Journal of Business Studies Quarterly
2017, Volume 8, Number 3 ISSN 2152-1034

Journal of Business Studies Quarterly jbsq.org

Effect of Stock Market Development on Economic Growth of Major South Asian and East Asian Economies: A Comparative Analysis

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ABSTRACT

This study empirically examined the effect of stock market development on economic growth of two Asian regions namely South Asia and East Asia. We used market capitalization, total value traded ratio and turnover ratio as indicators of stock market development while GDP per capita growth rate is used for measuring economic growth. The linear panel data methodology is applied over the annual data of 1996-2015 to study the phenomenon. The effect is then compared across the countries of both regions. Our empirical findings indicate that stock market development contributes to some extent in the economic growth of South Asian region but its impact on East Asian region found to be insignificant.

Key Words: *Market Capitalization, Economic Growth, Panel Data, South Asia, East Asia.*

Introduction

The concept of financial development to promote economic growth was introduced by Bagehot (1873) and Schumpeter (1911). According to Schumpeter (1911), a developed and well organized financial system can contribute to the economic growth of a country, and well-functioning financial system can be obtained by technological innovation and efficient system of resource allocation. Schumpeter draws attention to the situation where financial institutions are compulsory for economic growth because due to these institutions profitable investments can be possible. He emphasized the banking system importance in growth and development of a country (Levine & Zervos, 1998). There are many other researchers who worked in the area of financial development to growth association, including Robinsons (1952), Mckinnon and Shaw (1955), Goldsmith and Hicks (1969).

According to Robinson (1952), growth of an economy enhances the financial sector development. When an economy develops, it promotes financial development by responding the higher demand of services provided by financial institutions. With expansion of economic activities, financial services demand also increases and in order to meet the increasing demand more financial institutions built, which results in overall financial development. The well-developed financial markets, by enhancing capital accumulation, contribute to economic development (Gurley & Shaw, 1955). This argument has been supported by researchers including Mckinnon and Shaw (1973), Lucas (1988), and Levine (1993). The financial institutions can provide a wide variety of functions in order to enhance growth. There are different ways that can be used to check that how financial development enhances growth. These include resources allocation, risk diversification, promotion of savings, and specialization in production (Enisan & Olusfisavo, 2009).

It is not common phenomenon that economic growth can be achieved through financial development only (Arestis & Demetriades, 1997). The stock markets enable the public to switch their savings from little to greater reliable projects. The demand for capital goods is created through these sorts of changes. Due to increase in demand, the long run projects can be started that shifts the country to industrialization and moves towards development. According to Mishkin (2001), Caporale, Howells, and Soliman (2004), investment opportunities could be brought in the country through well managed and organized stock market. This can be done when equity markets adopt such projects that give maximum profits and ultimately results in economic growth. Stock markets have a considerable position in the growth and development of economies in both developed and developing countries (Hannan, 2014). According to Bayar, Kaya, and Yildirim (2014), stock markets perform various functions that promote industrial sector and due to this reason are considered as important component of industrial expansion, which finally contributes reasonably to the growth of a country.

Stock exchange is a trading arrangement where financial securities are traded and it give opportunities to investors in making long term investment decisions. The equity markets, in this way, allocates the financial resources efficiently for different economic purposes. Osamwonyi (2005) argued that stock market facilitate investors through proper allocation of their resources for various economic purposes and then return back with high profits. The equity markets helps in promoting resources effectively and efficiently by transferring capital from one unit to others, where capital is needed. Stock markets also significantly allocate funds to corporate sector and thereby promote the growth of an economy. The stock market development relationship with economic growth, however, remained a debatable issue in both theoretical and empirical literature. The officials of many countries are still indecisive regarding role of stock markets and thereby devising policies for strengthening of markets. This study is an attempt to empirically study this phenomenon across two regions of Asia namely South Asia and East Asia. The results of study can be helpful for business community of both regions in investment perspective. It can also facilitate investors in making sensible investment decisions towards stock markets of two regions.

Literature Review

Financial development's association with economic growth remained an important area of discussion since last many decades. Patrick (1966) highlighted this relationship in four dimensions. The first is supply-leading hypothesis which postulates that financial development causes economic growth; it is also known as finance-led growth hypothesis. The mobilization of resources can be possible through developed and well-functioning financial system and as a result it leads towards economic growth. The second is demand- following hypothesis and also termed as growth-led finance hypothesis. According to this hypothesis economic growth promotes the development of financial sectors i.e., when there is economic enhancement then it results in increased demand for financial services and development of financial sectors. This is proposed by Robinsons (1952). The 3rd is the feedback hypothesis and is the combination of first two schools of thoughts while 4th hypothesis suggest a bidirectional causal relationship i.e., first financial development enhances growth and then in turn growth stimulates the financial development (Greenwood & Smith, 1997). According to Pagano (1993), stock markets efficiency is persuaded by mainly two factors namely legislative factors and organizational factors. This means that if institutions reveal reliable information then this will encourage investors and they contribute in stock markets' practices confidently.

Stock markets and banks are principal components of financial sector development and both can contribute in growth of an economy positively (Levine & Zervos, 1995). The investors can get exact and timely information about firms from stock markets, due to which there are chances of increase in returns of investor's (Greenwood & Jovanovic, 1991). Bencivenga and Smith (1992) also argued that in an economy, growth can be exploited in long run by lowering holdings of liquid assets and all these can be done through stock markets. Similarly Stiglitz (1994) stated that the need for costly and detailed information is reduced in efficient stock markets as all necessary information is reflected by stock prices in such markets. The significant role of liquid stock markets in growth of an economy has been highlighted by Levine and Renelt (1992), Bencivenga, Smith, and Starr (1996). The firms can be able to secure needed capital more quickly in liquid stock markets and it also helps in resource allocation and investments. However, Demirguc- Kunt and Levine (1996) criticized that highly liquid markets discouraged the growth in three ways. The 1st one is that higher expected returns from investments can induce investors to invest more and it reduces the savings rates. Secondly, the lesser uncertainty associated with an investment can also cause a reduction in saving rates and thirdly investor myopia is encouraged due to liquid stock markets and this situation is unfavorable for corporate governance and also reduces the economic growth.

Levine (1997) argued that stock markets protect investors against individual risk by providing them portfolio investments. Investment plans can be diverted from high to lower risky projects due to risk diversification. Specialization and efficiency of the economy is increased by stock markets due to which risk is diversified that lead economic growth (Saint-Paul, 1992; Obstfeld, 1994). In promotion of growth across developed as well as developing countries, stock market's role is considerable and is also confirmed by various researchers like Claessence (1995), Greenwood, (1997), Arestis (2001), Aysan (2006), and Ake (2010). The countries that have well developed financial system, especially efficient banking system, are able to enhance growth of the country (Mukherjee, 2008). According to Kletzer and Pardhan (1987), and Beck (2002), in industrial economies financial sector development is more efficient as compared to the agricultural ones. World Bank (1997) reported that financial markets of the world are joining together as universal marketplace. The investors are moving towards developed countries to gain higher profits and there are also chances of diversification of various risks. The liberalization of financial markets make it been possible to move capital across regions and countries. The international investors can invest in equity markets over countries and are able to diversify their portfolios.

There are different ways that have been used by researchers to examine the relationship of financial sector development to economic growth across different countries. Levine (1993) conducted his study on 77 countries and used the time period from 1960-1989 and applied different measures to check this relationship. His findings reveal a positive relationship between financial sector development and growth. Similarly, Levine and Zervos (1998) examined 48 countries within time span of 1973-1993 and concluded that stock market liquidity promotes growth. Shan (2001), however, found a weak evidence of this relationship in 19 OECD countries. In another study, Arestis (2005) analyzed the relationship between financial sector development and growth. He used the data of 14 countries for this purpose and employed series panel model and noted a positive effect in majority of countries. Adjasi and Biekpe (2006) also studied this effect in African countries and found a positive relationship. The presence of causality between financial sector development and growth has also been observed by Mukherjee (2008) in India. On the other side no such relationship of these two variables has been found in Bangladesh by Haque (2011).

According to Shahbaz (2008), for achieving economic growth, the most important factor is to develop the stock markets of that country. Similarly, El- Wassal (2013) stated that there are various critical functions performed by stock markets in order to enhance economic growth, including reduction of transactional and monitoring costs. Bayar (2014) also examined this relationship in Turkey during the period from 1999-2013. He used Johansen and Juselius co-integration test and documented that development of stock markets affects the economic growth in long run. Naik and Padhi (2015) observed that financial sector development contribution is positive towards growth for a panel of 27 emerging markets. As economic growth of Asian countries is growing, it is gaining the attention of many economists and officials from last few decades. According to Cheung and Mak (1992), many foreign investors are taking interest in Asian markets namely Taiwan, China, Hong Kong, Indonesia, Korea, etc. This is because of the reason that countries from these areas have huge growth prospects and diversification opportunities. Although a vast literature is available related to the financial sector development and growth but a comparative study of countries from South and East Asian regions is lacking. The present research work is an attempt to fill the gap in existing literature and is intended to comparatively check the effect of stock market development on growth of economies selected from two regions.

Methodology

Panel data methodology is applied in this study to investigate the effect of stock market development on growth of sample countries. The sample is selected from two Asian regions namely South Asia and East Asia. The top four countries from each region are selected as a sample. These countries hold a major portion of GDP and it is expected that selected sample will be a true representative of whole population. The sample economies include India, Pakistan, Bangladesh, and Sri Lanka from South Asian region while China, Japan, Korea, and Hong Kong from East Asia region. The following panel regression model is applied for empirical analysis:

$$GDP_{it} = \beta_0 + \beta_1 MC_{it} + \beta_2 TVT_{it} + \beta_3 STOR_{it} + \beta_4 FDI_{it} + \beta_5 HHCE_{it} + \beta_6 IR_{it} + \epsilon_0$$

GDP per capita growth rate is used as dependent variable and as a proxy of economic growth. Market capitalization (MC), total value traded ratio (TVT) and turnover ratio (TOR) are used as independent variables and as a proxy of stock market development. Different variables that can affect economic growth are included as control variables. These include foreign direct investment (FDI), household consumption expenditure (HHCE), and inflation rate (IR). To analyze the effect, data of 1996-2015 is utilized. The data of dependent, independent, and other macroeconomic variables is extracted from official website of World Bank.

Results and Discussion

The summary statistics of variables and stationarity of data has initially been examined. The results of summary statistics are given in table 1 below:

Table 1: Descriptive Statistics

	GDP	MCR	TVT	STR	FDI	HHCE	IR
Mean	3.909	3.881	3.076	4.194	0.278	4.106	4.710
Median	3.849	3.959	3.678	4.323	0.131	4.105	4.062
Maximum	13.600	7.134	6.859	6.174	4.066	4.412	22.564
Minimum	-6.665	0.594	-7.082	1.540	-5.423	3.564	-4.023
Std. Dev.	3.281	1.276	2.315	1.040	1.5447	0.2050	4.424
Observations	160	160	160	160	160	160	160

The choice of appropriate model in panel data is made on the basis of likelihood ratio and Hausman tests. The significant test values suggests that fixed effect model is appropriate for this data. The panel regression with fixed effect model is applied for empirical testing. Then separate regression models are also applied for countries across South Asian and East Asian region. The results of panel regression are summarized in table 2 below:

Table 2: Effect of Stock Market Development on Economic Growth

Variable	Overall	South Asian Region	East Asian Region
C	33.90466** (15.34322)	49.69349** (21.95340)	55.74826*** (12.40174)
MCR	0.741105* (0.383155)	1.101681*** (0.364540)	0.624829 (1.322980)
TVT	0.055412 (0.167002)	0.058998 (0.123296)	-0.626777 (1.092655)
STR	0.330095 (0.424212)	0.616973* (0.365004)	1.213426 (1.236548)
FDI	0.339656 (0.289570)	0.393060 (0.341336)	0.559791** (0.268514)
HHCE	-8.347302** (3.739369)	-12.10622** (5.190176)	-14.57297*** (2.706084)
IR	-0.052541 (0.064000)	-0.012768 (0.058509)	-0.091722 (0.149934)
Adjusted R-squared	0.50	0.47	0.49
Durbin- Watson stat	1.93	1.78	1.97

(*,**,*** indicates significance at 10%, 5% and 1% level respectively while values in parenthesis show standard errors)

The results indicate that stock market development do not strongly influence the economic growth of sample economies. The weak significant effect of only one indicator of stock market development is noted. The effect of other market development indicators remained insignificant. The comparative analysis of two regions shows that effect of stock market development is relatively more pronounced in the economic growth of South Asian region.

Conclusion

This study examined the impact of stock market development on economic growth of two Asian regions namely South Asia and East Asia. GDP per capita growth rate is used as dependent variable, while stock market development indicators are used as regressors. We also control some macroeconomic variables namely foreign direct investment, household consumption expenditure and inflation rate that can directly or indirectly affect the economic growth. For empirical analysis, the annual data of 1996-2015 is utilized. The panel data regression method is used and for choosing appropriate model likelihood test and Hausman tests are applied. The results show that stock market development is not strongly contributing to economic growth of sample countries. The comparative analysis, however, show a relatively pronounced effect in South Asian region. The effect is noted to be insignificant in countries of East Asia region. This may be due to the reason that in Japan and Korea, the industrial grouping system is common where the investors group make their own bank jointly for their financial transactions and other activities. The study can be extended in future by including more countries, regions, and indicators for detailed and conclusive evidences.

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