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Research Article

Effects of Stock Market Development on Economic Growth in Nepal

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Abstract

Financial intermediaries and stock markets are important for the economic growth. The relationship between stock market development and economic growth has been extensively studied in the recent years. This study used analytical research design that involves bi-variate analysis by using simple regression model to examine the relationship between stock market development (measured by size and liquidity of the stock market) and economic growth (measured by logarithm of capital GDP at constant price) in Nepal during the period 2007-2017. Secondary data were collected from the official websites of Ministry of Finance (MoF) and Nepal Stock Exchange (NEPSE). It is assumed that economic growth is the function of stock market development for the purpose of data analysis. Empirical results of this study indicate significant positive relationship between economic growth and stock market development. Moreover, stock market development explained considerable variations in economic growth of Nepal i.e. size of the stock market explained 57.7 percent, and liquidity of the stock market explained 41.6 percent variation in economic growth of Nepal.

Key words: Economic growth, liquidity, market capitalization, stock market

Introduction

All economists do not hold similar opinions regarding the importance of the financial system for the economic growth. Kunt and Levine (1996) pointed out

that various conceptual arguments emphasize the potentially positive, neutral or even negative implications of stock market development for economic growth. Many analysts view stock market in development countries as "casinos" that have little positive and potentially a large negative impact on economic growth. Other analysts argue that because not much corporate investment is financed through the issuance of equity, stock markets are unimportant for economic growth. As economies develop, self-financed capital investment first gives way to bank- intermediated debt finance and later to the emergence of equity markets as additional instruments for raising external funds. Financial structure the mix of financial intermediaries and markets-changes as countries develop, as illustrated by differences in financial structure across countries and across time for individual countries. Levine (1991) argued that stock markets may affect economic activity through the creation of liquidity. Many profitable investments require a long-term commitment of capital, but investors are often reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment for long periods. Liquid equity markets make investment less risky and more attractive because they allow savers access to their savings quickly and cheaply or when savers want alter their portfolio, they can easily do it. At the same time, companies enjoy permanent access to capital raised through equity issues. By facilitating longer-term, more profitable investments, liquid markets improve the allocation of capital and enhance prospects for long-term economic growth. Yarkey and Adjasi (2007) argued that emerging economies are faced with financial constraints which are due to underdeveloped nature of the financial system.

The relationship between financial development and economic growth has been extensively studied in last few decades. Goldsmith (1969) empirically tested the relationship between financial sector development and economic growth by using the cross country data of 35 countries and indicated the positive relationship between the two variables. Levine and Zervous (1996) empirically

evaluated the relationship between stock market development and long run growth by using data of 24 countries over the 1976-1993 periods. They used stock market size and liquidity as the proxies of stock market development; and logarithm of initial per capita GDP and the logarithm of the initial secondary school enrollment rate as proxies of long run economic growth. Their study revealed that stock market development is positively associated with economic growth.

Habib and Khan (2004) empirically tested the relationship between financial development and economic growth of Bangladesh during 1975 to 2002. They used money stock to GDP, private sector credit to GDP, and domestic credit to GDP ratios as the indicators of financial development. Their study indicated a causal direction from economic growth to financial development in Bangladesh.

Tahin (2008) examined the causality between economic development and financial development in Pakistan covering the data for the period 1973 to 2006 by using Johansen's multivariate co-integrating procedure, and found a casual direction from economic development to financial development in the long run.

Boubakari (2010) used Granger Causality test proposed by Granger in 1969 for testing statistically causality between stock market development and the economic growth by using economic and financial time series data from 1995 to 2008 of some European countries Belgium, France, Portugal, Netherlands and United Kingdom. This study indicated that the stock market development does significantly "Granger Cause" economic growth in France and United Kingdom. Moreover, it was found that stock market development does "Granger Cause" but not significantly the economic growth of Netherlands. However, this study also found negative relationship between stock market development and economic growth for Belgium and Portugal. This study also pointed out the findings of Nowbusting (2009) that indicated stock market

development is an important ingredient for growth in Mauritius. The causality has been observed only in the countries where stock market is significantly active and highly liquid.

Kharel and Pokhrel (2012) empirically tested the role of financial structure in promoting economic growth of Nepal during 1994-2011 by employing Johansen's co-integrating vector error correction model. They indicated that the banking sector plays a key role for economic growth compared to capital market in Nepal.

Bayar, Kaya and Yildirim (2013) examined the relationship between stock market development and economic growth in Turkey during the period 1993-2013 by using Jahansen-Juselins co-integration test and Grangr Causality test and indicated that there is a long run relationship between economic growth and stock market capitalization, total value of stocks traded, turnover ratio of stocks traded. They also indicated that there is unidirectional causality from stock market capitalization, total value of stock traded and turnover ratio of stocks traded to economic growth.

Mohabbad (2013) investigated the causal relationship between stock market development and economic growth for Jordan for the period 2000-2012 using a vector Error Correction Model (VECM). His study found unidirectional causality between stock market development and economic growth with direction from stock market development to economic growth. Moreover, Granger co-integration indicated that all t-statistics are significant indicating long-run relationship between the variables.

Osaskwe and Ananwde (2017) applied the Autoregressive Distributive Lag (ARDL) model to investigate the co-integration relationship between stock market development and economic growth by using data of Nigeria from 1989 to 2015. They used real gross domestic growth rate as proxy of economic growth, and market capitalization ratio of GDP and turnover ratio as indicators

of stock market development and indicated both short run and long run association between stock market development and economic growth in Nigeria.

Bista (2017) examined the empirical relationship between stock market development and economic growth of Nepal for the period 1993 to 2014. He used real GDP per capital as proxy of economic growth and market capitalization of Nepal stock exchange (NEPSE) as proxy of stock market development. His study indicated a unidirectional causality from stock market development to economic growth in Nepal.

This paper examines whether stock market development matters for economic growth. Stock market development indicators have been included in the model with the assumption that they have a positive impact on economic growth in Nepal.

Data and Methods

This study examines the effects of stock market development on economic growth of Nepal. It used analytical research design that involves bi-variate analysis particularly to examine the relationship between the stock market development and the economic growth. The size and liquidity of the stock market are used as indicators of stock market development defined by Levine and Servos in their study that they conducted in 1996. They defined the measure of the size of the stock market as the ratio of market capitalization divided by Gross Domestic Product (GDP). Market capitalization equals the total value of all listed shares. The assumption underlying the use of this variable as an indicator of stock market development is that the size of the stock market is positively correlated with the ability to mobilize capital and diversify risk. Further, they defined liquidity, the measure of liquidity as the ratio of total value of trades on the major stock exchanges divided by market capitalization and is frequently called the turnover ratio. The turnover ratio also complements the measure of stock market size since

markets may be large but inactive or markets may be small but active. Liquidity may importantly influence growth by easing investment in large, long-term projects and by promoting the acquisition of information about firms and managers. Moreover, logarithm of GDP is used as an indicator of economic growth.

This study incorporated secondary data from the period of 2007/08 to 2017/18 and necessary data were collected from the websites of Nepal Stock Exchange (NEPSE) and Ministry of Finance (MOF) of Nepal. It is assumed that economic growth is the function of stock market development measured by size and liquidity of the stock market of Nepal. SPSS 16.0 version was used to enter, process and analyze the data.

The models used in this study are:

$$Y = a_o + a_1 X$$

$$Y = b_o + b_1 Z$$

Where,

Y= logarithm of gross domestic product (GDP)

X = Market capitalization to GDP (size of the stock market)

a_o = value of constant of equation

a_1 = coefficient of market capitalization to GDP (size of the stock market)

Z = Total value traded to market capitalization (liquidity of the   stock market)

b_o = value of constant of equation

b_1 = coefficient of total value traded to market capitalization (liquidity of the stock market)

Krishna Babu Baral

Results and Discussion

Results

The correlation between stock market size and economic growth is 0.759 which is significant at the 0.05 level. This result indicates that there is substantial positive relationship (high correlation) between these two variables. So the regression model is fitting to test the relationship between the variables.

$$Y = 2.744 + 0.051 \ X..........................(1)$$

$$t = 114.14 \quad t = 3.302$$

$$p = .000 \quad p = .011 \quad \text{with } R^2 = .577$$

Equation 1 presented the simple linear regression using economic growth (Y) as a dependent and stock market size (X) as an independent variable.

The value of R^2 is 0.577 indicating 57.7 percent of the variation in economic growth is explained by variation in stock market size. Estimated value of constant a_o is significant at 1.00 percent because p value is 0.000 and this value for predictor (market capitalization to GDP i.e. stock market size) is significant at 0.05 level as P value is less than 0.05 i.e. 0.011.These results of the study explore that size of NEPSE has satisfactory ability to mobilize capital and diversify risk in the economy.

The correlation between the turnover ratio and economic growth is 0.645. This result indicates moderate positive relationship between these two variables. Hence simple regression model is fitting to test the relationship.

$$Y = 2.795 + 0.14 \ Z .... (2)$$

$$t = 179.82 + \quad t = 2.388$$

$$p = 0.000 \quad p = .044 \quad \text{with } R^2 = 0.416$$

Krishna Babu Baral

The value of R^2 is 0.416 indicating 41.6 percent of the variation in economic growth is explained by variation in liquidity of the stock market. Equation 2 shows simple linear regression using economic growth (Y) as dependent and turnover ratio (Z) as independent variable. Estimated value of constant b_o is significant at 1.00 percent because p value is 0.000 and this value for predictor (total value traded to market capitalization i. e. liquidity of the market)) is significant at 5.00 percent because p value is 0.044. These results indicate that liquidity of stock market plays satisfactory role in economic growth of Nepal by easing investment in large and long-term projects, and by promoting the acquisition of information about firms and managers.

Discussion

Economic growth of the country is not only affected by the stock market development. Kharel and Pokhrel (2012) indicated the significant role of banking sector for economic growth in Nepal. However , empirical studies of Levine and Zervons (1996); Bayar, Kaya and Yildirim (2013); Osaskwe and Ananwde (2017) and Bista (2017) found positive association between stock market development and economic growth. These studies indicated a unidirectional causality from stock market development to economic growth. Moreover, other variables like government spending and tax policies, political stability of the country, and availability of factors of production in the country also affect economic growth.

Rabiul, Habib, and Khan (2004), and Tahin (2008) found a casual direction from economic growth to financial development in Bangladesh and Pakistan respectively indicating demand of capital for growth in the economy could not be supplied only through government spending and bank financed capital that follows development of stock market in those countries. This is why the direction of causality could move in any one of the two directions i.e. from

stock market development to economic growth or from economic growth to stock market development.

The results of this study pointed out that size of Nepal Stock Exchange (NEPSE) has satisfactory ability to mobilize capital and diversify risk in the economy as 57.7 percent variation in economic growth is explained by the stock market size. Further, the study also indicated that liquidity of stock market plays satisfactory role in accelerating economic growth of the country by easing investment in large and long-term projects and by promoting the acquisition of information about firms and managers.

Conclusion

This paper empirically evaluated the relationship between stock market development and economic growth of Nepal and indicated significant positive relationship between them, and it also indicated that variation in economic growth is explained by stock market development of Nepal.

Acknowledgement

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