

## Chapter 5

### Conclusions and Implications

#### 5.1 Conclusions

The main purpose of the study is to find out the relationship among stock market development, economic growth and income inequality in ASEAN countries. The data employed are secondary data from six ASEAN countries which have stock exchanges—Singapore, Malaysia, the Philippines, Thailand, Indonesia and Vietnam during 1988-2009. Economic growth is measured by growth of nominal GDP (GGDP). Indicators of stock market development are the market capitalization ratio (MCR), which measures stock market size relative the economy, and the turnover ratio (TR), which measures stock market liquidity. Estimated household inequality index (EHII)—from University of Texas' Inequality Project—is employed to measure income inequality.

The impact of stock market development on economic growth is examined in two ways: the direct impact running from stock market measures to economic growth, and the indirect impact running from stock market measures to some macroeconomic variables which further affect economic growth. Least-squared regression and two-stage least-squared regression are employed in these models. To study the causality between stock market and economy, the pairwise Granger causality test was employed on the direct-impact model. To examine the impact of stock market measures on income inequality, Tobit analysis was employed.

The result of the relationship between stock market development and economic growth shows that stock market measures have significant direct and indirect impacts on economic growth. For the direct-impact model, there is a positive impact running from TR toward GGDP; 0.10 unit increases in TR will lead to 0.12% increases in GGDP. Other macroeconomic variables that have positive and significant impacts on economic growth are growth of gross fixed capital formation (GK), growth of household consumption expenditure (GC), ratio of FDI and GDP (FDI/GDP), growth of value added in manufacturing sector (GVAMANU), and financing via international capital markets as % of GDP (INTERFIN). Examination of Granger causality shows that there is unidirectional impact running from both MCR and TR towards GGDP.

Moreover, MCR also has a unidirectional impact on TR. On the side of indirect-impact model, the results show that MCR and TR have positive and significant impacts on FDI/GDP which in turn has a positive impact on GGDP.

The result of the relationship between stock market development and income inequality shows that stock market development does not have a significant impact on income inequality. Neither MCR nor TR is a significant explanatory variable of EHII. Significant independent variables explaining EHII are growth of GDP per capita (GGDPCAP)—the higher the GGDPCAP, the lower the inequality: growth of value added in agricultural sector (GVAAG)—the higher the GVAAG, the lower the inequality: and growth of value added in service sector (GVASERV)—the higher the GVASERV, the higher the inequality. However, as developing economies are now expanding their service sectors, transfer of labors into the sector may lead to a different result. To a certain level of labors working in the service sector, increases in GVASERV may be able to lead to better income distribution. The result also shows

that growth of value added in manufacturing sector (GVAMANU), on the other hand, does not have significant impact on EHII. Perhaps, majority of labors in manufacturing sector belongs to the middle class whose changes in income have insignificant effects on income inequality.

From these results, the results of hypothesis tests are as followed:

*“Hypothesis 1: The stock market has a positive impact on economic growth”* is accepted.

*“Hypothesis 2: The stock market and the economy have two-way symbiosis in the Granger sense. In other words, the stock market both affects and is affected by GDP growth”* is rejected since stock market measures have uni-directional impact on GGDP growth.

*“Hypothesis 3: The impact of stock market on economic growth is both direct and indirect—passing through foreign direct investment, international capital inflow and/or fixed domestic capital stock”* is partly accepted since stock market indirect impact passes through foreign direct investment only.

*“Hypothesis 4: The stock market development has a Kuznets inverted-U relationship with income inequality”* is rejected since stock market measures have no significant impact on EHII.

## 5.2 Policy Implications

The results of the study seem to suggest practical policy for policy makers. First, to the extent possible the market capitalization ratio (MCR) and turnover ratio (TR) should be increased to boost economic growth in ASEAN economies since increases in MCR has impact—Granger causality—on TR which further enhances growth of

GDP; and increases in MCR and TR have impact on FDI ratio which has positive impact on the economic growth.

To increase the market capitalization ratio, more enterprises should be supported to enter the stock market especially in the countries where the level of MCR is still relatively low e.g. Indonesia, Vietnam, the Philippines, and Thailand. To do so, the managers of stock exchanges can ease the stock exchanges listing criteria, reducing the listing fees, etc. Additionally, policy planners should strengthen the competitiveness of industries, enterprises and SMEs as well as enhance their labor productivity as these will help non-listed companies to be more ready to enter the stock exchanges.

Entering the stock exchanges will allow newly-listed enterprises to increase their investment which can also lead to higher level of employment and/or technological investment. And if the factors of productions that receive technological improvements are cooperative factors of labors, then, this will also improve labor productivity. The benefits will likely be many folds: the companies will generate more income, the labor force will enjoy more employment and the employees will gain more income from improved productivity, etc.

To increase the turnover ratio, more population classes should be encouraged to participate in investing in the stock market especially the lower-income and middle-income earners whose current participation in the stock market are still very low. This will increase the liquidity of the stock market. Investing in stock market will also help the less-wealthy population to have more diversity in their investment with better over-all return—stock market returns tend to be much higher than returns from bank deposits especially in the present period when real interest rate is near-zero or even

negative in some countries. A caveat is that the risk for their overall investment will be higher. Nevertheless, implementing this will be easier said than done; a general low-income or lower-middle-income earner often has lack of fund, experience and knowledge needed in investing in the stock market. A possible solution to this problem is to set up grouped-investment systems e.g. mutual funds which invest in stock markets only. A key for these systems is that they must be accessible for those in the lower-income groups.

In other words, the channels to increase MCR and TR may lead to higher economic growth and at the same time reduce the income inequality to a certain extent through two pathways: the benefits of companies entering stock exchanges may redound to low-income laborers: and low-income households gain more returns from investing in equities. This supports what Kappel (2010), Mathew (2008) and Bonfiglioli (2006) have found—stock market development promotes income equality.

Therefore, the ASEAN Exchanges Project which promotes 210 blue chip equities from seven ASEAN stock exchanges to global investors will surely be beneficial to the six countries involved. More importantly, as a step toward becoming ASEAN Economic Community (AEC), the cooperation or even the gradual integration of the seven stock exchanges—Singapore Stock Exchange (SGX), Bursa Malaysia or Malaysia Exchange (MYX), the Philippines Stock Exchange (PSE), Indonesia Stock Exchange (ISX), Hanoi Stock Exchange (HNX), Ho Chi Minh Stock exchange (HOSE) and the Stock Exchange of Thailand (SET)—by the year 2015 will certainly support the six countries' economic growth. If the above suggestions of using the stock exchange as a tool to improve income equality are put into use, the cooperation will also help create equitable economic development. Moreover, the

AEC, once integrated, will be more able to help the less-developed member countries—Myanmar, Lao, and Cambodia—to improve their economic ability. And once they are ready with enough economic development, AEC will be able to help them to establish (Myanmar and Cambodia) or strengthen (Lao) their stock exchanges which can further enhance their economic development as well as improving their income inequality.

### **5.3 Further Research Suggestions**

Further research may be conducted employing time-series data instead of panel data to examine the impact of stock market development on economic growth and income distribution. Doing so will allow inclusion of policy dummy into the model since using time-series data of a country will make it possible to determine the value of policy dummy in a each period of time. Moreover, this will allow the study to investigate the different results from each country in the ASEAN group. For example, the results may vary based on level of economic and stock market development.