

The Impact Of FDI, Human Capital, And Corruption On Growth In Asian Developed And Developing Countries

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Abstract: This study tries to prove the impact of FDI, human capital, and corruption on economic growth in Asian countries, especially for developed and developing countries. There are many studies that prove that FDI and human capital both partially and simultaneously are able to drive growth. Meanwhile, corruption theoretically has a negative impact on growth, but several other studies have proven that corruption in some ways can also drive growth. This study uses FDI data, School Enrollment Ratio Tertiary, and corruption taken from the Corruption Perception Index to determine the impact on growth from 2003-2015 using panel data analysis methods. The results show that in developed countries, FDI actually has a negative impact on growth. Unlike in developing countries, FDI inflows can help drive growth. Human capital has a positive impact on growth for developed and developing countries. But in developed countries, this impact is not significant. While the corruption variable provides results the increased CPI score means a country with less corruption has a positive impact on the increased economic growth.

Keyword: GDP, FDI, Human capital, Corruption, Developed and Developing Country, Panel Data

1 INTRODUCTION

Asia is the region that contributes the world's largest growth which is 60% of total world GDP. It is the reason Asia has the greatest influence on the world. Nonetheless, over the past few years the average Asian GDP growth has experienced significant fluctuations. There was an average annual GDP decline of 8.3% in 2006-2016 to 5.9 in 2015. While the following two years, 2016 and 2017, continued to decline by 5.8% and 5.7%. FDI as a physical capital has been widely used in research to see how it affects growth. It has been proven empirically in various studies that FDI has a positive influence on both long-term and short-term growth and contributes significantly to the host country (Ameen & Khalid, 2015; Kanewar, 2017; Nistor, 2014). The influence of FDI on growth is also inseparable from the role of quality human capital. There have also been many studies discussing the role of human capital in growth. Education is one of the focuses most often used to measure human capital. Hanushek (2013) found that the quality of education could be a driving factor for poor countries to catch up with developed countries. In addition education also has a causality relationship and has a positive effect on growth in the long run (Li & Wang, 2016; Mariana, 2015).

Because the impact of education cannot be directly felt at that moment, but through various processes and requires a certain period of time to be felt and help drive growth. Even through education, one can determine wages according to the level of education (Arteaga, 2018). So through education, a person can increase his income and get better welfare. In the endogenous theory which says that growth is driven by physical capital and human capital factors, some researchers have empirically proven the influence of physical capital and human capital together to influence growth. FDI as physical capital and education as human capital simultaneously contribute to economic growth in host country (Ameen & Khalid, 2015; Silajdzic & Mehic, 2015). Endogenous theory says that some things that make the economy do not grow optimally are the uneven flow of capital and poor infrastructure. In this case the government is the owner of capital and the private sector is the party that provides services. Of course this condition is full of bribery, corruption, rent seeking, and others or what we usually call corruption. The proliferation of corruption in various parts of the world has a diverse impact on a country. There are two big theories that still hold the hands of researchers in assessing the impact of corruption namely grease the wheels hypothesis and sand the wheels hypothesis. Grease the wheels hypothesis considers that corruption will help the economy grow better through reduced costs due to the complexity of bureaucracy and reduce waiting times. Huang (2016) found in his research that grease the wheels was a proven hypothesis for South Korea where the existence of corruption actually encouraged growth in his country. While the sand the wheels hypothesis assumes that corruption suppresses the rate of economic growth through policy inefficiencies imposed, imperfect market conditions due to a monopoly by "close" people with the authorities, reducing state revenues, and not achieving the government's goals (Cieřlik & Goczek, 2018; Farooq, Shahbaz, Arouri, & Teulon, 2013; Méon and Sekkat, 2005). Several previous studies which also included variables of FDI, human capital and corruption in influencing growth, used human capital variables as control variables and not as independent variables included in research models such as Cieřlik & Goczek (2018), Stansel (1992), and Ugur & Dasgupta (2011). Therefore, researchers want to conduct research involving FDI variables, Education as a form of

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human capital, and Corruption to see how the impact on economic growth in Asia, especially in developed and developing countries.

2 LITERATUR REVIEW

Endogenous theory is a theory that corrects the previous Neo Classical theory proposed by Solow. In endogenous theory, technology is considered as an endogenous factor which also influences growth. In addition, the scope of endogenous theory is broader, not just physical capital but also includes human capital. This theory assumes no diminishing returns or a reduction in the scale of results at a certain level. However, the use of production factors in the form of physical capital and human capital accompanied by the use of technology at a certain level will be able to cover the diminishing return that occurs. In addition, this model also explains that in increasing economic growth and development, the government has an important role through foreign investment in a knowledge-intensive industry which includes computer and telecommunications equipment. Some researchers also adopted endogenous growth theories such as Dzhumashev (2014), Cieřlik & Goczek (2018), and Ameen & Khalid (2015). Investment is an important factor in driving the country's economy, even more so for developing countries that are actually very minimal capital to increase growth. Many theories discuss the positive influence of investment on growth. One of them is the Acceleration Theory which states that investment can be related to national income. Keynes also mentioned that investment is very important in its influence on growth. The entry of FDI in theory greatly helps a country's economic growth. The entry of FDI increases the capital stock which then increases the overall output. In addition, the entry of FDI can expand employment so that workers who have expertise in certain fields can be absorbed more. Thus, it will reduce unemployment and reduce poverty. FDI is an economic factor that plays an active role in market development and competitiveness, besides that FDI has a substantial contribution through the use of technology used and knowledge so as to be able to open new markets (Nistor, 2014). As well as many other studies that also found empirical evidence about the positive impact caused by the flow of FDI to the host country. Among them is Chowdhury & Mavrotas (2006) examine the relationship between FDI and growth and the results show that there is a strong sign of two-way causality between FDI and growth. While Mohammed, Mosté, & Mohammed (2015) prove that there is an unrelated relationship of FDI to growth, which can be a good tool for prioritizing resources. Another study conducted by Kanewar (2017) shows the results that FDI and remittances positively influence economic growth in the Fuji Islands both in the long and short term. The results of the research by Silajdzic & Mehic (2015) show that the positive influence of FDI on economic growth is also associated with greater knowledge-seeking ability and efficiency of FDI. Schultz (1961) developed a theory of human capital, where Schultz places humans as the main focus in sustainable development so that inevitably investment in human resources must continue to be improved. Education is an effort to improve the quality of human resources owned by a country because if the amount of human resources is not qualified will only be a burden on the state. Vice versa, if the resources possessed of good quality will be able to help boost the country's economy. Quality and competent human resources will be able to increase

productivity in aggregate. Education can make a person more educated and more competent to fill positions that are in accordance with their competencies so that they will increase effectiveness and productivity (Nelson & Phelps, 1966). The use of skilled labor in the long term can increase production capacity and become a country capable of competing with other developed countries (Hanushek, 2013). In addition, education is also able to increase one's income because of the high level of education that is taken to determine one's salary (Arteaga, 2018). Li & Wang (2016) show that different types of human capital influence economic growth through basic human capital contributes to growth through "channels of accumulation of factors" and advanced human capital through "productivity channels", both individually and simultaneously. Mariana (2015) found there is a relationship between GDP per capita and the number of students, especially for higher education in Romania. There are two major opinions regarding the impact of corruption on growth, namely grease the wheels hypothesis and sand the wheels hypothesis. Grease the wheels hypothesis illustrates how the existence of corruption in a country can dominate growth. Huang (2016) shows the results that for most in Asia, anti-corruption policies are inefficient. As for South Korea, grease the wheel hypothesis proved that corruption increases growth. Like Huang, researches conducted by Leff (1964) and Aidt (2008) also have proven that corruption will not affect growth when conditions of government and bureaucracy are bad, but precisely at a certain level of corruption will encourage better growth. While corruption which is considered as the sand wheel is a bad impact on growth. The existence of corruption can increase taxes for the community, thus weakening production activities, reducing state revenues, and decreasing the quality of public services. Méon and Sekkat (2005) and Farooq, et al (2013) prove that corruption will be more damaging to the country's growth when conditions of governance are poor. And Cieřlik & Goczek (2018) found that the low level of corruption in a country has a positive and statistically significant effect on the growth rate of GDP per capita.

3 RESEARCH METHODOLOGY

3.1 Data

This study uses a positivist approach where the mindset and hypothesis are formed based on the underlying theories. In addition, this research is a quantitative research that uses numerical data measured to explain the influence of independent variables on the dependent variable. The data used in this study uses GDP, FDI, School Enrollment Ratio Tertiary data obtained from the World Bank, and the Corruption Perception Index data obtained from Transparency International. As for the sample of countries using 8 Asian countries which are divided into developed countries (South Korea, Hong Kong, Qatar, Japan) and developing countries (Indonesia, Malaysia, Thailand, India). There have been many studies that use GDP as an indicator to measure economic growth. There are Nistor (2014), Ameen & Khalid (2015), Farooq (2013), Mohammed et al (2015), Katirciođlu (2009), and several other researchers. Likewise with FDI as a variable, many researchers who also use it as a focus of research include Dutta et al (2017), Nistor (2014), Mohammed et al, (2015), Silajdzic & Mehic (2015), Ameen & Khalid (2015), Barassi & Zhou (2012), and many more. While researchers who use human capital variables with indicators of School

Enrollment Ratio include Agiomirgianakis (2002), Mariana (2015), Huang (2009). And finally, corruption, the data used as proxies is the Corruption Perception Index (CPI) where research sources that also use CPI are Farooq et al (2013), Huang (2015), Cieřlik & Goczek (2018), D'agostino et al (2016), and Barassi & Zhou (2012).

3.2 Methodolgy

The analytical method used in this study is a panel data analysis method that combines time series and cross section data. In the panel data analysis method there are several models that must be tested to determine which model is most suitable to use, including the Common Effect, Fixed Effect, and Random Effect. In determining which model is appropriate, several tests will be carried out which include the Chow Test, Hausman Test, and the Lagrange Multiplier Test.

The equation for each model is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \varepsilon_{it} \quad \text{eq. (1)}$$

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \alpha_{it} + \varepsilon_{it} \quad \text{eq. (2)}$$

$$Y_{it} = \beta_0 + \beta_1 X_{it} + w_{it} \quad \text{eq. (3)}$$

Equation (1) is the equation on Common Effect, equation (2) for the Fixed Effect model, and equation (3) for the Random Effect model. Where Y is the dependent variable, X is the independent variable, β is the coefficient of each variable, i shows individuals from data cross section, t shows time series data, ε is error, α shows intercept, and w is random and not error correlates with the explanatory variables observed.

With the equation model used in this study are:

Developed countries:

$$GDP_{it(\text{Developed})} = \beta_0 + \beta_1 FDI_{it} + \beta_2 HC_{it} + \beta_3 CPI_{it} + \varepsilon_{it} \quad (4)$$

Developing Countries:

$$GDP_{it(\text{Developing})} = \beta_0 + \beta_1 FDI_{it} + \beta_2 HC_{it} + \beta_3 CPI_{it} + \varepsilon_{it} \quad (5)$$

Where GDP is a proxy for economic growth, FDI is a proxy for investment, HC is human capital with the School Enrollment Ratio Tertiary proxy, and CPI is a corruption variable with Corruption Perception Index proxies, and error (ε) accommodating variables outside the model as well influence the dependent variable, GDP.

4 RESULT

Based on the results obtained from the panel data estimation by testing to determine the model between Common Effect, Fixed Effect, and Random. Here is a summary of the estimation results for each model in developed and developing countries in Asia.

Table 1. Estimates of Common Effect, Fixed Effect, and Random Effect in Developed Countries

| Variabel | Common Effect | | Fixed Effect | | Random Effect | |
|----------|---------------|--------|--------------|--------|---------------|--------|
| | β | Prob | β | Prob | β | Prob |
| FDI | -3,E+06 | 0.0001 | -4,E+06 | 0.2296 | -3,E+06 | 0.0000 |
| HC | 3.17E+10 | 0.0004 | 1.27E+10 | 0.1603 | 3.17E+10 | 0.0000 |
| CPI | 8.13E+10 | 0.0001 | 4.16E+09 | 0.3563 | 8.13E+10 | 0.0000 |
| R-Square | 0.395345 | | 0.977404 | | 0.395345 | |

Source: Wolrd Bank and Tranparency International Statistic, processed

Table 2. Estimates of Common Effect, Fixed Effect, and Random Effect in Developing Countries

| Variabel | Common Effect | | Fixed Effect | | Random Effect | |
|----------|---------------|--------|--------------|--------|---------------|--------|
| | β | Prob | β | Prob | β | Prob |
| FDI | 4,E+06 | 0.0000 | 1,E+06 | 0.0014 | 4,E+06 | 0.0000 |
| HC | 7.14E+09 | 0.0236 | 3.20E+10 | 0.0000 | 7.14E+09 | 0.0001 |
| CPI | 7.85E+09 | 0.0697 | 1.44E+10 | 0.0404 | 7.85E+09 | 0.0013 |
| R-Square | 0.802438 | | 0.945659 | | 0.802438 | |

Source: World Bank and Tranparency International Statistic, processed

The tables above show the estimation results of each model for both developed countries (Table 1) and developing countries (Table 2). The ability of the model to explain the variation of each independent variable used by the R-Square figure can be concluded that the fixed effect model is better in explaining the effect of each variable for developed and developing countries compared to the other models. The estimation results using the Fixed Effect (see Table 1 and Table 2) above obtained results that there are differences in the influence of FDI between developed and developing countries in Asia. The result shows that in developed countries the influence that FDI brings to growth is negative as indicated by the value on the FDI variable coefficient is negative, while in developing countries shows positive results. This finding is slightly different from the theories and hypotheses used in research where FDI should be able to have a positive impact on growth regardless of whether it is in developed or developing countries. In the variable human capital, both for developed and developing countries the influence is positive, only in developed countries this influence is not significant in encouraging the growth of developed countries in Asia. And for corruption variables shows the result that an increase in the CPI score has a positive impact on the economic growth of developed and developing countries in Asia. After hypothesis testing have been conducted, the result shows that partially in models for developed countries, FDI, human capital and CPI variables do not have a significant influence on economic growth in developed countries. While simultaneously shows that FDI, human capital and corruption variables together can have an influence on the growth of both developed and

developing countries.

5 DISCUSSION

5.1 The Role of FDI on Growth

The estimation results in the previous sub-chapter show that the impact of FDI on economic growth is slightly different in developed countries. Whereas in developed countries the impact of FDI is negative, while in developing countries it is positive. This is in contrast with the hypothesis used in this research which is FDI should give impact that can build the economy of a country. It can be caused by an increase in FDI inflows resulting in high imports due to unavailability of resources or low quality of resources so that imports are needed to encourage productivity. The same results were also found by Safitriani (2014) who stated that FDI has an effect on increasing imports of a country in relation to the procurement of resources that can only be obtained from the countries of origin of multinational companies or home countries. On the other hand, an increase in FDI can only help the economy in the short term, while in the long term the increase in FDI inflows causes a decline in foreign exchange as a result of increased imports. In addition, another negative impact that might be generated by FDI is "stealing securities market" that has an impact on domestic companies (Melnyk, 2014). It means that the entry of FDI makes the competitiveness of multinational companies even higher. This is due to the use of production factors that are far better than those used by domestic companies. So many domestic companies that cannot compete with multinational companies will lose their market share. Singer (1950) and Prebisch (1986) also gave their opinions about the adverse effects of the entry of FDI into the host country, in part as a result of activities carried out with capital derived from FDI, mostly returned to home country as a result of return of profits to the parent company, thus increasing capital outflows (Bos, 1974; Bacha, 1974). As for developing countries, the impact of FDI is positive so that these results are consistent with the theories and hypotheses used in the study. That FDI has an impact that can drive growth through the provision of wider employment (Stamatiou & Dritsakis, 2013), high employment, use of modern technologies, reduce unemployment and poverty, increase productivity, and increase the rate of economic growth (Ameen & Khalid, 2015; Kanewar, 2017; Mohammed, Mosté, & Mohammed, 2015; Nistor, 2014; Silajdzic & Mehic, 2015; Chowdhury & Mavrotas, 2006).

5.2 Human Capital: Profitable Investment For Growth In The Long Term

Human capital shows a positive influence on growth for both developed and developing countries. These results are consistent with the theory and hypothesis used in the study which says that there is a positive relationship of human capital to growth. By increasing human capital can make a person become more skilled, more able to fill every position needed in the production process and contribution between generations can make human capital better (Lucas, 1988; Nelson et al., 1966). During the process of improving the quality of human capital through education, one gets the transfer of knowledge, skills, expertise, mastery of technology, to the ability to take decisions. Thus, this can encourage the economy to grow better through contributions between generations which mean that the impact of human capital will

be felt in the long term growth (Hanushek, 2013; Li & Wang, 2016; Mariana, 2015). The education improvement pursued by a person can increase income because they will be able to determine their wages according to the last education they have taken (Arteaga, 2018). Solaki (2013) also found that there is a causality relationship directed from higher education to the economic growth of a region. Whereas according to Haveman, et al (1998) the higher level of education and school one not only provides individual benefits but also the higher returns or wages and living standards. Based on data obtained from the World Bank, there are differences in facts in the field with existing data. Empirically, human capital is said to be able to encourage economic growth in both developed and developing countries in Asia. But the fact is that despite the increase in human capital, economic growth has fluctuations that tend to remain constant. The causes can vary for each country such as in developed countries. In Japan, the elder population is bigger than young people so that their contribution is less productive for growth and development. In South Korea, large companies such as Samsung and LG said will not add any labor again, but it is also because low applicants even though smaller companies open large vacancies. In Hong Kong, the large number of students who study abroad and the tight competition in the world of work also hamper growth. In contrast to Qatar, where employment is very large and wide open for college graduates and they can choose any job that offers higher salaries than foreign workers. In developing countries in Asia the causes are low employment and the high competitiveness of foreign workers due to the open market for Indonesia and Thailand. In Malaysia, it is caused by only a few developing sectors such as high-tech manufacturing, engineering, and banking so that only graduates with qualifications are set according to the field that is absorbed a lot. Whereas in India, workers with high education qualifications work more in multinational and foreign companies, so the contribution to the country is low.

5.3 Increased CPI Score Encourages Growth

An increase in scores on the Corruption Perception Index which indicates a lower level of corruption in a country can drive the economy. Similar results are also shown in developed and developing countries in Asia in this study. Corruption behavior stretches the growth process through several channels, including bureaucracy and investment. In an unhealthy bureaucratic process, corrupt behavior results in market failure as a result of monopoly by a person or group of people who commit corruption by bribing the government, hampering production activities due to the complexity of the bureaucratic process that must be passed; usually related to business licensing, increasing public tax burden, and decreasing the quality of public services (Shleifer and Vishny, 1993; Méon and Sekkat, 2005; Farooq, Shahbaz, Arouri & Teulon, 2013; Silajdzic & Mehic, 2015). Whereas through investment, the tendency of corruption behavior increases the risk that investors must accept if they want to invest in the country (Cieślak & Goczek, 2018). As a result, the flow of incoming investment has decreased and has hampered growth due to lack of capital during the production process. Thus, it will reduce the level of productivity of companies that impact on growth. While there is a different between the result of empirical study and the data, where despite the CPI scores in each country both for developed and developing countries growth but it does not show an upward

trend. This is likely due to foreign influences such as the impact of the 2008 United States crisis, the crisis in Europe, inflation, changes in world oil prices, uncertainty of foreign capital outflows, and a decline in exports in developed countries. Whereas in developing countries, the cause is more due to the decline in international commodity prices which then causes inflation (Asian Development Outlook, 2014).

6 CONCLUSION

The impact of FDI cannot fully encourage a country's economic growth. In certain conditions where the economy is already in a stable condition, increased inflows of FDI actually reduce growth due to an increase in imports and capital outflows as a result of return on profits to the parent company in the home country. Usually, FDI flows out as one of the profitable investments in countries with higher mature economic conditions, especially investments with developing countries that are still developing. While the impact of human capital on growth is positive, which means it is able to encourage economic development even though this impact is not immediately felt when there is an increase but requires a process so that the impact can only be felt in the long term. Moreover, education plays an important role in shaping the character and skills of a person to be able to continue to increase productivity, such as in expertise a particular field, its ability to use modern technology, to the ability of analysis and decision making, and innovation. As well as the fact that this study does not find the fact that corruption pushes the economy like some other studies that have proven the grease of the wheels hypothesis. Empirically, the lower the tendency of corruption in a country can drive the economy to be better. Thus in this study support the sand the wheels hypothesis which states that corruption can block economic growth from various channels, including from the bureaucracy and investment side.

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