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Growing Competitiveness of South Asian Stock Exchanges on the Global Scenario

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ABSTRACT

The South Asia region has shown remarkable growth in recent times. Capital inflows to the region rose at an average rate of 7% between 2000 and 2007, next only to the Europe and Middle East. This has led to the stock exchanges of the region becoming the cynosure for the global investors. In order to sustain this, the stock exchanges of the SAARC nations have been attempting to become more and more competitive. This paper analyzes the growing competitiveness of the South Asian stock exchanges on the global scenario. Even during the times of global economic recession, these stock exchanges have demonstrated great resilience by standing tall. By looking at the volume, indices, FII inflows, fund buying, retail investments and the products being offered at the exchanges, the paper comments on the competitive nature of the stock exchanges vis-à-vis the stock exchanges from other parts of the world.

Key words: South Asia region, capital inflow, competitiveness, global economic recession, FII inflows, fund buying

INTRODUCTION

In the first decade of the Twenty First century, the region of South Asia has shown considerable growth. A significant growth has been witnessed in the Real GDP and inflow of international investment. The region as a whole registered over 8% annual growth in GDP for a couple of years up to 2007. This growth process of the region has been building over a long period of time. As a result of it, three countries of the region-India, Bangladesh and Bhutan-have consistently witnessed over 5% growth throughout the first decade of twenty first century. Besides, Sri Lanka and Maldives have also experienced high rates of growth during this period of time.

A large role has been played by the inflows of finance and investment in the sustainable economic growth of the region. Fuelled-up by the rapid growth and development of the financial markets in the region, the investment rates have got stepped up. Capital inflows to the region rose at an average rate of 7% between 2000 and 2007, next only to the Europe and Middle East. Stock market capitalization grew at average annual rate of 107%, next only to the East and South-east Asia. Private credit by banks rose at 14.8%, next only to Europe and the Middle-east. Showing the highest growth among all regions, investments grew at 8.1%.

Deepening of the financial markets is evident from the rapid growth of primary markets, in terms of resource mobilization, as also from the surge in secondary markets which is reflected through trading volumes. Trading volumes in exchanges of the region witnessed huge growth on

the back of the region emerging as an important destination for the foreign institutional investments. A variety of products were introduced by the exchanges, including derivatives in commodities, currencies, bonds and exchange-traded funds. The Dow Jones coming out with a special SAFE Index incorporating major stocks traded among the South Asian exchanges is a clear evidence of the arrival of South Asian stock exchanges on the global capital markets scenario.

- To explore the growth of stock markets in the South Asian region
- To observe the linkages between general economic indicators and the stock market indicators; and
- To find out the most organized and active market in the South Asian region

REVIEW OF LITERATURE

A number of researchers have undertaken the research studies concerning the stock markets. Most of these studies deal with the stock markets in the developed countries. A large portion of the studies about the stock markets have been undertaken after the year 1950. Levine and Zervos (1996), Di Noia (2001a) and Schmiedel (2001) examine the stock exchanges of developed countries while Calamanti (1983), Singh (1997), Atkin and Chupp (1992), Pardy (1997), See Levine and Zervos (1998), Coffee (1999) and Agrawalla and Tuteja (2007), investigated the growth pattern in stock exchanges of developing countries. There have been studies that have focused on Asian stock markets also. Bhattacharya and Sivasubramaniam (2003), Agrawalla and Tuteja (2007) and Chakraborty (2008) study the Indian stock exchanges.

The area and scope of the studies concerning the stock exchanges has been mixed. Joan, Levine and Zervos (1996), Singh (1997) and N'zue (2006) study the relationship between financial deepening and economic growth of the country. Caporale *et al.* (2004) examine the causal link between stock market development, financial development and economic growth. Schmiedel (2001) analyze the performance of European stock exchanges. Di Noia (2001b) study possible effects of cross-network externalities on competition and consolidation in the European stock exchange industry. Fry (1988) study the relationship between stock market development and higher savings levels. Hamid and Singh (1992) examine the relationship between the stock markets and corporate earnings. Alvarez and Kalotay (2004) examine the integration of the European stock market. Levine and Zervos (1998) examine whether countries experience a permanent increase in the growth rate of their capital stocks when their stock markets become more integrated with the rest of the world.

From her analysis of securities markets in francophone African developing economies, Calamanti (1983) concludes that securities markets cannot significantly contribute to economic growth in these economies because, even in the case of a few countries where securities markets were linked with economic growth, the markets seemed to be the result, rather than any cause of, such growth. Singh (1997) observes that, since financial liberalisation makes the financial system more fragile, it is not likely to enhance long-term growth in developing countries. Filer *et al.* (1999) find that an active equity market is an important engine of economic growth in developing countries. Rousseau and Wachtel (2000) conclude that both the banking sector and stock market development explain subsequent growth, even after controlling for the reverse causality. Beck and Levine (2003) find that the expansion of both banks and stock markets significantly affects growth. Caporale *et al.* (2004) conclude that a well developed stock market can foster growth in the long-run. N'zue (2006) finds a unidirectional causality running from stock market development to economic growth.

Schmiedel (2001) reveals evidence on considerable inefficiencies of individual financial exchanges in Europe. Di Noia (2001a) concludes that competition may lead to inefficient equilibrium while an implicit merger may have a Pareto optimal outcome and result in higher profitability of both exchanges. The implicit merger model shows that specialization in listing or trading services among exchanges is likely. Hasan *et al.* (2002) provide evidence on cost and revenue efficiency effects from a global perspective. It is found that on average North American exchanges are the most cost and revenue efficient, while European exchanges have improved the most, in respect of cost efficiency.

Greenwood and Smith (1997) and Demirguc-Kunt and Levine (1993) conclude that a new stock exchange can increase economic growth by aggregating information about firms' prospects, thereby directing capital to investment with returns. These effects of a stock market opening result in a measured increase in productivity. Stock exchanges exist for the purpose of trading ownership rights in firms and a new stock exchange may increase productivity growth for this reason as well.

Levine and Zervos (1998) find a positive and significant correlation between stock market development and long run growth. They observe that it does not only link the importance of the stock market to economic growth over time but also interpret it in relationship to the universal banking system. In a frictionless Arrow-Debreu world there is no room for financial intermediation. Explaining the role played by stock markets or banks requires building in frictions such as informational or transaction costs into the theory, Greenwood and Smith (1997) show that stock markets lower the cost of mobilizing savings, facilitating investments into the most productive technologies. Fry (1998) observes insignificant empirical evidence supporting any positive relationship between stock market development and higher savings levels, arguing that any resulting increase in savings would likely be the result of savers shifting from holding nonfinancial to financial assets. Hamid and Singh (1992) concludes in their empirical studies of developing economies that, while large corporations 'clearly' benefited from stock market activity, the host economy as a whole 'gained little' because, in many cases, investment in portfolio shares replaced bank savings, with no increase in the economy's aggregate savings or investment.

Alvarez and Kalotay (2004) emphasize the importance of harmonizing regulations and standards intra-regionally while maintaining some slight differences in national rules where necessary and appropriate. This approach is, of course, akin to the principle of mutual recognition-restricting harmonization to the 'essential requirements' often referred to as one of the cornerstones of the single European market. Robinson (1952) concludes that 'where enterprise leads finance follows'. According to this view, economic development creates demand for particular types of financial arrangements and a country's financial system automatically responds to these demands. Another manifestation of this view is the belief that the finance-growth relationship is neither significant nor worthy of academic resources. Bencivenga *et al.* (1995) argue that stock market liquidity is important for economic growth. That is, corporate net-present-value positive projects may require a long-run commitment of capital that does not match savers shorter investment horizons. A liquid equity market mitigates this miss-matched horizon problem by providing a long horizon asset to savers that may be quickly and inexpensively converted to a short horizon asset through a cost-effective liquidation. The stock market also provides entrepreneurs with liquidity and the opportunity to diversify their portfolios.

Levine and Zervos (1996) finds that economic growth would be achieved through attracting Foreign Institutional Investors (FIIs) to a well functioning stock market and through facilitating

economic freedom. Levine and Zervos (1998) find no evidence that increased stock market integration leads to permanently higher capital stock growth rates. This result is somewhat surprising given the evidence regarding the impact of stock market liberalization on the cost of equity capital. One possible explanation is that stock market liberalization leads to a temporary increase in the growth rate of the capital stock, not a permanent increase. Bhattacharya and Sivasubramaniam (2003) conclude that India as a country has seen tremendous development of its financial sector and particularly stock markets in the last two decades especially after the liberalization spree of the early 1990s. Boyd and Prescott (1986), reveal that both stock market and banks are necessary in promoting economic growth. Therefore, they consider stock markets as compliment to banks rather than substitutes. Singh (1997) concludes that although financial liberalization has promoted rapid expansion of stock markets in most of the leading developing economies but that alone cannot lead to long-run economic growth.

MATERIALS AND METHODS

The data required for the study was collected from the secondary sources. The daily closing levels for the six indices selected was required to be collected. Further, the growth and development statistics for the economies of SAARC member countries were required. These data have been collected from various sources. The concerned stock exchanges themselves have been major sources of the data regarding share indices. Further, other sources including South Asian Federation of Exchanges (SAFE), World Federation of Exchanges (WFE), Google Finance, Yahoo Finance and Bloomberg have also been explored to collect the data about closing levels of the indices. Additionally, International Monetary Fund (IMF), World Trade Organization (WTO) and Asian Development Bank (ADB) have been accessed to collect the data about the growth and development of the economies of SAARC countries.

To bring out the recent developments in equity markets of SAARC nations-the descriptive analysis has been presented. The bar charts, line charts, mean, standard deviation and the correlation coefficient have been applied for meeting the research objective.

STOCK MARKET INDICATORS OF SAARC ECONOMIES

The stock market indicators of the SAARC members are presented in this section. Out of the seven stock exchanges, i.e., Dhaka Stock Exchange (Bangladesh), Royal Stock Exchange of Bhutan (Bhutan), National Stock Exchange (India), Colombo Stock Exchange (Sri Lanka), Maldives Stock Exchange (Maldives), Nepal Stock Exchange (Nepal) and Karachi Stock Exchange (Pakistan), the Royal Stock Exchange of Bhutan has been non operational for the period while the stock market activity in Maldives has also been very minimal. So much so that in Maldives, there are merely four listed companies. Therefore, we exclude these two countries from the presentation of stock market indicators about the SAARC nations. The indicators for the remaining five countries are presented here.

Firstly, we look at the financing via international capital markets (gross inflows, percentage of GDP). Financing via international capital markets is the sum of gross bond issuance, bank lending and new equity placement. Bond issuance is the notional amount of bond issuance by government, public and private sector borrowers in international capital markets. Bank lending is the committed amount of funds raised by government, public and private sector borrowers via international syndicated lending. Equity placement is the notional amount of cross-border equity placement. It

Table 1: Financing via international capital markets

Year	Bangladesh	India	Sri Lanka	Pakistan
1996	0.00	1.40	0.00	1.60
1997	0.23	1.99	0.81	1.96
1998	0.00	0.30	0.00	0.92
1999	0.00	0.68	0.00	0.00
2000	0.00	0.45	2.10	0.06
2001	0.00	0.53	1.17	0.23
2002	0.00	0.25	0.30	0.35
2003	0.00	0.62	0.53	0.05
2004	0.00	1.73	0.48	0.51
2005	0.00	1.83	1.44	0.67
2006	0.46	3.04	0.42	2.02
2007	0.31	4.18	2.33	1.36
2008	0.00	2.10	1.07	0.28
2009	0.18	1.67	1.33	0.16

is found that there has been mentionable figure for this variable only in the case of India, Pakistan and Sri Lanka. For Bangladesh, the figure which was zero before, happens to be 0.18% in 2009. The detailed view can be seen in Table 1.

Table 1 shows that the not much financing via international capital markets is happening in the SAARC region. India is the leading country from the region that has been getting the financing via international capital markets throughout the period covered. However, the figure in Indian case also has been hovering around 0.5-4% of the GDP which is not as much as the global average. The financing for Sri Lanka has also been relatively consistent than Pakistan while the same for Bangladesh has been negligible.

Table 2 and Fig. 1 present the Market Capitalization in Current US\$ (millions) in case of Bangladesh, India, Sri Lanka, Nepal, Pakistan and the entire South Asia. Market capitalization (also known as market value) is the share price times the number of shares outstanding.

From Table 2, we observe that a major part of the market capitalization of the SAARC region is contributed by India and Pakistan. While India contributes a huge proportion to the market capitalization of the region, a visible proportion comes from Pakistan. The other somewhat visible contribution comes from Sri Lanka. The share of Nepal and Bangladesh in the region's market capitalization is very less. The total Market capitalization of the region in 2009 stands at 1233160 million US\$ out of which India and Pakistan's contribution is 1179235 million and 33238 million US \$ respectively. The table also shows the Compound Annual Growth Rate (CAGR) for the market capitalization in the countries under reference. The CAGR for total market capitalization in the countries is observed at 18.7%. The CAGR for two countries-Nepal (24.4%) and India (19.0%) is higher than the total; while the same for the remaining three countries-Bangladesh (11.6%), Sri Lanka (12.3%) and Pakistan (14.8%) is lower than the total CAGR in the region.

Figure 1 exhibits the market capitalization as a percentage of GDP in the SAARC region. The pattern indicates that India comprises of most part of the market capitalization of the region (as displayed in Table 1). This market capitalization to GDP ratio is also a demonstrator of the valuation of the stock exchange. While a low ratio indicates the undervaluation of the securities at the exchange, a fair ratio indicates the fairly valued exchange and a high ratio shows the overvaluation of the exchange. On one hand, the undervaluation of the exchange signals a buying

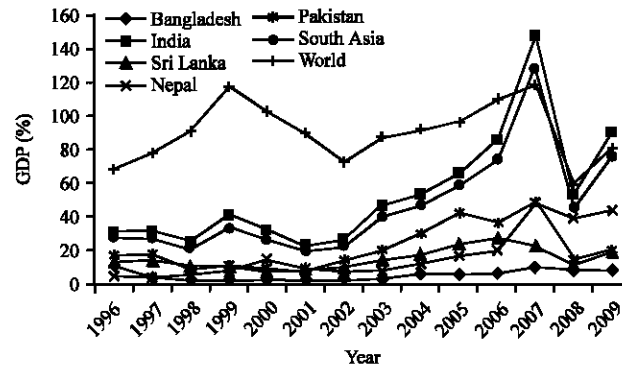


Fig. 1: Market capitalization as percentage of GDP

Table 2: Market capitalization (Current US\$)

Year	Bangladesh		India		Sri Lanka		Nepal		Pakistan		Total	
	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)
1996	4551	3.25	122605	87.67	1848	1.32	207	0.15	10639	7.61	139850	100
2001	1145	0.97	110396	93.31	1332	1.13	494	0.42	4944	4.18	118311	100
2002	1193	0.83	131011	90.66	1681	1.16	417	0.29	10200	7.06	144502	100
2003	1622	0.54	279093	92.88	2711	0.90	483	0.16	16579	5.52	300488	100
2004	3317	0.78	387851	91.33	3657	0.86	853	0.20	29002	6.83	424680	100
2005	3035	0.50	553074	90.80	5720	0.94	1344	0.22	45937	7.54	609110	100
2006	3610	0.41	818879	93.31	7769	0.89	1805	0.21	45518	5.19	877581	100
2007	6793	0.36	1819101	95.31	7553	0.40	4909	0.26	70262	3.68	1908618	100
2008	6671	0.97	645478	94.25	4326	0.63	4894	0.71	23491	3.43	684860	100
2009	7068	0.57	1179235	95.63	8133	0.66	5485	0.44	33239	2.70	1233160	100
CAGR (1996-2009)	11.6%		19.0%		12.3%		24.4%		14.8%		18.7%	

opportunity in the economy, depending upon the valuation of the securities at the exchange though. On the other hand, an overvalued stock exchange may be having a risk of burst and downfall. In Fig. 1, we can see that the Indian stock exchange has a very high market capitalization to GDP ratio while the same in Nepal seems to be very fair. For Sri Lanka, Pakistan and Bangladesh, the ratio is on the lower side. What needs to be looked into particularly is that upto 2006, South Asia's market capitalization to GDP ratio was far below the world average. However, after that India is showing higher ratio than the world average. Even the average ratio in case of Asia is nearly reaching the level of world average. Further, Nepal's market capitalization to GDP ratio is not far behind that of the world average.

In Table 3, the number of listed companies in the countries in the five nations is presented. Listed companies are the companies listed on the country's stock exchanges at the end of the year. This indicator does not include investment companies, mutual funds or other collective investment vehicles.

In Table 3, the number of listed companies in Bangladesh, India, Sri Lanka, Nepal, Pakistan and the total thereof is presented. The table also shows the percentage of listed companies in each of these countries to the total of these five countries. Further, total listed companies in the world

Table 3: Number of listed companies

Year	Bangladesh		India		Sri Lanka		Nepal		Pakistan		Total		World
	Number	Total (%)	Number	Total (%)	Number	Total (%)	Number	Total (%)	Number	Total (%)	Number	Total (%)	Number
1996	186	2.55	5999	82.27	235	3.22	90	1.23	782	10.72	7292	100	39905
2001	230	3.23	5795	81.30	238	3.34	118	1.66	747	10.48	7128	100	45969
2002	239	3.45	5650	81.45	238	3.43	98	1.41	712	10.26	6937	100	50086
2003	247	3.58	5644	81.69	244	3.53	73	1.06	701	10.15	6909	100	50554
2004	250	4.17	4730	78.82	245	4.08	115	1.92	661	11.01	6001	100	49441
2005	262	4.33	4763	78.73	239	3.95	125	2.07	661	10.93	6050	100	50936
2006	269	4.42	4796	78.76	237	3.89	135	2.22	652	10.71	6089	100	50120
2007	278	4.49	4887	78.85	235	3.79	144	2.32	654	10.55	6198	100	51322
2008	290	4.64	4921	78.77	234	3.75	149	2.39	653	10.45	6247	100	48904
2009	236	3.80	4955	79.71	231	3.72	165	2.65	629	10.12	6216	100	48561
CAGR (1996-2009)	2.9%		-1.6%		0.1%		3.9%		-1.7%		-1%		1.8%

are also shown in the Table 3. The majority of the companies in the region are listed in India followed by Pakistan, Bangladesh, Sri Lanka and Nepal. Another interesting indication from the table is that the number of companies listed in India in 1996 was far more than those in 2009. One of the reasons that can be recalled is that the period of 1990s was characterized by the boom in stock markets of India that even led to the scams in the stock markets of the country discovered later. A huge number of small and medium sized firms were getting listed at the Indian bourses during that time as an attempt to make the most of this boom. In the period starting 2004 again, there has been a rise in the number of the companies listed at the stock exchanges in India. This can largely be attributed to the country's economic development and the zeal of business houses to expand their areas of operation. By comparing the number of listed companies in the region under study with that of the world, it is found that merely the companies from India comprise more than 10% of the companies listed worldwide. The analysis of Compound Annual Growth Rate (CAGR) illustrates that the growth in the listed companies was maximum in Nepal (3.9%). This is even higher than the CAGR in the world for the variable (1.8%). Besides Nepal, two more countries-Bangladesh (2.9%) and Sri Lanka (0.1%) show a positive CAGR; and India (-1.6%) as well as Pakistan (-1.7%) show a negative CAGR for the number of listed companies in the reference period. The CAGR for the region in totality is also negative at -1% during the reference period.

In Table 4 and Fig. 2, we show the value of stocks traded (in Current US\$ in millions) and total value of stocks traded as a percentage of GDP respectively. Stocks traded refer to the total value of shares traded during the period. Stocks traded to GDP indicator complements the market capitalization ratio by showing whether market size is matched by trading.

Table 4 shows very large inter-country variations amongst the value of stocks traded in the SAARC region. While this value for Sri Lanka and Nepal continues to be in hundreds of millions of US dollars, the same for Bangladesh and Pakistan happens to be in thousands of millions of US dollars and this value for India is in lakhs. The Compound Annual Growth Rate (CAGR) for Nepal (27.9%) is the maximum in the region in terms of the value of stocks traded. Nepal is the only country that reports higher CAGR for the variable than the region in totality. Other countries including Bangladesh (21.6%), India (20.8%), Sri Lanka (15%) and Pakistan (20.5%) have lower CAGR than the total of the region.

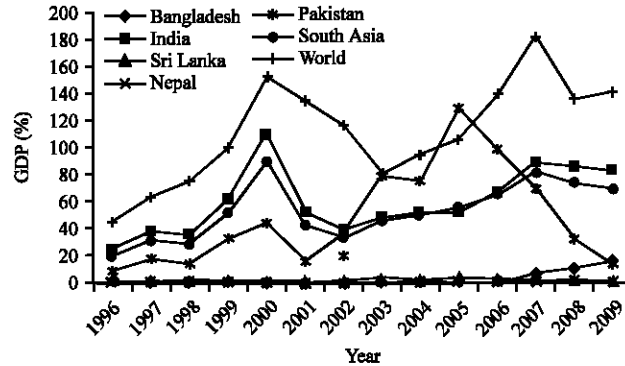


Fig. 2: Value of stocks traded as percentage of GDP

Table 4: Value of stocks traded (Current US\$)

Year	Bangladesh		India		Sri Lanka		Nepal		Pakistan		Total	
	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)	Millions (US\$)	Total (%)
1996	722	0.701	96153	93.291	134	0.130	5	0.005	6054	5.874	103068	100
2001	741	0.282	249298	94.911	153	0.058	19	0.007	12455	4.742	262666	100
2002	666	0.297	197118	87.939	318	0.142	20	0.009	26030	11.613	224152	100
2003	327	0.093	284802	80.789	769	0.218	29	0.008	66598	18.892	352525	100
2004	890	0.196	379085	83.409	582	0.128	62	0.014	73872	16.254	454491	100
2005	1000	0.173	433900	75.189	1138	0.197	48	0.008	140996	24.433	577082	100
2006	943	0.123	638484	83.238	1003	0.131	69	0.009	126560	16.499	767059	100
2007	4801	0.395	1107550	91.233	952	0.078	231	0.019	100452	8.275	1213986	100
2008	9240	0.829	1049748	94.170	1022	0.092	366	0.033	54359	4.876	1114735	100
2009	14601	1.294	1088889	96.521	885	0.078	230	0.020	23527	2.085	1128132	100
CAGR (1996-2009)	21.6%		20.8%		15%		27.9%		20.5%		21%	

Figure 2 exhibits that the stock exchange of Pakistan is the most inconsistent market in the SAARC region on the basis of stocks traded as percentage of GDP. The ratio that was 9.5% in Pakistan in the year 1996 went upto as high as 128.6% in 2005 before coming down to 14.1% in 2009. The graph for India and South Asia as a whole moves in tandem with each other mainly due to the reason that the market capitalization of India contributes a huge part of the market capitalization of the region. In the case of Bangladesh, the ratio has started to pick-up from 2007 onwards. In the case of Nepal and Sri Lanka though, the ratio is still very low-hovering around at nearly 2%. The Fig. 2 also demonstrates that the stocks traded as part of GDP ratio for the world as a whole is quiet higher when compared to the South Asian region. It is even much higher than India for the entire period, though the variations in the case of India are not as high as in the world average.

We further present the country-wise analysis of the economic and stock market activities in the seven nations under study, i.e., Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal and Pakistan.

- **Bangladesh:** Various economic and stock market indicators of the Bangladesh stock market are presented in the Table 5. Table 5 shows that the mean GDP growth in Bangladesh has been

Table 5: Growth patterns in Bangladesh economy and stock market

Year	Population growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
1996	1.97	4.62	2.60	240.13	1.64	356.96
1997	1.94	5.39	3.38	-66.23	8.60	-46.68
1998	1.91	5.23	3.25	-32.73	2.97	104.94
1999	1.87	4.87	2.94	-16.31	1.44	-0.06
2000	1.83	5.94	4.04	37.04	4.74	-2.66
2001	1.79	5.27	3.42	-3.49	4.07	-3.45
2002	1.75	4.42	2.62	4.23	3.91	-10.19
2003	1.70	5.26	3.49	35.93	3.35	-50.85
2004	1.65	6.27	4.55	104.56	1.21	172.15
2005	1.59	5.96	4.30	-8.49	4.80	12.37
2006	1.53	6.63	5.02	18.94	2.67	-5.75
2007	1.47	6.43	4.88	88.16	3.35	409.13
2008	1.42	6.19	4.70	-1.81	4.32	92.48
2009	1.39	5.74	4.29	5.95	-18.62	58.02
Mean	1.702	5.58	3.82	28.99	2.03	77.60
Standard deviation	0.19	0.68	0.82	75.18	6.22	143.62

Table 6: Correlation Matrix-Bangladesh (1996 to 2009)

Parameters	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
Pop growth (%)	1.00	-0.69	-0.81	0.07	0.46	-0.11
GDP growth (%)	-0.69	1.00	0.98	-0.05	-0.05	0.14
GDP per capita growth (%)	-0.81	0.98	1.00	-0.06	-0.15	0.14
M Cap growth (%)	0.07	-0.05	-0.06	1.00	-0.08	0.75
Listed companies growth (%)	0.46	-0.05	-0.15	-0.08	1.00	-0.09
Stocks traded growth (%)	-0.11	0.14	0.14	0.75	-0.09	1.00

faster than the mean population growth over the period of 1996 to 2009. Moreover, the growth in market capitalization and stocks traded has been even faster. But at the same time, the variation in growth rate of market capitalization and stocks traded has been very high during the period, as is visible from the standard deviation of the two. While the maximum growth in market capitalization and stocks traded has been 240 and 409% respectively, the minimum growth in the two variables has been -66 and -51% respectively. The table also shows the mean and standard deviation for the given variables

The correlation matrix of these variables is presented in the Table 6. While the first three variables in Table 6 are general economic variables, the last three are the stock market variables for Bangladesh. The highlighted values are the ones that are statistically significant. The table indicates that there is no statistically significant correlation between the general economic variables and the stock market variables. While population growth is negatively correlated with GDP growth and GDP per capita growth; market capitalization growth is positively correlated with growth in stocks traded.

- **Bhutan:** The economic growth variables for Bhutan are presented in Table 7. The correlation matrix for Bhutan is presented in Table 8
- **India:** Table 9 presents the growth in various economic and stock market related variables of India while Table 10 shows the correlation matrix of the same

Table 7: Growth patterns in Bhutan economy

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)
1996	0.37	6.19	5.81
1997	0.05	5.40	3.86
1998	0.05	5.57	3.14
1999	0.05	6.87	3.95
2000	0.05	7.52	4.45
2001	0.05	6.99	3.82
2002	0.05	8.92	5.55
2003	0.05	8.58	5.26
2004	0.05	7.97	4.90
2005	0.05	7.01	4.33
2006	0.05	6.35	4.09
2007	0.05	19.70	17.56
2008	0.05	4.96	3.32
2009	0.05	7.43	5.81
Mean	0.07	7.82	5.42
Standard deviation	0.08	3.61	3.60

Table 8: Correlation Matrix-Bhutan (1996 to 2009)

	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)
Pop growth (%)	1.00	-0.13	0.03
GDP growth (%)	-0.13	1.00	0.97
GDP per capita growth (%)	0.03	0.97	1.00

Table 9: Growth patterns in Indian economy and stock market

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
1996	1.78	7.56	5.68	-3.61	11.13	337.82
1997	1.76	4.05	2.26	4.78	-2.60	64.64
1998	1.74	6.19	4.38	-18.12	0.29	-6.36
1999	1.71	7.39	5.58	75.50	0.05	88.09
2000	1.69	4.03	2.30	-19.79	1.26	82.84
2001	1.63	5.22	3.53	-25.44	-2.39	-51.10
2002	1.57	3.77	2.17	18.67	-2.50	-20.93
2003	1.50	8.37	6.77	113.03	-0.11	44.48
2004	1.44	8.28	6.74	38.97	-16.19	33.10
2005	1.38	9.30	7.82	42.60	0.70	14.46
2006	1.39	9.44	7.93	48.06	0.69	47.15
2007	1.35	9.63	8.17	122.15	1.90	73.47
2008	1.35	5.12	3.72	-64.52	0.70	-5.22
2009	1.35	7.66	6.22	82.69	0.69	3.73
Mean	1.55	6.86	5.23	29.64	-0.46	50.44
Standard deviation	0.17	2.11	2.17	55.12	5.61	92.54

Table 9 shows that the GDP growth rate in India outnumbers the Population growth rate in the country by a big margin. The average GDP per capita growth rate of 5.2% is also quite higher than the average population growth rate of 1.5%. This is a positive indicator for the country's economy. Further, the market capitalization growth and the stock traded growth is also

considerably high and the volatility in the two is not as much as observed in the other economies of the region. The average number of listed companies has been falling during the period but this is from the highs of 1991 period when a huge number of small companies got themselves listed on the country's bourses.

Table 10 presents correlation matrix of the variables covered under Table 9. Table 10 shows the correlation matrix of the variables covered under the study for the given period. The statistically significant correlations are highlighted. Table 10 brings out that the GDP growth rate and the GDP per capita growth rate are positively correlated with the growth in the market capitalization in the country. This is in addition to the other correlations shown by the table that exist within the economic variables and within the stock market variables.

- **Sri Lanka:** In Table 11, we present the economic growth and stock market growth statistics for Sri Lankan economy for the period of 1996 through 2009

Table 11 shows that the mean GDP growth and GDP per capita growth by far outnumber the mean population growth. On the other hand, there has been a rather consistent growth in the market capitalization and stocks traded while the number of listed companies has also been growing over time in Sri Lanka.

Table 10: Correlation Matrix-India (1996 to 2009)

Parameters	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
Pop growth (%)	1.00	-0.53	-0.59	-0.38	0.23	0.41
GDP growth (%)	-0.53	1.00	1.00	0.69	0.05	0.20
GDP per capita growth (%)	-0.59	1.00	1.00	0.69	0.03	0.16
M Cap growth (%)	-0.38	0.69	0.69	1.00	-0.05	0.05
Listed companies growth (%)	0.23	0.05	0.03	-0.05	1.00	0.57
Stocks traded growth (%)	0.41	0.20	0.16	0.05	0.57	1.00

Table 11: Growth patterns in Bangladesh economy and stock market

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
1996	0.85	3.80	2.92	-7.51	3.98	-39.37
1997	0.76	6.41	5.60	13.42	1.70	130.60
1998	0.68	4.70	3.99	-18.65	-2.51	-9.06
1999	0.61	4.30	3.67	-7.10	2.58	-25.65
2000	0.55	6.00	5.42	-32.19	0.00	-30.98
2001	0.45	-1.55	-1.98	23.96	-0.42	6.39
2002	0.66	3.96	3.28	26.25	0.00	107.31
2003	1.33	5.94	4.55	61.27	2.52	141.87
2004	1.51	5.45	3.88	34.89	0.41	-24.31
2005	1.06	6.24	5.13	56.41	-2.45	95.47
2006	1.11	7.67	6.49	35.82	-0.84	-11.88
2007	0.62	6.80	6.14	-2.78	-0.84	-5.10
2008	0.73	5.95	5.18	-42.73	-0.43	7.44
2009	0.73	3.54	2.79	88.01	-1.28	-13.48
Mean	0.83	4.94	4.08	16.36	0.17	23.52
Standard deviation	0.31	2.23	2.10	37.42	1.91	64.66

Table 12 presents the correlation matrix of these economic variables and the stock market variables.

The correlation matrix as presented in Table 12 indicates no significant correlation among variables except for a very high correlation between GDP growth and GDP per capita growth.

- **Maldives:** Maldives is a small open economy that banks big on the tourism industry. The country's revenues and foreign exchange reserves are directly or indirectly tied to the performance of tourism and any changes to tourism arrivals-as in the aftermath of the tsunami and after the start of the global economic crisis-can undermine macroeconomic stability. The Maldives is currently facing a large fiscal deficit, primarily due to large public expenditures, including subsidization of social services

The general economic indicators and their descriptive statistics are shown in Table 13. The GDP growth and the per capita GDP growth for Maldives is higher when compared with the population growth rate. However, the variations in the GDP growth and GDP per capita growth are also much higher than the population growth.

The correlation matrix for the Maldives economic variables is presented in Table 14. Table 14 shows a significant correlation between the GDP growth rate and GDP per capita growth rate.

Table 12: Correlation Matrix-Sri Lanka (1996 to 2009)

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
Pop growth (%)	1.00	0.44	0.32	0.48	0.13	0.23
GDP growth (%)	0.44	1.00	0.99	-0.09	-0.06	0.17
GDP per capita growth (%)	0.32	0.99	1.00	-0.17	-0.08	0.14
M Cap growth (%)	0.48	-0.09	-0.17	1.00	-0.13	0.39
Listed companies growth (%)	0.13	-0.06	-0.08	-0.13	1.00	0.07
Stocks traded growth (%)	0.23	0.17	0.14	0.39	0.07	1.00

Table 13: Growth patterns in Maldives economy

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)
1996	2.24	9.08	6.70
1997	2.03	10.40	8.21
1998	1.86	9.79	7.79
1999	1.73	7.23	5.41
2000	1.63	4.77	3.09
2001	1.54	3.45	1.88
2002	1.46	6.53	4.99
2003	1.41	8.54	7.03
2004	1.39	9.52	8.02
2005	1.39	-4.64	-5.95
2006	1.40	17.98	16.34
2007	1.42	7.24	5.74
2008	1.43	6.26	4.75
2009	1.44	-3.00	-4.38
Mean	1.59	6.65	4.97
Standard deviation	0.26	5.58	5.44

Table 14: Correlation Matrix-Maldives (1996 to 2009)

	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)
Pop growth (%)	1.00	0.25	0.20
GDP growth (%)	0.25	1.00	1.00
GDP per capita growth%	0.20	1.00	1.00

Table 15: Growth patterns in Nepal economy and stock market

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
1996	2.53	5.33	2.73	-15.16	8.43	-72.22
1997	2.52	5.05	2.47	-3.38	8.89	0.00
1998	2.49	3.02	0.51	33.50	6.12	-20.00
1999	2.44	4.41	1.92	44.40	3.85	494.00
2000	2.38	6.20	3.73	104.83	1.85	33.38
2001	2.32	4.80	2.42	-37.45	7.27	-40.04
2002	2.26	0.12	-2.09	-15.53	-16.95	3.89
2003	2.19	3.95	1.72	15.69	-25.51	45.56
2004	2.12	4.68	2.51	76.68	57.53	116.46
2005	2.05	3.12	1.06	57.57	8.70	-22.90
2006	1.97	3.72	1.71	34.33	8.00	44.56
2007	1.90	3.35	1.42	171.95	6.67	233.42
2008	1.85	5.35	3.44	-0.31	3.47	58.40
2009	1.81	4.66	2.80	12.07	10.74	-37.23
Mean	2.20	4.12	1.88	34.22	6.36	59.81
Standard deviation	0.25	1.47	1.44	55.39	18.08	146.69

- **Nepal:** Table 15 indicates that the GDP growth in Nepal is higher than the population growth but the GDP per capita growth is not as high as the population growth. Conversely, the stock market variables show a consistent growth in the market capitalization, number of listed companies and the stocks traded. The level of volatility in the exchange is quite reasonable signaling a potent stock market in the country

The correlation matrix for the economic variables and the stock market variables is presented in Table 16. Table 16 implies that there is no significant correlation among the variables except for the highly positive correlation between GDP growth and the GDP per capita growth.

- **Pakistan:** Various economic and stock market indicators of the Pakistan are presented in the Table 17. Table 17 exhibits that though the mean GDP growth in Pakistan has remained higher than the mean population growth in the country, the mean GDP per capita growth in Pakistan has been lower than the mean population growth. Further, the variation (as explained by standard deviation, variance and co-efficient of variation) has been much higher in the GDP growth rate and GDP per capita growth rate when compared with the population growth rate. The number of listed companies in the country has been falling on average during the period 1996 to 2009 while the market capitalization and the stock traded have shown a considerable but volatile growth

From Table 18, we observe that there is a inter-relation between the economic variables and the stock market variables in addition to the intra-relationship between those in Pakistan economy.

Table 16: Correlation Matrix-Nepal (1996 to 2009)

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
Pop growth (%)	1.00	0.09	-0.08	-0.28	-0.11	-0.00
GDP growth (%)	0.09	1.00	0.98	0.05	0.34	0.01
GDP per capita growth (%)	-0.08	0.98	1.00	0.09	0.36	0.01
M Cap growth (%)	-0.28	0.05	0.09	1.00	0.26	0.46
Listed companies growth (%)	-0.11	0.34	0.36	0.26	1.00	0.08
Stocks traded growth (%)	-0.00	0.01	0.01	0.46	0.08	1.00

Table 17: Growth patterns in Pakistan economy and stock market

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
1996	2.48	4.85	2.31	14.57	2.36	88.60
1997	2.43	1.01	-1.38	3.07	-0.13	89.56
1998	2.43	2.55	0.11	-50.59	-1.02	-21.24
1999	2.44	3.66	1.19	28.55	-1.03	132.98
2000	2.44	4.26	1.78	-5.50	-0.39	56.59
2001	2.44	1.98	-0.45	-24.88	-1.97	-62.23
2002	2.44	3.22	0.77	106.31	-4.69	108.99
2003	2.44	4.85	2.35	62.54	-1.54	155.85
2004	2.44	7.37	4.81	74.94	-5.71	10.92
2005	2.44	7.67	5.10	58.39	0.00	90.87
2006	2.17	6.18	3.93	-0.91	-1.36	-10.24
2007	2.17	5.68	3.44	54.36	0.31	-20.63
2008	2.17	1.60	-0.56	-66.57	-0.15	-45.89
2009	2.17	3.63	1.44	41.50	-3.68	-56.72
Mean	2.36	4.18	1.77	21.13	-1.36	36.96
Standard deviation	0.13	2.06	2.02	49.10	2.12	74.60

Table 18: Correlation Matrix-Pakistan (1996 to 2009)

Year	Pop growth (%)	GDP growth (%)	GDP per capita growth (%)	M Cap growth (%)	Listed companies growth (%)	Stocks traded growth (%)
Pop growth (%)	1.00	-0.01	-0.07	0.19	-0.01	0.63
GDP Growth (%)	-0.01	1.00	1.00	0.56	-0.11	0.17
GDP per capita growth (%)	-0.07	1.00	1.00	0.54	-0.11	0.13
M Cap growth (%)	0.19	0.56	0.54	1.00	-0.47	0.50
Listed companies growth (%)	-0.01	-0.11	-0.11	-0.47	1.00	0.14
Stocks traded growth (%)	0.63	0.17	0.13	0.50	0.14	1.00

The growth in market capitalization is significantly and positively related to the GDP growth as also the GDP per capita growth rate. Similarly, the growth in stocks traded is positively and significantly related to the growth in the stocks traded at the bourses.

CONCLUSION

The growth process in the SAARC region has been building over a long period of time. India, Bangladesh and Bhutan have consistently witnessed over 5% growth throughout the first decade of twenty first century while Sri Lanka and Maldives have also experienced high rates of growth in recent times. Capital inflows to the region rose at an average rate of 7% between 2000 and 2007,

next only to the Europe and Middle East. Stock market capitalization grew at average annual rate of 107%, next only to the East and South-east Asia. Private credit by banks rose at 14.8%, next only to Europe and the Middle-east. Showing the highest growth among all regions, investments grew at 8.1%.

Except for India and Sri Lanka, the other countries show a very meager financing via international capital markets. Even in India and Sri Lanka, this figure is less than 2% as of now. This signals rather closed markets so far as financing via international capital markets is concerned. The market capitalization of SAARC region has grown from \$ 139850 million in 1996 to \$ 1233160 million in 2009. India continues to have a huge proportion of the market capitalization in the region. India contributes 95% to the market capitalization in the region, up from 87% in 1996. The only other country with somewhat visible proportion of the region's market capitalization is Pakistan which hosts nearly 3% of it. The market capitalization to GDP ratio for India is 90% in 2009 which is higher than the world average of 80%. Even the average of SAARC's market capitalization to GDP ratio has been 76% in 2009. Similarly, majority of the companies listed in the region are in India (nearly 80%). The proportion of other countries includes 10% for Pakistan, 3.8% for Bangladesh, 3.7% for Sri Lanka and 2.6% for Nepal. The number of listed companies in India is more than 10% of the total companies listed across the globe. On the similar lines, 96% of the value of total stocks traded is traded in India. Pakistan and Bangladesh are the two other countries which contribute more than 1% to the number.

The study further finds out that there are confusing signals about the relationship between the general economic indicators and the stock market indicators. While India and Pakistan show a significant positive relationship between the two types of variables, the other countries don't witness any such significant relationship between the two.

In a nutshell, the paper observes that India is without doubt the most organized and active market not only in the SAARC region but also in the whole world. Further, capital market of Pakistan also seems to be visible in the region. Bangladesh is another market which is moving ahead quite consistently though the growth is quite slow.

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