The Relationship between Foreign Direct Investment Influx, Economic Growth, and Financial Institutions in ASEAN-6

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Abstract: Globalization era has brought about the influx of foreign investment from all over the world, namely foreign direct investment and international portfolio investment. Those investments are assumed to have positive impacts on the invested countries, due to the transfer of technology and knowledge from developed countries to developing countries. However, previous research stated that it was not always the case, because FDI influx differs in each country. One of the causes for the different outcomes on economic growth from FDI influx is the development of financial market, such as banking system and stock exchange, in invested countries. The existence of proper financial market in a country marks its readiness to expand FDI even further to aim for higher economic growth. The object of this research is ASEAN members, because Southeast Asia is a dynamically growing region in terms of economy; hence, it attracts FDI influx. ASEAN is also a challenging object in terms of the degree of variability in financial market among its members. Based on ASEAN Stats data, it is illustrated that the amount of FDI flowing to each ASEAN member differ, especially between ASEAN members with financial market and without. This quantitative research employs regression analysis on primary and secondary data related to various macroeconomic variables of ASEAN members to establish the findings. Hence, this research aims to prove that financial market boosts positive impacts of FDI to economic growth among ASEAN members.

1 INTRODUCTION

Foreign investment is divided into two forms. Firstly, it flows directly in the form of fixed asset, like factory, child-related factory, business vehicle, and many others; thus, this kind of investment is called Foreign Direct Investment (FDI). Secondly, it takes form as security investment, like stocks and international obligation; hence, this kind of investment is called international portfolio investment. Foreign direct investment (FDI) tends to flow into some countries with low restrictions/barriers and potentially record high economic growth; while international portfolio investment flows into countries with lax tax system, high interest rate, and strong currency (Madura, 2012).

FDI has some positive impacts, such as increasing productivity, technology transfer, and introducing new managerial and operational process and capability to improve one’s economic growth. However, based on the findings of previous research (Alfaro et al., 2005; Tang and Tan, 2016; Carkovic and Levine, 2002), the impacts may differ between countries. Some literatures even stated that FDI’s impacts on economic growth remain inconclusive, because they frequently provide conflicting results in different research (Hoang, Wiboonchutikula, and Tubtintong, 2015; Wang, 2009). Moreover, not all countries could maximize the positive impacts of FDI, and here lies one of the most fascinating determinants to be investigated: a country’s financial system development.

World Bank (2016) defined financial system as a system controlling fund transfer between two parties with overflowing fund and their respective needs, to achieve an efficient budget allocation, and to provide some financial facilities, including payment system for business activities. Generally, financial system is divided into two institutions, namely banking and capital market. These two institutions are financial intermediaries which are tightly regulated to minimize risk and strengthen country’s economics.

Meanwhile, ASEAN (Association of Southeast Asian Nations) is a regional organization with 10 member-states, namely Thailand, Myanmar,
Vietnam, Laos, Malaysia, Cambodia, Singapore, Philippines, Brunei Darussalam, and Indonesia. It proposed a further integration in terms of social, politics, and economics by 2020; however, the member states decided to push forward ASEAN Economic Community, in trade and financial system, to December 31st, 2015. ASEAN Economic Community is a political project aiming for a further integration between the members which focuses on economic development within the region. Some basic objectives for further economic integration are trade liberalization, investment enhancement, and opening of financial markets. In line with that, ASEAN members also wish to attract more FDI influx to the region, as well as improving intra-ASEAN investment level. ASEAN offers huge market of US$2.6 trillion and over 622 million people (ASEAN.org, 2018). It also promotes freer movement of goods, capital, service, investment, and labor (ASEAN Investment, 2018).

True to its objectives, the largest FDI investors are ASEAN members themselves. ASEAN Stats (2017) recorded a proportion of FDI from intra-ASEAN at 18.3% in 2015, higher than the inward FDI rate from China, United States, and European Union. The 10 members respectively have various economic conditions and financial system’s strength, both in terms of banking system and capital market. Banking system conditions in each country are illustrated in Graphic I-1 below, which described the comparison of banking assets to their Gross Domestic Products (GDP) in 2015.

Comparatively, in terms of capital market, there is an imbalance because only 6 out of 10 ASEAN Members have their own stock exchange institution. Hence, Brunei, Laos, Myanmar, and Cambodia are taken out of capital market comparison to GDP, which is depicted on Graphic I-2 below.

Swift flow of FDI in ASEAN is further evidenced by the rate of growth in this region from 2006 to 2016, which increased 66%, the third highest growth rate in Asia Pacific following China and India. However, the impact of FDI on respective economic growth of each member differs (World Bank, 2001).

Due to the significance of FDI and its different impacts on economic growth, as well as the inequality...
in capital market between ASEAN countries, a research on the relationship between foreign direct investment, economic growth, and financial market among ASEAN members deserves a limelight.

2 LITERATURE REVIEW

Foreign Direct Investment (FDI) is inevitably one of the driving factors of economic growth in developing countries. It represents fund inflows to a country, which also symbolizes international trust toward it. It is highly related to a country’s reputation and economic prospect. Related to ASEAN, FDI is also credited as a prominent variable in re-establishing the members’ economy post Asian Crisis 1998 and contributed to their robust economic growth from then on (Fan and Dickie 2000).

Moreover, FDI influx is often correlated to the openness of trade and investment within a country or a region. Tan and Tang (2016) successfully found a causal relationship between FDI, trade flows, interest rate, and economic growth in ASEAN between 1970 and 2012. They also concluded that in some countries (Singapore and Thailand), FDI did not lead to economic growth, while the findings said otherwise for Philippines, Malaysia, and Indonesia. Similarly, Balasubramanayam, Salisu, and Sapsford (1996) also posited that FDI is significantly related to trade liberalization, particularly in countries adopting export-led model.

When a foreign company brings in a new product or process in a domestic market, then a technology spillover to domestic companies will happen. Technology diffusion might happen during a turning over of workers from local to foreign company. According to Alfaro et al. (2005), FDI plays a significant role in modernization and economy growth, so that government of developing countries usually support the increasing number of FDI by providing several incentive schemes for foreign companies. On the contrary, Carkovic and Levine (2002), using IMF and World Bank data base of 72 countries between 1960 and 1995, previously recorded an opposite finding, which stated that FDI does not robustly influence economic growth.

The theoretical foundation for the link between FDI and economic growth is derived from neoclassical model and endogenous model (Hoang, Wiboonchutikula, and Tubtimtong 2015; Kok and Ersoy 2009). Neoclassical model considers FDI as the complimentary of capital stock at the host countries and affect the host countries’ level of income only through capital accumulation. However, it did not guarantee its direct link to long-term economic growth. While endogenous model posited that FDI can affect host countries’ growth rate by improving productivity level through the transfer of technology and productivity spillovers (Hoang, Wiboonchutikula, and Tubtimtong, 2015), which is also the main assumption of this paper.

Madura (2015) stated that there are 2 motives of Multinational Corporations (MNC) related to FDI, namely income and cost. FDI brings about income by creating new demands, gaining an entry to a more profitable market, and overcoming trade restriction and diversifications internationally. While cost-related motives are related to decrease cost per unit to achieve economies of scale and maximize the usage of production factors, such as cheap labors and raw materials. Determinants for the level of FDI influx are also significantly related to a country’s macroeconomic conditions, infrastructures, and labors’ skills (Fan and Dickie, 2000). Hence, it is probably why Singapore attracted most FDI influx intra-ASEAN (Chart 1-3).

Furthermore, one of the determinants of FDI success is absorptive capacities (Esfandyari 2015). This capacity is determined by the management of macroeconomy factors, infrastructure, and human capital. Esfandyari (2015) found that the impact of FDI on each D8 (eight Islamic developing country) country can only influence their respective growths if the level of the countries’ financial development is good. Levine et al. (2000) preceded her by stating that financial system plays an important role in economic growth and productivity development.

Alfaro et al. (2004) also explained that financial market has an important role to help working capital from the operation of foreign companies which invest in a country. FDI is counted as a long-term strategy of a company, as it needs an investment decision-making and large funding. FDI encompasses machinery purchase, factory establishment, and other production facility. To support factory operation, the company needs some active capital. Local financial market plays a role in providing short-term funding in terms of bank loan or introducing them to some local investors who readily invest their fund for foreign companies.

The basic theory of linkage between foreign direct investment and financial market development stated that FDI influx increases capital accumulation and further causes financial intermediaries to boom (Soumaré and Tchana 2014). Furthermore, they also attempted to find a causal link between foreign direct investment and financial market development among Asian countries (including 6 ASEAN member
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countries used in this research) by focusing on stock market development.

The arguments of Alfaro et al. (2004) about the positive impact of financial markets on enhancing FDI are in line with another finding by Beck, Levine, and Loayza (2000). They stated that a well-developed financial system can generate more capital and accelerate growth, in which FDI provides a stimulus through capital accumulation. However, research on the relationship between FDI, financial market availability, and economic growth in ASEAN countries still scarce. Hence, this research attempts to fill the gap in this issue.

Based on the literature reviews, this research develops several hypotheses. First, FDI positively impacts on economic growth of ASEAN-6 (Indonesia, Malaysia, Singapore, Thailand, Philippines, and Vietnam). Second, financial institutions should strengthen the positive impacts of inward FDI toward economic growth in ASEAN-6. The 6-member countries were chosen based on the consideration that the rest of member countries have not had any established financial intermediaries.

3 METHODS

This research was conducted to ASEAN-6 between 2000 and 2017. The longer period is chosen to eliminate irregularities occurred in short-term time series data. The data were obtained from World Bank and ASEAN Statistics website. This research employed 2 models to analyze the effect of foreign direct investment towards economy growth and the moderation effect from financial market in each country chosen as research samples.

Model 1 was formulated as follows (without moderating variable):

\[ ECO_{i,t} = \beta_0 + \beta_1 FDI_{i,t} + \beta_2 EXC_{i,t} + \beta_3 BNK_{i,t} + \beta_4 POP_{i,t} + \epsilon \] .................................. (1)

\[ ECO_{i,t} = \beta_0 + \beta_1 FDI_{i,t} + \beta_2 EXC_{i,t} + \beta_3 BNK_{i,t} + \beta_4 FDI \times BNK_{i,t} + \beta_5 POP_{i,t} + \epsilon \] ........... (2)

While model 2 was formulated as follows (with financial exchange and bank as moderating variable):

\[ ECO_{i,t} = \beta_0 + \beta_1 FDI_{i,t} + \beta_2 (FDI \times EXC)_{i,t} + \beta_3 (FDI \times BNK)_{i,t} + \beta_4 BNK_{i,t} + \beta_5 POP_{i,t} + \beta_6 FDI \times BNK_{i,t} + \beta_7 POP_{i,t} + \epsilon \] ................. (3)

Variable dependent of this research was economic growth, while the independent variables were FDI, banking system, and financial market. Furthermore, moderating variable for FDI was financial system, which encompasses banking system and stock exchange. Moreover, the control variables were inflation and population growth. Operational definition of each variable was described in following table:

Table 1: Operational definition of research variable

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Moderating Variable</th>
<th>Control Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO_{i,t}</td>
<td>FDI_{i,t}</td>
<td>EXC or FDI \times BNK</td>
<td>INF_{i,t}</td>
</tr>
<tr>
<td>GDP growth in j country at t year</td>
<td>Proportion of net inward FDI against j country’s GDP at t year</td>
<td>Proportion of stock exchange capitalization against j country’s GDP at t year</td>
<td>Inflation rate of j country at t year</td>
</tr>
<tr>
<td>POP_{i,t}</td>
<td>BNK_{i,t}</td>
<td>EXC or FDI \times BNK</td>
<td>POP_{i,t}</td>
</tr>
<tr>
<td>Population growth in j country at t year</td>
<td>Proportion of domestic loan against j country’s GDP at t year</td>
<td>Proportion of stock exchange against j country’s GDP at t year</td>
<td>Population growth in j country at t year</td>
</tr>
</tbody>
</table>

4 RESULTS AND DISCUSSION

The data obtained was analyzed using eViews software version 5.0 using data panel regression. More specifically, the first model employed common effect regression, while the second model used fixed effect. The regression models has fulfilled all classical assumption tests for regression in which the data has been normally distributed, free from any symptoms of autocorrelation, heteroskedasticity, and multicollinearity; hence, the data are deemed fit for further analysis. This study also determines significance rate of 10% and the result is displayed in Table 2:

<table>
<thead>
<tr>
<th>Table 2: Regression result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independents</strong></td>
</tr>
<tr>
<td>FDI</td>
</tr>
<tr>
<td>FDI X BNK</td>
</tr>
<tr>
<td>FDI X EXC</td>
</tr>
<tr>
<td>BNK</td>
</tr>
<tr>
<td>EXC</td>
</tr>
</tbody>
</table>
The result from R-square shows that Model 1 successfully explains economic growth in ASEAN-6 by 56% using 5 independent variables; hence, the model is considered reliable.

As expected, foreign direct investment affects economic growth positively. Nunnenkamp (2010) summarized the advantages of foreign direct investment as follows:

- Foreign direct investment is a long-term project by building factory or establishment, so the inflows are less volatile and committed in the long run;
- Foreign direct investment is the most productive for host country by engaging local people as worker or harvesting national resource to the best use;
- Foreign direct investment provides more than just capital, such as technology, management and skills to be partaken by the local people also.

The less popular result came from financial institutions that the existence of banks proxied by GDP affected economic growth inversely. Coccorese (2010) found the same result from OECD countries by adding the degree of competition from banking industry. Banking is one of the highly regulated industry and higher barrier of entry due to its duty as an intermediary for society’s funds. Thus, banking represents oligopolistic industry which is dominated by several major players, like in this research’s samples. Indonesia’s 4 biggest banks controlled 54% of its industry asset, while Singapore’s 3 biggest banks held a staggering 78% of banking assets (Aryani, 2016). The large banks are likely to impose high costs on the economy because of contagion and snowball effects, added with the ‘too-big-to-fail’ status. Big banks tend to take more risk in their business activity to win the tight competition by undermining the economy in the process. Zhao (2017)’s result in China showed the same effect due to the high level of government’s interference in banking industry.

Another financial institution, which does not have significant effect to economy growth, is capital market. This can be explained by the different levels of stock market development in each country. Vietnam opened its stock exchange in Ho Chi Minh city in 2007, while Singapore’s market capitalization has doubled its GDP in 2015. (Aryani, 2016). Capital market takes portfolio investment and mostly in short term as capital inflow easily moves from one country to another, hence it cannot bring about significant effect towards economy growth. Most investors choose developing countries for its high return to compensate the risks, but in the event of crisis, the fund usually flows back to the safe havens or developed countries. Hermann (2016) also suggested that capital market valuations are sometimes volatile and unreliable due to the investor’s sentiment, emotions and confidence.

Meanwhile, most previous researches agreed that inflation hinders economy growth. Inflation not only reduces the level of business investment, but also the efficiency with which productive factors are put to use. Higher inflation causes decrease in value of money and purchase power of a society. In terms of international trade, high inflation will damage the country with reduced export orders, lower profits and fewer jobs, and worsen a country’s trade balance. A fall in exports can trigger negative multiplier and accelerator effects on national income and employment. Higher inflation forces the government to enact tight money policy, resulted in less loans given for production and/or consumption; thus, it further deters economy growth in the long run.

Finally, last variable is population growth that significantly affected economy growth in the same direction. Historically, it has always been seen that population increase is detrimental to a nation’s economy (Malthus, 1798). But that is not the case in ASEAN-6. According to Thuku, Paul, and Almadi (2016), in the long run, high population benefits economy due to technological advancement. Higher population resulted in larger labor force, which increases production yet in lower cost. In accordance with foreign direct investment, the new openings of factory or business from foreign country will reap the benefits from the masses of labor force and improve economic condition. Fox and Dyson (2015) also stressed the point of quality over quantity where larger population will be beneficial when it is supported with better access to education, health care, and social support.

Meanwhile, the second model gave deviant result from previous hypothesis. We previously argued that the existence of financial institution strengthens the positive impacts of foreign direct investment on economic growth. The prior result showed that the existence of bank weakens foreign direct investment, while capital market renders the significance of
foreign direct investment. This aberration needs to be solved by delving deeper in each country to see significantly different levels of financial institution development. The result from regressing foreign direct investment to economy growth moderated by financial institutions will be detailed in Table 3.

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The result above displays that foreign direct investment positively affected economic growth with such significance in all countries, as depicted in the first model. Indonesia and Philippines are two countries with the biggest multiplier effects from foreign direct investment, as confirmed by bigger coefficient. It is interestingly linked to the average data from our observations that these two countries had the lowest foreign direct investment. Indonesia and Philippines will need to stimulate higher foreign direct investment to boost their economic growth. Both are developing countries, unlike Malaysia and Singapore, so Indonesia and Philippines still have a lot of room for future growth.

Moreover, the variances clearly show the moderating effect of different levels of financial institution development for each country. Indonesia’s result implies that its financial institutions weaken positive effects of foreign direct investment. This could be explained by the fact that Indonesian banking system charges one of the highest profit margin in the world; hence, many foreign banks operate in this country. Indonesian banks merely seek to maintain their profit, yet it proves to be costly for the economy, because they charge high interest rate to its debtors and make the business less thriving. The stock market also provides the same result. Indonesia’s stock exchange still relies on foreign capital in which 60% of its fund is invested by foreign investors. The investors usually seek short-term profit and the stock’s return will be flown back to their home country. Financial market in Indonesia is still heavily regulated by the government and it is hard for foreign firms to fund its project locally. Most banks refuse to lend money to joint ventures, particularly to foreign firms, even though such investment is also a form of foreign direct investment. Currently none of foreign firms go public in Jakarta Stock Exchange, due to the high level of red tapes. These factors further weaken the positive effect of foreign direct investment in Indonesia.

Different result came from Malaysia and Philippines in which their financial institution indeed strengthened the efficacy of foreign direct investment. Malaysia showed equal growth in banks and stock exchange by 130% of its GDP, as displayed in Table 4. Philippines recorded similar result, albeit in lower number by 56% of its GDP. The similarity here proves the importance of balanced financial institution in which both plays complementary roles in supporting Malaysian economy. This finding is in line with Beck, Levine, and Loayza’s (2000) which stated that proper financial system turn more capital into profits and stimulate the economy even further. They stated that proper financial system can generate more capital and accelerate growth, in which FDI provides a stimulate through capital accumulation. Both banks and stock exchange act as financial intermediaries and together shall ensure that the fund flows to the right creditor or firms, hence boosting the economy.

### Table 3: Regression result for each country

<table>
<thead>
<tr>
<th>Independents</th>
<th>ASEAN</th>
<th>INA</th>
<th>MAL</th>
<th>PHIL</th>
<th>SING</th>
<th>THAI</th>
<th>VIET</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>0.444*</td>
<td>4.318*</td>
<td>2.246*</td>
<td>6.129*</td>
<td>1.729*</td>
<td>1.145*</td>
<td>1.783*</td>
</tr>
<tr>
<td>FDI X BNK</td>
<td>-0.292*</td>
<td>-6.431*</td>
<td>10.382*</td>
<td>8.359*</td>
<td>1.559*</td>
<td>-2.467*</td>
<td>2.129*</td>
</tr>
<tr>
<td>FDI X EXC</td>
<td>0.0345</td>
<td>-3.237*</td>
<td>7.122*</td>
<td>2.560*</td>
<td>0.364*</td>
<td>4.168</td>
<td>-5.108</td>
</tr>
<tr>
<td>BNK</td>
<td>-0.024</td>
<td>0.058*</td>
<td>-0.29*</td>
<td>-0.290</td>
<td>-0.440*</td>
<td>0.085*</td>
<td>-0.103</td>
</tr>
<tr>
<td>EXC</td>
<td>0.0143</td>
<td>0.064*</td>
<td>-0.181</td>
<td>0.025</td>
<td>-0.025*</td>
<td>-0.031</td>
<td>0.310</td>
</tr>
<tr>
<td>Constanta</td>
<td>0.0542</td>
<td>-0.04</td>
<td>0.561</td>
<td>0.11</td>
<td>0.424</td>
<td>-0.14</td>
<td>0.249</td>
</tr>
<tr>
<td>R Square</td>
<td>37.37%</td>
<td>85.49%</td>
<td>82.71%</td>
<td>43.73%</td>
<td>79.91%</td>
<td>60.49%</td>
<td>73.55%</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>29.46%</td>
<td>75.34%</td>
<td>69.27%</td>
<td>41.76%</td>
<td>64.28%</td>
<td>56.77%</td>
<td>62.99%</td>
</tr>
</tbody>
</table>

The result from regressing foreign direct investment to economy growth moderated by financial institutions will be detailed in Table 3.
Moreover, Singapore is considered as the most developed country among other ASEAN members; thus, it has the highest level of FDI influx. However, it lacks equal development of financial institutions, unlike Malaysia and Philippines. Thus, Singaporean banks may render FDI insignificant due to extremely high level of competition among 3 largest financial institutions. When there are only 3 banks holding 76% of country’s banking assets, the competition will become unhealthy. Like other developed countries, Singaporean banks no longer focus in lending, but shifting towards investment services and supporting stock exchange. The stock exchange has a bigger effect towards its economy, as confirmed by its size which is doubled the country’s GDP during research period. It is expected to boost the positive effect from FDI on economy growth. Unlike Indonesia, there are many foreign firms listed in Singapore stock exchange, so it is easier for FDI-invested firms to fund its operations through capital market.

On the other hand, Thailand displays an opposite result to Singapore, in which stock exchange reduces the significance of FDI due to the smaller size of its banking system. Most Thai business is still funded by banks, so it is confirmed that FDI may enhance its positive effects by strengthening banking regulation in Thailand.

The last country observed is Vietnam. Unfortunately, the effects from both financial institution diminished the positive influence of FDI. Wang (2016) stated that Vietnamese banks currently focus in retail and consumer loans. Vietnam government also controls financial industry rigorously and its stock market just opened in 2007. Therefore, it shows insignificant moderated results.

5 CONCLUSIONS

This research explains positive impacts of FDI on economy growth among ASEAN-6 countries. The most illuminating result is the importance of balanced financial institution in each country to support economy growth. Both bank and stock exchange market are financial intermediaries and should have complemented each other, instead of acting like competitors.

For future researches, it is advised to add more observed variables, due to the limit of sampling procedures in this study. Also, the rising trend of non-bank financial institution (NBFI) can be included as funding alternative from banks and stock exchange.

REFERENCES