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Full Length Research Paper

Stock market development and economic growth: A comparative study of Pakistan and Bangladesh

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This paper examined the relationship between stock market development and economic growth of two Asian developing countries, that is, Pakistan and Bangladesh, after the liberalization period of 1990s. The relationship measured were in terms of size (market capitalization), liquidity (total value of stocks traded and stock turnover ratio) and volume (total number of companies listed in the stock exchange of each of the country). The study of comparative analysis was done with the help of tables and charts. The econometric results of the study by employing the regression analysis showed that Pakistan stock markets contribute to the economic growth in terms of the large size of its stock market whereas Bangladesh stock market contributes to the economic growth in terms of the liquidity of its stock market. Bangladesh economic growth was found to be comparatively better than economic growth of Pakistan. The study revealed that the stock markets in Pakistan and Bangladesh do not play a major role in the economic growth but rather, these financial institutions are the driving forces for the economic growth of the country.

Key words: Stock market, Pakistan, Bangladesh, liberalization, economic growth.

INTRODUCTION

Stock markets play a crucial role in global economics and corporate finance where the financial markets generate finance for the economic growth of the country. Pakistan has three stock exchanges, Karachi Stock Exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE), whereas, Bangladesh has one stock exchange, that is, Dhaka Stock Exchange (DSE). Stock exchange of a country is the financial institution that deals with financial instruments.

It was important to answer the increasing number of the critical questions regarding stock market performance and economic growth, for instance, do the stock exchanges of the countries affect on the economic growth of a country, if yes then how? This study highlights certain factors that can be used to measure the stock market development and its effect on the country's economic growth. Besides this, it was important to study the effect of increasing market capitalization of both Pakistan and Bangladesh on their economic growth.

Ruggiero (2001) intended that the people's perception about the rising or falling stock markets is different, that is, people feel wealthier as it goes up and feel poorer as it goes down. On the other side, Levine (1996) stated that the liquid stock markets effect can be negative because of the two major reasons, that is, large numbers of investors sell their stocks in the market and lack of corporate control on the performance of a firm.

This study analyses the effect of Pakistan and Bangladesh stock market development on their respective GDP per capita by considering three of the stock market indicators, that is, market capitalization, total value of stocks traded, stock turnover ratio and lastly total number of listed companies.

Objectives

i. To investigate the effect of stock markets development on the economic growth of Pakistan.

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ii. To examine the effect of stock markets development on the economic growth of Bangladesh.
ii. To compare the stock markets development and economic growth of Pakistan and Bangladesh.

LITERATURE REVIEW

Numerous studies provided both negative and positive evidences of the stock market development and the economic growth. Mishkin (2001) stated that a well established, managed and organized stock market brings investment opportunities in the country by implementing the productive projects that ultimately results in the economic activity, mobilizing savings, diversifying risks and allocating effective capital.

Liquidity measurement was defined as the measure to check the ability of the stock market to deal with the large number of stocks traded, irrespective of any drastic changes in price levels. Nowbutsing and Odit (2008) defined total stock value traded as the firm's equity traded in an organized manner so that it would results in the national output. According to Kyle (1984) and Holmstrom et al. (1998), the more stock market is liquid the more it will be efficient in delivering the accurate and timely information to the inside and outside investors.

According to Levine (1991), developed and organized stock market reduces the productivity and liquidity of the businesses. Amaral and Quintin (2007) argued that the stock market development enhance the economic growth by making capital productive, and ensuring its best use. According to Aysan (2006), high capital degree of undeveloped financial sector increases the growth volatility of a country. The stock market development is the most significant factor that leads to the economic growth (Shahbaz et al., 2008).

The endogenous economic theory states that improved policy measures with innovation, competition, changes, openness and research and development will lead to the long run economic growth of the country. Theory identifies the two major factors of economic growth, that is, human capital and technology. Specialization, training and experience increases the productivity of the country whereas, advanced technology and innovation reflect the structural changes in the system. According to Hansson et al. (1997), human capital and technology may depend on the function and structure of the financial institutions. Earlier, the stock markets of both Pakistan and Bangladesh were manually operated but currently they are electronically based and equipped with specialized human force that would result in the effective performance and added national output of the sector.

Hypotheses

H_1: Stock markets development has significant effect on the economic growth of Pakistan.
H_0: Stock markets development has no significant effect on the economic growth of Pakistan
H_2: Stock markets development has significant effect on the economic growth of Bangladesh.
H_0: Stock markets development has no significant effect on the economic growth of Bangladesh.
H_3: Stock markets have significant effect on the economic growth of Pakistan and Bangladesh.
H_0: Stock markets have no significant effect on the economic growth of Pakistan and Bangladesh.

DATA AND METHODOLOGY

This study entails a comparative analysis of two Asian countries, that is, Pakistan and Bangladesh, in order to analyze the effect of stock market development on the real economic growth of the country in the last two decades after post liberalization period (1990 to 2009). The stock markets, that is, KSE, ISE and LSE of Pakistan and Dhaka stock exchange of Bangladesh are the representative samples of each of the country respectively. The samples had been randomly selected and indicators for accessing the relationship between stock market and economic growth included one dependent variable, that is, GDP per capita growth in US$ (in millions) and four independent variable, that is, market capitalization in US$ (in millions) as a measure of stock market size, total value of stock traded (in percentage of GDP) and stock turnover ratio (in percentage) as a measure of liquidity of the stock market and volume of the stock market determined through the total number of listed companies. Log transformation with the stepwise method was applied on the independent variables of Pakistan and Bangladesh.

GDP per capita is measured as GDP divided by the total population of the country. GDP measures the standard of living of the people in the country. Market capitalization is the value and size of the corporation or business, more productive capital in a country results into more economic growth will be resulted. It is measured by multiplying the outstanding shares of the company by their share price.

Total value of stock traded referred to the total number of shares that is traded in the market, times their respective prices, and stock turnover ratio is calculated by dividing the total value of stock traded by market capitalization. Lastly, the volume of the stock market was examined by the total number of all the listed companies in Pakistan and Bangladesh over the period of 1990 to 2009.

To collect the data, the supplement source used is World Bank Indicators. This study examines with an assumption, that is, the sample selected for the research is truly representative of the population. This research could be more refined if the quarterly data is used so that exact analysis can be done.

FINDINDS

Pakistan economic growth analysis

It has been observed that only one of the four stock market indicators, that is, market capitalization, is a significant indicator and highly associated to the real economic growth of Pakistan. The results in Table 1 shows that within the sample range of the years 1990 till 2009, as market capitalization increases by a dollar, the estimated increase in the mean or average GDP per

Table 1. Statistical regression results of Pakistan data.

R	R^2	Adj R^2	F value	Sig.	t value	Sig
0.811	0. 657	0.638	34.488	0.000	5.873	0.000.

β_o	β_1	Lower bound	Upper bound	Tolerance	VIF	Durbin Watson
- 3574.853	410.827	263.855	557.799	1.000	1.000	0.825

The following shows the best fit model for Pakistan; GDP per capita = -3574.853 + 410.827 market capitalization.

Table 2. Statistical regression results of Bangladesh data.

R	R^2	Adj R^2	F value	Sig.	t value	Sig
0.896	0. 802	0.791	72.897	0.000	8.538	0.000.

β_o	β_1	Lower bound	Upper bound	Tolerance	VIF	Durbin Watson
342.122	114.527	86.346	142.708	1.000	1.000	0.879

The following best fit model shows that total stock value traded was highly affected on the real GDP per capita of Bangladesh: GDP per capita = 342.122+ 114.527 total stock value traded.

capita is about US$ 410 million and if the market capitalization is fixed at zero, the mean GDP per capita will be about US$ 3574 million, that is, GDP per capita of Pakistan would be very low. Hence, it indicates that in Pakistan, stock market is large in size which leads to a great contribution to the economic growth of Pakistan. The stock market gives an access of the capital flow within the country for the investors to flourish their businesses; moreover, it plays a crucial role in the growth and development of the economies of Pakistan. The sample regression model explains variations in market capitalization and GDP of Pakistan. In a nut shell, Pakistan stock market had great contribution to the economic growth of the country.

Bangladesh economic growth analysis

The results in Table 2 indicates that as total stock value traded increases by 1%, the estimated increase in the mean or average GDP per capita is about 114% points, and if the value of the total stock value traded in Bangladesh was fixed at zero, the mean GDP per capita of Bangladesh would be about 342% points, that is, GDP per capita of the country would be very high. The results shows that the Bangladesh stock market is small in size and is very liquid and deals with a fairly large number of stocks traded without any drastic prices affect. Moreover, total stock value traded and real GDP per capita of Bangladesh have a positive relation in between them.

It has been evaluated that different countries with respect to their economic growth were influenced by different sector performances due to the difference in the economies of their country. Economic growth of Pakistan has been influenced by market capitalization and Bangladesh by total stock value traded.

Comparison

In Pakistan and Bangladesh growth, development and exchange rates proportionately differ over the period based on the level of economies. Pakistan had doubled its GDP per capita growth and Bangladesh had very slow GDP per capita growth. Although, the GDP per capita of Bangladesh has greater growth rate increase as compared to Pakistan (Figure 1).

Pakistan growth rate is comparatively lesser than the Bangladesh growth rate but rates of the growth are moving with almost the same proportion. Figure 2 shows that earlier Bangladesh had a slightly more exchange rate volatility than Pakistan but later on, Pakistan exchange rate trend tends to increase in 2009 due to large fluctuations in price levels and exchange rate volatility.

The fitted models of both countries indicates that the economy of Bangladesh is growing better than the economy of Pakistan, firstly, due to better and positive stock market development in terms of the liquidity compared to Pakistan; secondly, due to mining sector which has flourished in Bangladesh and thirdly, low exchange rate volatility in Bangladesh. Economy of Pakistan is facing high corruption in the government and other sectors of economy such as, political instability, rupee depreciation, increasing percentage of unemployment and poverty, increasing prices of oil and other commodities which slow down the economic growth of a country.

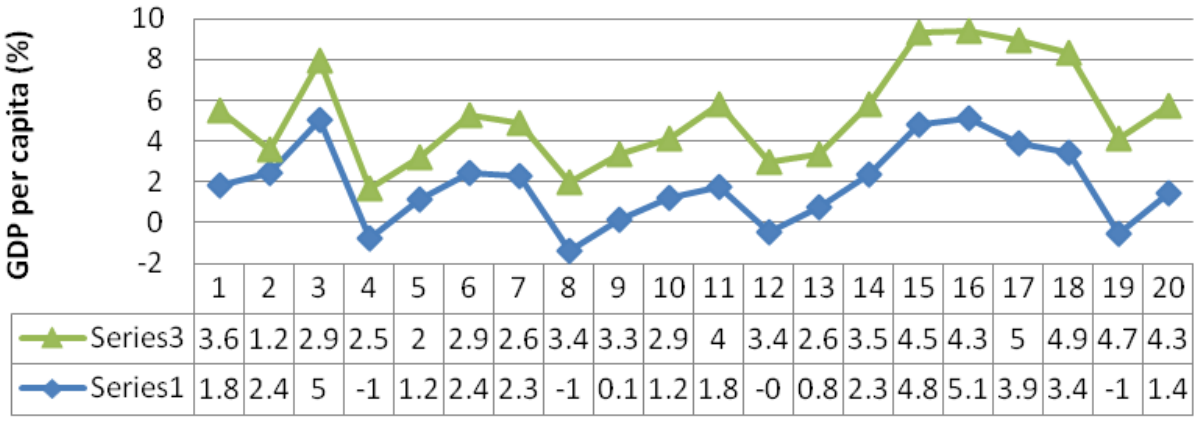

Figure 1. GDP Per Capita of Pakistan and Bangladesh. Series 1 and 3 shows Pakistan and Bangladesh GDP per capita growth on a yearly basis over the period 1990 to 2009, respectively.

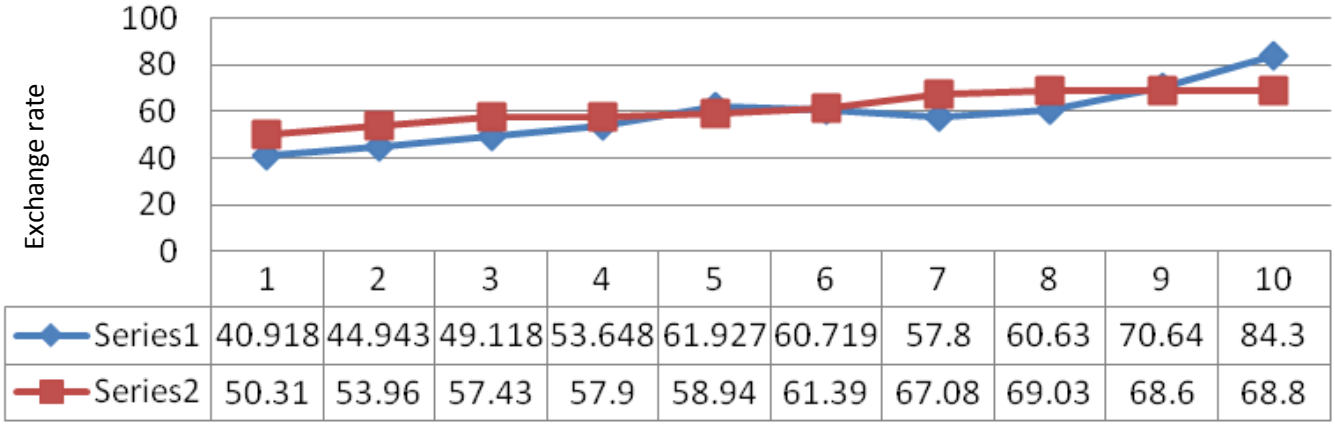

Figure 2. Exchange rates of Pakistan and Bangladesh. Series 1 and 2 shows exchange rate trend of Pakistan and Bangladesh over the period 2000 to 2009, respectively.

Conclusions

This study examines the effect of stock market development on the economic growth of Pakistan and Bangladesh. The empirical evidences reported that both Pakistan and Bangladesh stock markets lead to the economic growth of their respective countries. The results show that both stock market development and economic growth in each country has significant positive relationship. It is found that stock market development leads to economic growth. However, market capitalization is found to have stronger influence in Pakistan, whereas, Bangladesh stock market is found more liquid and small in size to influence the economic growth. Therefore, H_1, H_2 and H_3 were not rejected. In future, more generalized results can be made by comparing Pakistan with other countries on a quarterly basis data.

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