

Malaysian Stock Market: A Spur to the Country's Economic Growth?*

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This study empirically investigates the impact of stock market on Malaysian economic growth using a vector autoregressive (VAR) estimation technique and impulse response function (IRF) over the period of 1988 through 2012. The study is motivated by empirical findings that a well-functioning stock market plays an important role in enhancing economic growth in the developed countries. We find that Malaysian stock market exhibits a positive impact on economic growth. However, we find that the positive impact lasts only for a short period. Specifically, the effect only appears in the first year after the change in market size occurs. In the second year, the effect then starts to alleviate and completely diminishes after several years. The findings provide clear implications that the positive impact of stock market size changes should be fully utilized immediately once it is realized because the impact will not last long.

Keywords: economic growth, impulse response function (IRF), stock market, vector autoregressive (VAR) estimation technique

Introduction

A stock market is one of the main drivers that contributes significantly to a country's economic growth. The availability of funds channeled through the stock market provides investment opportunities and increases capital market efficiency. Specifically, it facilitates trading activities and enables investors to participate in capital market transactions. By having an efficient stock market, investors are more attracted to invest because they are able to cash out their investments any time they want. In other words, a stock market provides liquidity. Liquidity is very important because the investors would want to buy and sell their assets without having to compromise the assets' prices. Decades ago, stock markets in the developed countries such as United States, United Kingdom, and Japan had been the main choices of investors. Nowadays, developing stock markets such as Malaysia, Taiwan, and Brazil provide new opportunities for investors to venture into.

In general, an increase in the size of the capital market reflects an increase in a country's economic development. Even though there are studies that show the negative effects of capital market on economic

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growth (Calvo, 1998; Reisen & Sato, 2001), many studies provide empirical evidence on its contribution towards economic growth (Levine & Zervos, 1998; Enisan & Olufisayo, 2009; Azman-Saini, Law, & Ahmad, 2010; Choong, Baharumshah, Yusop, & Habibullah, 2010; Thumrongvit, Kim, & Pyun, 2013; Ngare, Nyamongo, & Misati, 2014).

Despite global and domestic uncertainties, Malaysian capital market grew considerably from MYR2.08 trillion in 2010 to MYR2.76 trillion in 2014 (Securities Commission, 2015). The increase of 32.7 percent reflects the importance of capital market as the source of financing for firms in Malaysia. The figure which is equivalent to 2.6 times of the country's economy also reflects the good performance of Malaysian economy. A total of MYR91.9 billion was raised through initial public offerings (IPO) and private debt securities (PDS).

In conjunction, Malaysian stock market or Bursa Malaysia's market capitalization as of 31 December 2014 was MYR4.3 billion (Bursa Malaysia, 2015), and this indicates the function of the stock market as a vital avenue for fundraising and investing. The stock market provides an organized platform for those who wish to participate especially in selling and purchasing equities. The level of trading activities can be represented by a number of indices developed by Bursa Malaysia, and the most widely used index is the FTSE Bursa Malaysia, KLCI which is normally used to indicate the performance of the Malaysian economy. Fluctuations in the index represent demand and supply conditions of selected stocks which generally symbolize the performance of the Malaysian equity market. This index is also a reflection of what is happening in the economy. For instance, during a crisis, like the 1997 Asian Financial Crisis, the index dropped significantly from above 1,200 points to below 600 points; a loss of more than 50 percent.

The objective of this study is to analyse the impact of the size of the Malaysian stock market on the Malaysian economic growth by focusing on the lasting effect of the shock imposed on the variable. This paper is organized as follows: the first section presents the background of the study. The second section provides an overview of the literature with regards to the impact of the stock market on economic growth. The third section describes the methodology used for this study. Finally, sections four and five discuss results and conclusion of the study respectively.

Literature Review

Financial markets, regardless of bank-based or capital market-based, play a vital role in the development of every country. The importance of financial markets lies in their abilities to facilitate the flow of funds between surplus and deficit units. A number of studies have been analyzing the relationships that may exist between financial market development and economic growth. Poor operation of the financial market has been associated with an obstacle to economic growth (Acosta & Loza, 2005). Financial market development is also believed to have a positive impact on economic growth through its interaction with foreign direct investment (FDI). Financially developed countries are deemed to be able to circumvent currency crises (Federici & Caprioli, 2009).

The existence of a financial market as a mean of capital mobilization is undeniably needed because capital is one of the most important factors of production. Not only that the financial market needs to exist, but it must also continuously develop in order to contribute towards economic growth. The relationship between financial development and economic growth calls for interdependency between the two variables. In brief, a country with a well-developed financial sector could promote economic growth, which then leads to high

demand of financial products. This demand, as the financial institutions react to it, then would again lead to greater economic growth. This shows the cycle of influence between financial development and economic growth.

Previous studies provide evidence on the relationship between financial markets and economic growth (Levine & Zervos, 1998; Arestis, Demetriades, & Luintel, 2001; Enisan & Olufisayo, 2009; Azman-Saini et al., 2010; Choong et al., 2010; Thumrongvit et al., 2013; Ngare et al., 2014; Bayar, Kaya, & Yildirim, 2014). They show that a country's economic activities are significantly influenced by the development of the banking sector, the bond market and the stock market. Levine and Zervos (1998) showed that the stock market and the banking sector contribute significantly to the economic growth of a country. The empirical evidence presented involves 47 countries over the period from 1976 to 1993. Similarly, a study by Enisan and Olufisayo (2009) showed that stock market is co-integrated with economic growth. Using an autoregressive distributed lag (ARDL) bounds test on 24-year (1980-2004) data from seven African countries, results of the study show that the stock markets in Egypt and South Africa significantly affect the countries' economic growth. Further evidence reveals bi-directional relationships between stock market and economic growth for Cote D'Ivoire, Kenya, Morocco, and Zimbabwe. Employing data from 91 countries for the period from 1975 to 2005, Azman-Saini et al. (2010) showed that FDI brings positive impact on economic growth only after the financial market development exceeds a certain threshold level. Nevertheless, this study focuses on the banking sector rather than the stock market and bond market.

Adopting a panel data methodology, Thumrongvit et al. (2013) studied the impact of stock market and bond market on economic growth. The data for their study consist of data from 38 developed and developing countries over the period of 1989 to 2010. Their results are consistent with previous studies, which indicate both markets are positively related to economic growth. In addition, they find that the effect of bank credit on economic growth diminishes with the advancement of bond markets. A more recent study for 36 African countries by Ngare et al. (2014) supported extant literature, that the stock market has a positive impact on economic growth. Specifically, the findings of the study show that economic growth of countries with stock markets grow faster than those that do not have stock markets. Yet, the development for these countries is faster for small countries compared to large countries. Similarly, Bayar et al. (2014) found the stock market in Turkey leads to the country's economic growth, using co-integration and VAR methodologies. Nevertheless, Arestis et al. (2001) found that stock market gives less impact on economic growth compared to the banking system. The co-integration technique is employed to examine the role of the markets using data from Germany, France, United States, United Kingdom, and Japan.

In addition to the studies that examine the direct effect of financial markets on economic growth, there are a few studies that examine the effect of FDI on economic growth (Ang, 2009; Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Durham, 2004). The development of the domestic financial market has been recognized as one of the "absorptive capacities" needed by a host country in order to reap the benefits associated with FDI. Given that the host country has reached a minimum threshold level of financial market development, for instance, the host country will be able then to absorb the benefits of FDI.

In proving the theoretical assumption of the impact of FDI and financial development on economic growth, Ang (2009) has conducted a case study on Thailand. Based on an annual time series data from 1970 to 2004, results of the study suggest that financial development is crucial in enhancing the effect on FDI on economic growth. Domestic credit to private sector as a percentage of gross domestic product (GDP) and the ratio of M2

(money supply) to GDP are two indicators used to represent financial development of Thailand. Prior to Ang (2009), Alfaro et al. (2004) also tried to uncover the notion of exploiting FDI more efficiently through better financial system. They have constructed a few series regarding the financial market with two broad categories: series related to the banking sector and series related to the stock market. Based on ordinary least squares (OLS) regression results, their models indicate that FDI by itself is not as significant as its interaction with any of the financial market series. The interaction term between FDI and a financial market turns out to be significant and positive for all models. The highest significance is found for interactions with liquidity measures, private credit, and bank credit. Financial markets by themselves are found to be insignificant.

Another study that considers financial development as an “absorptive capacity” of the host country in gaining the positive impact of FDI on economic growth is done by Durham (2004). Using data on 62 non-OECD and 21 high-income countries, he finds that contemporaneous, lagged FDI, and the ratio of stock market capitalization over GDP, tested alone, do not have significant impact on output growth. However, when tested for the interaction between lagged FDI and the ratio of stock market capitalization over GDP, the interaction shows a positive impact on growth. On the contrary, Borensztein, Gregorio and Lee (1998), in examining the impact of financial development on growth, do not report any significant influence of the financial development variables.

In brief, extant literature provides evidence that financial markets promote economic growth. Findings show positive impact of banking sector, stock market and bond market on economic growth for most of the countries studied regardless of methodologies and period employed.

Data and Methodology

Generally, this study intends to analyze the impact of the Malaysian stock market on Malaysian economic growth. Market capitalization as a percentage of GDP (MC_GDP) is used to represent the size of the stock market, which also indicates the stock market development, while the growth of GDP per capita (GDPC) represents the Malaysian economic growth. This study employs yearly data for the period of 1988 to 2012. Both data are gathered from the World Development Indicators Database.

To investigate the impact of the stock market on economic growth and to determine the lasting effect, this study employs vector autoregressive (VAR) estimation technique and then supported by the impulse response function (IRF). The impulse response function (IRF) is specifically used to map out the response of the dependent variable in the VAR system to shocks in the error terms. In other words, it shows the reaction of the economic growth in response to changes in the stock market size.

The analysis starts with the use of Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test to check the stationarity of the variables. Results indicate that all of them are stationary at their level forms. Then, the number of lags for the model is decided using five tests: the modified Likelihood Ratio test statistic (LR), final prediction error (FPE), Akaike (AIC), Schwarz (SC), and Hannan-Quinn (HQ). All tests conclusively indicate that lag 2 is sufficient to run the analysis.

The VAR model for this study is represented by equation (1):

$$GDPC_t = \beta_0 + \beta_1 GDPC_{t-1} + \beta_2 GDPC_{t-2} + \beta_3 MC_GDP_{t-1} + \beta_4 MC_GDP_{t-2} + \varepsilon \quad (1)$$

where ε is the error term.

Findings and Discussion

Table 1 shows results of the VAR model which indicate that the size of the stock market has a net positive effect on Malaysian economic growth. This result reflects the importance of the stock market capitalization in promoting a country's economic growth. As shown by the net positive effect result, this means an increase in the size of the stock market leads to better economic performance. The result is consistent with past studies (Levine & Zervos, 1998; Choong et al., 2010; Thumrongvit et al., 2013; Ngare et al., 2014). Based on the World Bank Report, the average value of Malaysian stock market capitalization as a percentage of GDP from 1988 to 2012 is 156.37 percent. Thus, given the relatively large size compared to the economy, it is not surprised to find the positive effect of Malaysian stock market on its economic growth. Diagnostic results of VAR residuals indicate that the model satisfies serial correlation, normality, and heteroscedasticity tests at 5 percent significance level.

Table 1

Vector Autoregression Estimates

| | GDPC | MC_GDP |
|--|--------------------------------------|--------------------------------------|
| GDPC(-1) | 0.106218 (0.16617) [0.63922] | -0.766360 (3.76391) [-0.20361] |
| GDPC(-2) | 0.046847 (0.15442) [0.30337] | 3.664706 (3.49784) [1.04771] |
| MC_GDP(-1) | 0.044596 (0.01029) [4.33498] | 0.434602 (0.23302) [1.86506] |
| MC_GDP(-2) | -0.042117 (0.01043) [-4.03686] | -0.013451 (0.23632) [-0.05692] |
| C | 2.614336 (1.73872) [1.50360] | 83.47622 (39.3841) [2.11954] |
| Diagnostic test of VAR residuals: | | |
| Serial correlation test: Lag 1 1.045502 (0.8432) | | |
| Lag 3 6.532012 (0.1628) | | |
| Normality test: Jarque-Bera 1.775196 (0.7770) | | |
| Heteroskedasticity test (includes cross terms): | | |
| Chi-sq 55.83052 (0.0749) | | |

Figure 1 illustrates results of impulse response function of economic growth (GDPC) and the size of the stock market (MC_GDP). The response of economic growth to the shock applied to the market capitalization as a percentage of GDP is positive and increases at an increasing rate during the first year before started to decrease in second year and started to have an insignificant negative impact at the end of the second year. The negative effect also does not last long as it fluctuates and loses the effect after several years (refer to the graph of Response of GDPC to MC_GDP). In addition, the shock applied to the economic growth is also found to create a decreasing positive response on the market capitalization (refer to the graph of Response of MC_GDP to GDPC). In other words, these two scenarios indicate the bi-directional causality of the two variables.

Response to Cholesky One S.D. Innovations ± 2 S.E.

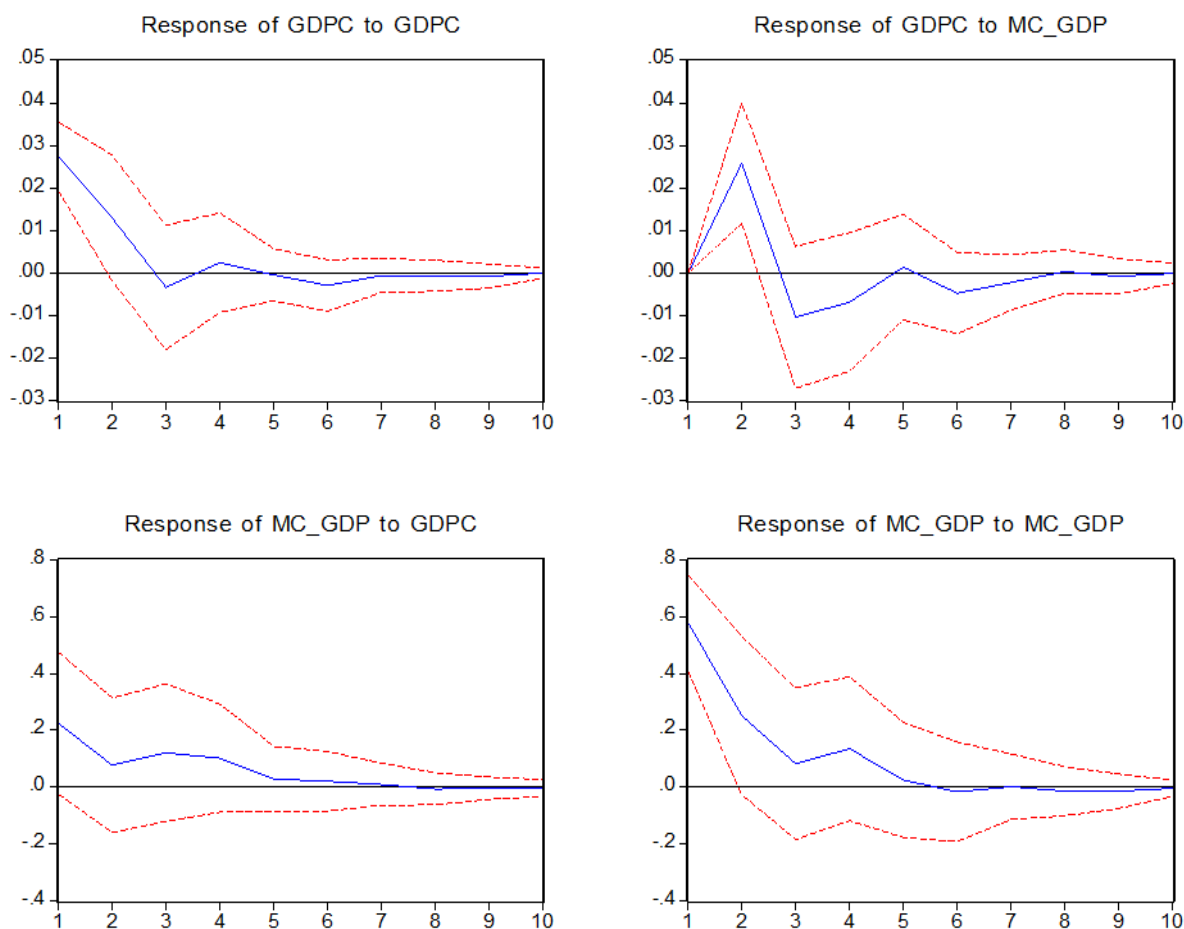


Figure 1. Impulse response function.

Conclusion

We estimate the impact of stock market on Malaysian economic growth using variance autoregressive (VAR) estimates and impulse response function (IRF). As has been shown by the VAR results, the findings of this study support past studies that stock market positively affects economic growth. Nevertheless, the positive reaction of economic growth only lasts for a short period in response to the change in stock market size. There is no significant impact in the long run. The basic conclusion for the insignificant impact is that maybe the measures used are not good proxies for market size and economic growth. Further research should be conducted using other measures such as the turnover ratio and an industrial production index.

The findings of this study have one important policy implication. It is shown that the positive impact is only in the short run. For that reason, the authorities or the policy makers should implement appropriate measures in order to be able to instantaneously grab the opportunity created by the change in the stock market size. In addition to that, initiatives should be taken to stimulate the competitiveness of the stock market. The current rules and regulations, and the monitoring system may need to be revamped in order to ensure the effectiveness and efficiency of the trading system. For example, more transparent disclosure policies and

accounting policies must be implemented. What is more important is to gain the investors' confidence in the system. The participation of more investors, especially foreign investors, shall lead to higher market liquidity. By enhancing the market liquidity, the market will be able to facilitate investment and to provide efficient asset allocation, hence, may boost the country's economic development.

In conclusion, proper measures should be implemented to take advantage of the short term impact caused by stock market size changes, specifically, measures that can enhance the market's liquidity. Liquid markets will attract more investors as investments become less risky. This then leads to the development of an efficient and well-functioning stock market that ensures the continuity and stability of capital flows. Hence, it can bring continuous benefits to our economy.

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