-1. Furthermore, the study analyzes some selected measures of stock market development. To understand the market size, market capitalization ratio (henceforth MCR) is considered as a most useful measure. The market capitalization ratio is defined as the market value of the listed shares traded in the market at a particular time divided by gross domestic product (GDP). As a stock market indicator, market capitalization is estimated as the product of market price per share and the number of shares outstanding. In doing so number of shares issued by the company is not considered. Market price per share is multiplied by the number of shares outstanding of a firm to calculate its market capitalization indicating the size of the firm simultaneously. Total market capitalization of an exchange is then calculated by adding the market capitalization of the individual firms. Hence, market capitalization is considered as a proxy for market size which is positively related to the ability of mobilizing capital and diversifying of risk.

Table-1: Exhibiting the Selected Macroeconomic Indicators of Bangladesh Economy.

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Investment as % of GDP	18.40	19.12	19.99	20.72	21.63	22.19	23.02	23.09	23.15
Inflation rate	3.28	8.87	6.65	2.52	6.99	8.91	3.90	3.58	5.03
GDP growth rate	8.01	12.63	9.05	8.64	10.78	9.75	7.91	6.94	7.75
GDP per capital	288	316	334	340	348	357	363	362	361
National savings	18.79	19.12	20.17	21.58	21.77	22.31	23.10	22.41	23.44
Interest rate	12.78	12.22	13.41	13.69	14.02	14.16	13.86	13.75	13.16
Exports	2524	3465	3888	4406	5162	5316	5738	6471	6548
Imports	3765	5248	6185	6365	6772	7222	7571	8557	8838
For-ex. Reserves	2765	3070	2039	1719	1749	1523	1602	1307	1583
SDR	58.38	62.81	60.27	60.88	61.66	64.87	68.16	71.00	77.04
Per capita income	297	326	343	351	359	369	377	374	378
NI deflator	89	96	100	103	109	114	116	118	121
Bank rate	5.50	6.50	7.50	8.00	8.00	7.00	7.00	6.00	6.00

*Source:* i) Bangladesh Bureau of Statistics, Ministry of Finance, People's Republic of Bangladesh.

ii) Economic Trends, Statistics Department, Bangladesh Bank.

*Note:* i) GDP, Exports, Imports and Foreign Exchange Reserves are expressed in million US \$.

ii) Special drawing rights-SDRs are in terms of Taka per currency.

iii) Per capita income is expressed in US \$.

Market liquidity of an organized exchange may be calculated by two measures: the value traded ratio and turnover ratio. The value traded ratio implies the total value of traded shares of an exchange divided by GDP. Thus, this ratio measures the trading of securities of an exchange as a share of national output and should therefore positively reflect liquidity of an economy. The value traded ratio, therefore, is utilized as a complement of market capitalization ratio. For econometric analysis, taken together market capitalization and value traded ratio provide more sophisticated information about a stock market than if one uses only a single indicator. Another measure of market liquidity is the turnover ratio which implies the value of total shares traded in an exchange divided by the market capitalization. High turnover is termed as an indicator of low transaction costs and vice versa. Though total value traded ratio captures trading compared with the size of the economy, turnover measures the trading relative to the size of the stock market. Consistently, a small, liquid market might have a better turnover ratio but a small total value traded ratio. Therefore, the combination of information on the total value traded ratio and turnover ratio provides a more sophisticated measure of the liquidity of a stock market. Analysts can gauge the influence of the price effect to look at the value traded and capitalization together. Finally, it is essential to conceptualize the stock price movement in the market. In this connection, the important measure is the volatility parameter which conveys signal for its development. Conceptually less volatile market reflects greater market efficiency, effectiveness and development. High volatility might be an indicator of development so far as revelation of information implies volatility in a well functioning market.

#### **GROWTH OF DSE SECURITIES**

The stock market of Bangladesh has grown rapidly and unevenly in response to the major policy change after 90s in the context of financial liberalization. The market capitalization of the stock markets of Asian countries continues to grow after financial liberalization (Chan et al. 1992). Some of such emerging markets are comparable in size to the smaller European market and many of them have been growing at a faster rate than European markets over the last few years and are likely to continue to do so. There is an increasing recognition among policy-makers about the beneficial role of DSE in mobilizing and allocation of resources in support of growth and development. The growth and development of securities listed with DSE may be the outcome of some indicators that directly or indirectly control the operation of the same. Number of issues, number of securities traded, paid up capital and market capitalization, composite share price index are very closely related to the growth and development of DSE. However, the growth of listed securities of DSE during the period from 1996 to 2008 is presented in Table-2.

**Table-2: Showing the Growth Pattern of Securities Listed with DSE During the Period from 1996 to 2008.**

Year	No. of Listed Securities	No. of Shares in million	Paid up capital		Market capitalization		MC over paid up capital	Share price index
			Million Taka	Change (%)	Million Taka	Change (%)		
1996	138	167.2	5586.6	-----	10397.3	----	1.86	296.2
1997	149	172.3	6020.3	7.8%	12299.1	18.3%	2.04	369.5
1998	153	195.1	8201.7	36.2%	18098.7	47.2%	2.21	418.8
1999	156	214.4	9268.0	13.0%	32715.0	80.8%	3.53	659.8
2000	188	325.5	18317.3	97.6%	49998.1	52.8%	2.73	776.9
2001	201	375.3	21754.1	18.8%	67727.6	35.5%	3.11	959.1
2002	214	471.1	26907.4	23.7%	107826.6	59.2%	4.01	1111.6

2003	224	523.2	30211.5	12.3%	62264.4	(42.3)%	2.06	676.5
2004	230	533.5	28684.0	(5.1)%	50748.4	(18.5)%	1.77	546.8
2005	239	612.8	30517.0	6.4%	54004.4	6.4%	1.77	561.0
2006	244	666.6	32227.0	5.6%	72168.0	33.6%	2.24	716.06
2007	257	930.5	34968.0	8.5%	65518.0	(9.2)%	1.87	819.78
2008	260	972.7	36081.0	3.2%	72998.0	11.4%	2.02	823.14

**Source:** i) Annual Reports of DSE and SEC during the period under study.

ii) Dhaka Stock Exchange Fact Book, 1994.

**Note:** i) Share price index and market capitalization of the last trading day of the year has been taken into account.

ii) MC for market capitalization.

Table-2 comprises of the reported indicators in the context of DSE. It is evident from the table that till 1996, only 138 securities have been listed with DSE. This is undoubtedly very low for smooth growth and development of securities market although the number is gradually increasing. As at June 30, 2008 the total number of issues reached at 260 listed with DSE. The total number of securities of DSE in 1996 was 167.2 million that reached at 972.7 million in 2008. The highest rate of increase in respect of paid up capital is registered in 2000 whereas table-2 experiences that the highest rate increase in terms of market capitalization is registered in 1999. But the rate of market capitalization decreases in 2003, 2004 and 2007. It is evident from the table that the sponsors of the companies are raising resources as well as diluting the ownership control to the investors. As a result, the number of investors is increasing. The growth pattern of DSE can be interpreted by turnover ratio and market capitalization as percentage of GDP where market capitalization means the market value of all listed shares, debentures and mutual certificates. After the regime of price manipulation in 1996, market capitalization of DSE declines in 1998 and 1999. Market capitalization over paid up capital reveals the time growth of paid up capital of the listed companies that is, how much it increases over the paid up capital. As depicted in table-2, the highest volume of market capitalization is documented in 2002. From the above study it is documented that stock markets in Bangladesh, especially Dhaka Stock Exchange has shown a phenomenal but uneven growth in the study period. The next section of the study is devoted to analyze the trend breaks of the development of DSE.

### EMPIRICAL ANALYSIS

To measure the market size, liquidity and volatility of DSE is the prime objective of the present study which examines the time series properties of each stock market indicator. To gauge the stock market development, a simple comparison of means of the series can be used. The empirical analysis of the stock market development indicators is provided in table-3. The analysis critically reveals the extent of growth of DSE. As shown in table-3, market capitalization ratio and turnover ratio register higher growth for the entire period of the study. As a measure of market size, market capitalization ratio increases from .0785 in 1996 to .6152 in 2002. As a measure of the liquidity of the market, stock turnover ratio for the entire study period increases from .0136 in 1996 to 1.0226 in 2004. The average of the market capitalization ratio and turnover ratio for the entire study period are .2801 and .2933 respectively. Being another measure of the market liquidity, value traded ratio increases from .0011 in 1996 to .2683 in 2004 with an average of .2276 for the entire study period. The market capitalization ratio as depicted in table-3 reached its peak in 2002. The table also indicates that the series is an upward trending except a rise in the middle of the entire period of study. In 2003 it declines from the previous year and shows a discontinuation for the rest of the study period. The value traded ratio estimating a measure of the market liquidity of DSE shows an increasing trend during the study period

expect in 2004 and 2006. The average of the value traded ratio is .0871 showing its peak in 1999. The turnover ratio being the complement of the value traded ratio also shows its peak in 2004 with an average of .2933 for the entire period of study.

**Table-3: Showing Market capitalization Ratio, Value Traded Ratio and Turnover Ratio of DSE the Period under Study.**

Period	MC (in million Taka)	MCR	VTR	TOR
1996	10397.3	.0785	.0011	.0136
1997	12299.1	.0884	.0019	.0212
1998	18098.7	.1243	.0028	.0223
1999	32715.0	.2159	.0161	.0747
2000	49998.1	.3145	.0293	.0932
2001	67727.6	.4074	.0493	.1211
2002	107826.6	.6152	.0492	.0804
2003	62264.4	.3376	.0684	.2026
2004	50748.4	.2624	.2683	1.0226
2005	54004.4	.2635	.1352	.5128
2006	72168.0	.3345	.2276	.6803
2007	65518.0	.2909	.1595	.5484
2008	72998.0	.3077	.1290	.4191
96-08	52058.7	.2801	.0871	.2933

**Source:** i) Annual Reports of DSE and SEC during the period under study.  
ii) Dhaka Stock Exchange Fact Book, 1994.

**Note:** i) Share price index and market capitalization of the last trading day of the year has been taken into account.  
ii) MC, MCR, VTR and TOR denote market capitalization, market capitalization ratio, value traded ratio and turnover ratio respectively.

The analysis of the three measures of DSE development indicators reveals that DSE shows a smooth growth and development upto 2001 starting from 1996. After 2001, as a measure of the stock market development indicators, the aforesaid determinants show a trend break in the development of DSE. The role of the government in determining stock return volatility is much more important in emerging markets than in developed countries. It is obvious that the uncertainty of fiscal policy of underdeveloped country like Bangladesh has a substantial influence on the stock markets. Investors of such markets change their portfolios not only based on the movements on the interest rates or exchange rates but also based on the behavior of the government (Najand and Rahman 1991). The dynamic movement of the stock market volatility in terms of both domestic and international factors has a significant influence on the domestic stock market. The analysis and discussion are based in the context of macroeconomic variable changes in DSE during the study period. Table-4 reports the description of statistics and coefficient correlations for some selected variables affecting the growth of market capitalization of DSE during the period from 1997 to 2008. Growth of market capitalization (MC) as percentage appears to be the dependent variable and the interest rate; savings as percentage of GDP, investment as percentage of GDP and the annual growth of GDP are the independent variables. Growth of market capitalization in 1997, 2004, 2005 and 2008 as depicted in the table shows negative figures.

**Table-4: Showing Descriptive Statistics and Correlation for the Selected Variables Affecting the Growth of DSE.**

Time	Interest rate	Savings as % of GDP	Investment as % of GDP	Annual growth of GDP	Growth of MC as %
1997	14.99	19.66	16.90	3.34	-9.5

1998	15.12	19.30	17.31	5.04	18.3
1999	14.39	17.96	17.95	4.57	47.2
2000	12.78	18.79	18.40	4.08	80.8
2001	12.22	19.12	19.12	4.93	52.8
2002	13.41	20.17	19.99	4.62	35.5
2003	13.69	21.58	20.72	5.39	59.2
2004	14.02	21.77	21.63	5.23	-42.3
2005	14.16	22.19	22.19	4.87	-18.5
2006	13.86	23.02	23.02	5.94	6.4
2007	13.75	22.41	23.09	5.27	33.6
2008	13.16	23.44	23.15	4.42	-9.2

Source: i) Economic Trends, Statistics Department, Bangladesh Bank.

ii) Annual Reports, Securities and Exchange Commission, 1994-95 to 2002-03.

### Regression ⇒

#### Descriptive Statistics

Variables	Mean	Std. Dev.	N
Growth_MC	21.1917	36.5953	12
Int. rate	13.7808	.8425	12
Savings	20.8008	1.8477	12
Investment	20.2833	2.3268	12
Annual growth_GDP	4.8083	.6750	12

#### Correlations

	Growth_MC	Int. rate	Savings	Investment	Annual Growth_GDP
<b>Pearson Correlation:</b>					
Growth_MC	1.000	-.452	-.541	-.363	-.038
Int. rate	-.452	1.000	-.084	-.316	-.131
Savings	-.541	-.084	1.000	.923	.485
Investment	-.363	-.316	.923	1.000	.597
Annual Growth_GDP	-.038	-.131	.485	.597	1.000
<b>Sig. (1- Tailed):</b>					
Growth_MC	.	.070	.036	.123	.453
Int. rate	.070	.	.398	.158	.343
Savings	.036	.398	.	.000	.055
Investment	.123	.158	.000	.	.020
Annual Growth_GDP	.453	.343	.055	.020	.

#### Variable Entered/Removed<sup>b</sup>

Model	Variable Entered	Variable Removed	Method
1	A_growth of GDP Savings, Int.rate,		Enter

	Investment <sup>a</sup>		
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- a. All requested variables entered  
b. Dependent Variable: Growth\_MC

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.798 <sup>a</sup>	.637	.335	29.8491	.637	2.107	5	6	.195

- a. Predictor: (Constant), Savings, Int. rate, Annual Growth\_GDP, Investment.

### ANOVA<sup>b</sup>

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	9385.608	5	1877.122	2.107	.195 <sup>a</sup>
Residual	5345.802	6	890.967		
Total	14731.409	11			

- a. Predictor: (Constant), Savings, Int. rate, Annual Growth\_GDP, Investment.  
b. Dependent Variable: Growth\_MC.

### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error				Beta	Lower Bound
1:(Constant)	-40590.6	45021.10	-----	-.902	.40	-150752.59	69571.570
Int. rate	5	15.133	-.407	1.169	.28	8	19.340
Savings	-17.689	16.292	-.496	-0.603	.7	-54.718	60.432
Investment	-9.817	39.592	.411	-.921	.56	-49.681	69.982
A_GDP	-36.446	19.492		1.143	.39	-133.323	
	22.288				.29	-25.406	
					.6		

- a. Dependent Variable: Growth\_MC.

### Coefficient Correlations

Model		A_GDP	Int. rate	Savings	Investment
1	Correlations				
	A_GDP	1.000	-.052	.310	-.567
	Int. rate	-.052	1.000	-.538	-.104
	Savings	.310	-.538	1.000	-.412
	Investment	-.567	-.104	-.412	1.000
Covariances	A_GDP	379.925	-15.479	98.499	-437.899
	Int. rate	-15.479	229.007	-132.653	-62.089



	Savings	98.499	-132.653	265.421	-265.535
Investment		-437.899	-62.089	-265.535	1567.527

a. Dependent Variable: Growth\_MC.

From the summary model it is found that both the value of R Square and Adjusted R Square is positive which are 0.637 and 0.335 respectively. The regression has an F value of 2.107. Analysis of coefficients indicates that all the coefficients are statistically significant and among the independent variables Interest Rate (-1.169) has the highest significant t- statistic followed by Annual growth of GDP (1.143), Investment (-.921) and Savings (-.603). F statistic and the Adjusted R Square for the variables follow a similar order of magnitude. The last stage of the analysis provides a correlation matrix of four independent variables. The correlation coefficient between Investment and Annual growth of GDP is the highest (-.567) with a lowest correlation coefficient between Interest Rate and Annual growth of GDP (-.052).

### CONCLUDING REMARKS

Securities market plays a crucial role in the sphere of economic development through industrialization and employment generation. If markets incorporate large corporate profits, stock price would rise which would, in turn, increase the value of the traded shares and therefore increases value traded. Considering aforesaid stock market indicators and applying time series data of Dhaka Stock Exchange, this study finds that Bangladeshi stock market grew well and became more liquid after launching a large number of policy changes following 90s. We find that during the study period DSE suffers adversely after regime shift due to feverish activities of speculators that infuses economic instability to the detriment of real sector growth and stability.

The present study reveals the growth pattern of DSE for the period under study. A vast improvement has been registered in 1997 with maximum share price index during the period under study. But the entire share price started decreasing after 1997. Present study also shows that DSE experienced an increasing trend till 1997 in regard to the number of shares and debentures traded in the exchange but the market disaster after 1997 shattered public confidence tremendously. The study identifies a number of problems that discourage the investors to undertake risk. However, government attitudes and strong and legal supervisory organizations are equally important to check the interest of the investors. To this end only one capital market controlling authority, Securities and Exchange Commission, should be empowered as a watchdog to reactivate the market operation. The Executive Committee of DSE should be rearranged with experts of capital market, efficient officials and financially viable and honest brokers/dealers of the exchange. Provisions of relevant Act, Rules, and Regulations of SEC may be amended to increase the expertise of the exchange. In the study it is noticed that number of securities as well as listed companies are very poor. So, adequate opportunities should be given to encourage the companies to be registered with DSE and the promoters of new companies should be allowed to hold a large number of shares. The liquidity indicator would rise without a rise in the number of the transactions or a fall in transaction cost. Price effect influences both the indicators, but only the value traded is directly related to the trading. The price effect does not influence turnover because stock prices enter the numerator and the denominator of the turnover. If the DSE can overcome the existing problems and is allowed to work independently, with the transparency, it can definitely play an important role in the field of economic development with the acceleration of industrialization of the country.

### REFERENCES

- Arias FE. 1996. The New Wave of Private Capital Inflows: Push or Pull. J. Development Economics. 48:389-418.
- Arshanapalli B. and Doukas J. 1993. International Stock Market Linkages: Evidence from the Pre-and Post-October 1987 Period. Journal of Banking and Finance. 9:193-208.

- Chan KC, Gup BE and Pan MS. 1992. An Empirical Analysis of Stock Prices in Major Asian Markets and the US. *Financial Reviews*. 289-307
- Chiang TC and Chiang JJ. 1996. Dynamic Analysis of Stock Return Volatility in an Integrated International Capital Market. *Review of Quantitative Finance and Accounting*. 6:5-17.
- Ferson WE and Harvey CR. 1991. The Variation of Economic Risk Premiums. *Journal of Political Economy*. 99:385-415.
- Fischer KP and Palasvirta AP. 1990. High Road to a Global Marketplace: The International Transmission of Stock Market Fluctuations. *Financial Review*. 371-394
- King MA and Wadhvani S. 1991. Transmission of Volatility Between Stock Markets. *Review of Financial Studies*. 3:5-33.
- Ko K and Lee S. 1991. A Comparative Analysis of the Daily Behavior of Stock Returns: Japan, the US, and the Asian NICs. *Journal of Business Finance and Accounting*. 5:219-234.
- Kunt DA and Levine R. 1996. Stock Market Development and Financial Intermediaries: Stylised Facts. *World Bank Economic Review*. 19:291-322.
- Kunt DA and Maksimovic V. 1996. Stock Market Development and Firm Financing Choices. *World Bank Economic Review*. 19:350-372.
- Levine R and Zervos S. 1996. Stock Market Development and Long Run Growth. *World Bank Economic Review*. 10:323-340.
- Malliaris AG and Urrutia JL. 1992. The International Crash of October 1997: Causality Tests. *Journal of Financial and Quantitative Analysis*. 7:353-263.
- Najand M and Rahman H. 1991. Stock Market Volatility and Macroeconomic Variables: International Evidence. *Journal of Multinational Financial Management*. 1:51-66.
- Schwert GW. 1989. Why Does Stock Market Volatility Change over Time? *Journal of Finance*. 44:1115-1153.
- Singh A. 1997. Financial Liberalisation, Stock Markets, and Economic Development. *Economic Journal*. 107:771-782.