

FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN ASIA: ANALYSIS FOR ADVANCED ECONOMIES, EMERGING MARKETS & DEVELOPING ECONOMIES

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Abstract

Many studies have investigated the effect of foreign direct investment (FDI) on economic growth but still leave enigmatic explanation about the different results. Does FDI affect economic growth or not and whether the effect is positive or negative are still in debate. Some researches claim that FDI leads to better economies for developed countries while underdeveloped countries do not. This study empirically examines the effect of FDI on economic growth in Asia using sample of 12 Asian countries from 1990 to 2016. Economic growth as dependent variable is likely influenced by its value in the previous period therefore we employ generalized method of moments (GMM). The result shows that FDI has a significant positive effect on economic growth in all countries in the sample. Separated estimates reveal different outcome between advanced economies and emerging markets & developing economies. For advanced economies (Japan, Hong Kong, Singapore), FDI is positively significant affecting economic growth meanwhile for emerging markets & developing economies (Bangladesh, Brunei Darussalam, Indonesia, India, Sri Lanka, Malaysia, Philippines, Thailand, Vietnam) the results is statistically insignificant. This findings confirm the previous study that FDI enhances the economy of developed countries and has not been able to improve the economy of developing countries. Control variables from economic and demographic side are included in the model to avoid omitted variable bias.

Keywords: FDI, GDP, GMM

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1. Introduction

The relationship between foreign direct investment (FDI) and economic growth has been a long-standing debate among economists and academics. Based on several empirical studies, various results indicate a condition that must be met by a country so that FDI can have a positive impact on the economy.

Research on the effect of FDI on economic growth in Slovakia has led to the conclusion that FDI has a significant positive effect on economic growth in the country (Szkorpová, 2014). These results are in line with findings in Pakistan (Tahir et al., 2015) and Jordan (Kreishan and Sami, 2012). While in South Africa, FDI has no effect on economic growth (Sunde, 2017). In the study of Rafael et al. (2016), FDI has no effect on economic growth. However, when the panel regression is categorized based on the level of the country's economy, it is found that FDI has a significant positive effect on the economic growth of advanced economic countries. Whereas in

middle income countries, the influence is very small and not significant even in middle income countries and the results are negatively significant. Differences in the impact of FDI between one country and another can be attributed to the level of maturity of different economic, demographic and political aspects among countries. This has an effect on the readiness of a country to acquire new high-tech resources from the FDI.

The results of Borensztein et al. (1998) argue that the main channel of FDI in contributing to economic growth is by stimulating technological progress, not by increasing total capital accumulation. The research also explains that FDI is a vehicle for technology transfer so that it relative contributes more than domestic investment. However, this cannot be the case in general as the high contribution of FDI can occur if the recipient country has a certain minimum limit of human resources capital owned. FDI has an effect on economic growth only in the conditions of receiving countries having adequate capability of advanced technology absorption. So, it can be said that the influence of FDI on economic growth depends on the level of quality of human resources or human capital in the country.

Based on the IMF report (2017), regional output is expected to rise due to strong consumption and investment. Capital inflow to be quite large in the early half of 2017 and financial condition is expected to remain supportive. Asia consists of countries with very diverse economic levels. Economies in some countries such as China, Korea, Japan and ASEAN countries in April 2017 are reported to have grown more than expected while others have weakened. This study was conducted to analyze the effect of capital inflow as measured by the amount of FDI net inflow and human capital owned by the state to the economic growth of Asian countries.

Theoretically, the additional capital should be able to increase production capacity either because of the expansion of business or the increase of technology mastery so that production becomes more efficient. The empirical study proves that FDI alone is not enough to explain its contribution to a country's economy. Economic conditions seen from the level of income and quality of human resources owned by a country will determine whether FDI entering the country can improve the welfare of the country concerned. This study was conducted to answer the problems that have been presented in the background of the problem of how the influence of human capital and foreign direct investment to the economic growth of countries in Asia.

2. Literature Review

Endogenous growth theory explains that economic growth is generated as a result of internal processes of knowledge accumulation and the development of new ideas. This is obtained if the quality of human resources (labor) is adequate. Qualified workforce will generate economic growth through the development of new technologies and effective and efficient production methods.

Foreign direct investment (FDI) is an action where foreign parties either individuals or countries establish a new company in another country. FDI can also take the form of foreign business takeover. In general, FDI involves the transfer of technology brought by the donor country to the host country. So that often happens is the flow of FDI coming from developed countries to developing countries. In theory, FDI should have a positive impact on the recipient country. However, in some empirical studies that have been done, FDI does not always have a positive impact on the recipient country.

The results of Borensztein et al. (1998) on FDI and economic growth finds robust that the influence of FDI on economic growth depends on the level of quality of human resources in the country. This is indicated by the strong and positive relationship of the interaction of FDI and human capital variables as measured by the level of education. While the interaction of domestic investment variable with human capital is not significant. This is probably due to technological differences brought by FDI and those owned by domestic investment. So that the emphasis of

the presence of FDI is not just an additional accumulation of capital, but rather to a higher level of efficiency.

Rafael et al. (2016) in his research in 19 countries in Latin America found that the influence of FDI on economic growth depends on the level of the country's economy. FDI has a positive and significant impact on high-income countries whereas for middle and upper income countries the influence is uneven and even insignificant. Conversely, middle income countries under FDI have a negative and significant influence on the country's economic growth. Overall, FDI is not enough to accelerate economic growth in Latin America except for high-income countries.

Empirically, the results of research vary widely. The income-based country classification does not always determine the influence of FDI on a country's economic growth. Pakistan is a middle-income country (\$ 1.006 to \$ 3.955) version of World Bank. Results of research conducted by Tahir et al. (2015) states that FDI has a positive and significant impact on economic growth in Pakistan. In addition, the research in Jordan by Kreishan and Sami (2012) also proves that FDI has a significant and positive influence even though Jordan is a category of middle income countries. The latest empirical study of research conducted by Makun (2017) says that FDI has a positive and significant influence both in the long and short term in Fiji. Based on the World Bank classification, Fiji is a country with middle to upper income category (\$ 3,956 to \$ 12,235). Likewise Malaysia with the same class with Fiji, FDI has a positive and significant impact on the country's economic growth (Anwar and Sun, 2011).

Polinescu (2015) explains that improving the quality of human capital does not always have to go through the education system or training. The diffusion of knowledge through the experience of working in the manufacturing and creative industries is also taken into account as one way of improving the quality of human capital. The presence of FDI in the recipient country becomes one of the channels for the workforce to improve their quality. As described earlier, Borensztein et al. (1998) emphasizes the importance of certain thresholds as a condition for a country to utilize FDI, so Polinescu's (2015) explanation enriches the foundation of why FDI should be associated with human capital in influencing economic growth. The ability and readiness of labor to undertake the diffusion of knowledge and transfer of technology must be sufficient.

3. Methodology

This study uses secondary data obtained from the International Financial Statistics issued by the IMF as well as data from the World Bank. The type of data are annual panel consisting of 12 countries in Asia in the period 1990 to 2016. The countries are advanced economies (Japan, Hong Kong, Singapore) and emerging & developing economies (Bangladesh, Brunei Darussalam, Indonesia, India, Malaysia, Philippines, Sri Lanka, Thailand, Vietnam) based on classification from IMF.

The existence of endogenous problem will produce inconsistent OLS estimation. Generalized method moment (GMM) is employed where this analysis can accommodate the possibility of simultaneous relationship between FDI and economic growth and allow the existence of lagged dependent variable as explanatory variable. The estimate in GMM uses the first difference equation in which this transformation is capable of removing μ_i and enabling endogenous lag variables in the second and previous periods to be the right instrument variable with the record not correlated with the error term.

The use of panel data itself has several advantages such as individual heterogeneity can be controlled and greater degree of freedom and efficient (Baltagi, 2005). In addition, the Sargan test is performed to determine the level of robustness of the built model.

$$\begin{aligned}
growth_{i,t} = & \beta_0 + \beta_1 growth_{i,t-1} + \beta_2 FDI_{i,t} + \beta_3 Inflation_{i,t} + \beta_4 InterestRate_{i,t} \\
& + \beta_5 Labor_{i,t} + \beta_6 Fertility_{i,t} + \beta_7 LnExport_{i,t} + \beta_8 LnImport_{i,t} \\
& + \beta_9 LnPopulation_{i,t} + \varepsilon_{i,t}
\end{aligned}$$

4. Result

After controlling some covariates, the result finds that FDI has a significant positive effect on economic growth. However, separated analysis shows that FDI is not significant in influencing economic growth in emerging & developing countries.

Table 1: Results of Regression

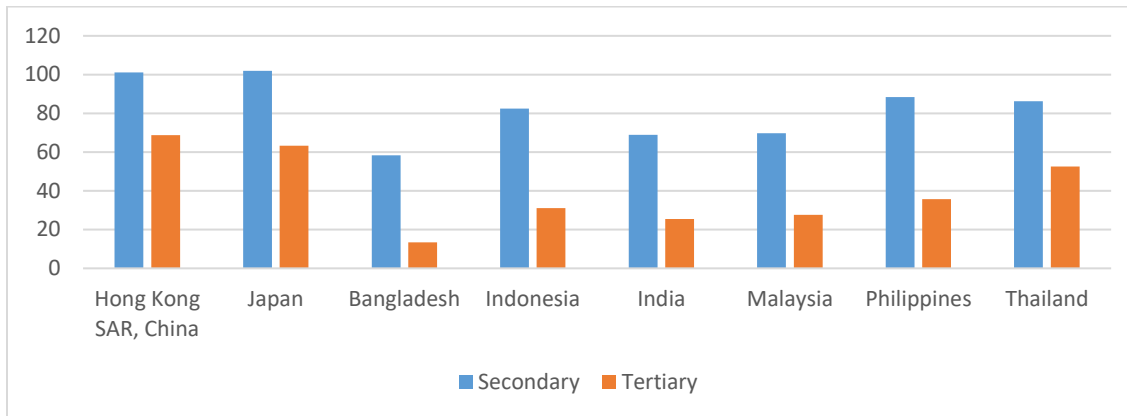
	All Countries	Developed Countries	Developing and Emerging Countries
FDI	0.2000151*** (0.0631287)	0.1846894*** (0.0636101)	0.3281217 (0.3393891)
GDP (-1)	0.1472779** (0.0754378)	-0.208993** (0.1070961)	0.2126027*** (0.0854067)
Inflation	-0.2636047*** (0.0531231)	-0.0414529 (0.3500987)	-0.2615074*** (0.0598888)
Interest Rate	0.3095575 (0.2246989)	1.914424*** (0.0871861)	0.1938391 (0.2212038)
Labor	0.105381 (0.2528287)	0.9669429* (0.5371754)	0.2236594 (0.3036087)
Fertility	-1.788374 (1.54482)	-2.867784 (3.87509)	-0.5891305 (1.427131)
Exports	-1.578478** (0.8053709)	6.058907 (5.24003)	-1.356224 (0.8561236)
Imports	3.720658** (1.529104)	4.463394 (4.983066)	2.925432** (1.418411)
Population	-15.41333** (6.987786)	-65.37151*** (9.701762)	-7.61288 (6.280283)

Sources: output of regression by author

The positive coefficients on the results indicate that FDI supports an increase in economic growth, but not strong enough to be a factor that boosts the country's economic growth. These results confirm the research conducted by Rafael 2016 in Latin America that the effectiveness of FDI in improving the economic growth of a country varies between countries. Many studies emphasize the importance of the human capital role of a country in order for FDI to contribute to the economy of the country.

Human capital largely dictates how much the country is capable for absorbing technological diffusion through FDI. In addition to these conditions, the ability of technology absorption is also determined by the growth rate of the country. From the data below we know that the level of school enrollment in secondary and in advanced economies are slightly higher compared with the developing economies. Furthermore, in the tertiary level, there is a significant distinction between those countries. As mostly used proxy for human capital, secondary and tertiary school enrollment may explain why FDI in emerging & developing economies is not strong enough to elevate the economic growth.

Graph 1: Secondary and Tertiary School Enrollment (%)



Source: worldbank

FDI as a channel of technology diffusion should be received by appropriate labor with certain qualification. If the host countries cannot handle it, the benefit of FDI will not be optimal. There is a significant difference in school enrollment of tertiary across countries in Asia, particularly for advanced countries and emerging & developing countries.

Advanced economies such as Hong Kong, Japan and Singapore have a big portion of their citizen that participate tertiary education. It will be easier to manage FDI to increase the economic growth. On the other hand, emerging & developing countries have a lower participation compared with those countries. Especially Bangladesh, Indonesia, India, Malaysia and Philippines in which the rate in tertiary is less than a half of the rate in secondary school enrollment.

Conclusion

The relationship between foreign direct investment (FDI) and economic growth has been a long-standing debate among economists and academics. The results of this paper confirms some empirical argument that FDI has a significant positive effect on economic growth in all countries in the sample. Separated estimates reveal different outcome between advanced economies and emerging markets & developing economies. For advanced economies (Japan, Hong Kong, Singapore), FDI is positively significant affecting economic growth meanwhile for emerging markets & developing economies (Bangladesh, Brunei Darussalam, Indonesia, India, Sri Lanka, Malaysia, Philippines, Thailand, Vietnam) the results is statistically insignificant. This finding particularly confirm the previous study that FDI enhances the economy of developed countries and has not been able to improve the economy of developing countries.

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