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DIRECT FOREIGN INVESTMENT DEVELOPMENT FROM EXCHANGE RATE ANDGDP IN ASEAN PLUS THREE COUNTRIES

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Abstract: This study aims to determine the effect of interest rates, economic growth, GDP per capita and exports on foreign direct investment (FDI) in ASEAN Plus Three countries. The data used is secondary data from 2011-2020 obtained from the World Bank. The results of this study provide information to policy makers in monitoring capital inflows in terms of market transparency and highlight the importance of the stock market micro structure in assessing asymmetric information for ASEAN plus three countries.

Keywords: *Asean Plus Three, Exchange Rate, Foreign Direct Investment, GDP*

1. Introduction

In the process of economic development, the government desperately needs funds to finance economic development projects. Depending on state revenues derived from taxes, Non-tax Revenues and grants will not be sufficient. While relying on debt will have a long-term impact on the country, because the government is obliged to pay loan interest and loan principal at maturity. One alternative is to attract foreign investment. Foreign investment is considered to be able to develop new economic activities, create jobs, reduce unemployment and improve people's welfare. The entry of foreign capital is considered an opportunity for local industries to grow and expand their business scope or improve the quality and quantity of products (Widiastuti et al., 2020).

Non-debt capital flows are of two main types; Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). In the study of the composition of capital flows, asymmetric information has been captured based on macroeconomic indices that focus more on the use of aggregate country data (Madyan & Firdausi, 2019). This includes the use of several macroeconomic-based indices to capture asymmetric information such as institutional quality indices (MA Goldstein et al., 2007), geographical distance index(I. Goldstein et al., 2010), transparency index, geographic distance (Martin & Rey, 2004)and expected liquidity. The strength of such a macroeconomic approach depends on the ability to capture long-term market movementsand extreme circumstances, for example, liquidity shortage events as well as during financial crises(Laurini et al., 2008). However, this macroeconomic approach is very broad and is characterized by symmetric information, the absence of transaction costs, a representative agency structure, andrational expectations that cannot accommodate short-term movements and the heterogeneous nature of firms in the system. Departing from the macroeconomic approach, the following developments inspired this research to measure

asymmetric information in terms of microstructure: i) availability of stock market data, ii) evidence on the important role of asymmetric information in stock market trading (Lai & Lin, 2020; Moosavi et al., 2019), and iii) high association between capital flows represented by FDI or FPI and the stock market (Tsagkanos

et al., 2019). Proxy of information transparency based on market microstructure is closely related to market liquidity and adverse selection (Amihud & Mendelson, 1986; Eleswarapu & Reinganum, 1993; Yaacob et al., 2017; Yousefinejad et al., 2018). In addition, microeconomic analysis is often made based on asymmetric and heterogeneous structures (Laurini et al., 2008).

The Association of Southeast Asia (ASEAN) aims to accelerate economic growth, social progress and cultural development of the ASEAN region. This is done through joint efforts among member states in the spirit of equality and partnership to strengthen the foundation for a prosperous and peaceful society. ASEAN countries are highly open economies as measured in terms of trade flows and FDI stock inflows relative to GDP. However, some ASEAN countries have higher inflation rates resulting in different price levels and uneven purchasing power across ASEAN member countries. These price differences lead to different access to goods markets where some countries can afford to buy more goods than other member countries (Poolttiwong & Ramirez, 2016 in (Yaacob et al., 2021), thus leading to an increase in information asymmetry among member states.

2. Research Method

The type of data used in this study is secondary data covering foreign direct investment from ten ASEAN member countries namely Indonesia, Malaysia, Thailand, Philippines, Singapore, Brunei Darussalam, Vietnam, Laos, Myanmar, and Cambodia, plus three other Asian countries namely China, Japan and South Korea are members of the Asean Plus Three (APT) community, bringing the total to 13 countries. The data used is secondary data for the period 2011 – 2020 obtained fromthe World Bank.

3. Results and Discussion

3.1. Analysis Results

Foreign direct investment is considered capable of increasing a country's comparative advantage and increasing the country's competitiveness. In addition, awareness of the detrimental role of monopoly. Then, economic activities are more efficient if they are held by the private sector than by the public sector unless there is a strong reason why the sector is held by the public.

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Table 1. Development of Percentage of Foreign Direct Investment to Gross Domestic Product in ATP Countries (%) 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Indonesia	2.30	2.31	2.55	2.82	2.30	0.49	2.02	1.81	2.23	1.81	2.06
Malaysia	5.07	2.83	3.49	3.14	3.27	4.47	2.94	2.31	2.51	1.20	3.12
Singapore	17.60	18.74	20.93	21.82	22.65	20,50	28.91	21.53	29.69	21.65	22.40
Brunei Darussalam	3.73	4.54	4.29	3.36	1.32	-1.32	3.86	3.80	2.77	4.71	3.11
Philippines	0.86	1.23	1.32	1.93	1.84	2.60	3.12	2.87	2.30	1.89	2.00
Thailand	0.67	3.24	3.79	1.22	2.22	0.84	1.82	2.60	0.88	-0.97	1.63
Cambodia	11.99	14.15	13.58	11.10	10,10	12.37	12.57	13.07	13.52	14.01	12.65
Lao PDR	3.44	6.06	5.69	6.53	7.47	5.88	9.92	7.49	4.03	5,10	6.16
Myanmar	4.66	2.29	3.72	3.44	6.48	5.44	7.82	2.63	2.53	2.42	4.14
Vietnamese	4.30	4.28	4.16	3.94	4.93	4.90	5.01	5.02	4.88	4.60	4.60
Japan	-0.01	0.01	0.20	0.40	0.12	0.82	0.38	0.50	0.78	1.22	0.44
Korea, Rep.	0.78	0.74	0.93	0.62	0.28	0.81	1.10	0.71	0.58	0.54	0.71
China	3.71	2.83	3.04	2.56	2.19	1.56	1.35	1.69	1.31	1.72	2.20

Source: World Bank (World Development Indicator 2020)

The data above shows that within 10 years 13 ASEAN Plus Three countries have fluctuating foreign direct investment values. Of the 13 countries, the country that has the highest FDI value is Singapore, which can be seen in 10 years Singapore has never had an FDI value below the averageof 22,40%. Within 10 years, the highest FDI value in Singapore was in 2018, the next 2 years theFDI value decreased but the value was still below the 2018 value.

The next highest value of foreign direct investment is Cambodia, it can be seen that within 10 years Cambodia's highest FDI value was in 2012 and the lowest value was in 2015 which was 10,10%. Next is with an average of 6,16% obtained by Japan, seen in 2011 the value of FDI in Japan was very small at -0,01%, although in subsequent years Japan experienced an increase but in 2015 it again decreased. In 2020 the value of FDI in Japan experienced a very significant increase, namely to 1,22%.

Different finding revealed by Sukirno (2006), that the lack of influence of FDI on growth in the long term is due to the gap in the flow of capital funds. The large capital outflow was accompanied by a more dominant domestic investment than before and after the implementation of RoO. Thus, it is natural that the role of FDI in encouraging economic growth is still low becausethe large amount of foreign investment that enters is also followed by the amount of foreign investment out.

One of the factors that influence foreign direct investment is income per capita. Income per capita is the average income of the population in a country. Income per capita shows the level of purchasing power of the people of a country. The greater the per capita income, the greater the purchasing power of the people. Per capita income, indirectly, becomes an indicator of state welfare. This is because with a large per capita income, it will be followed by a large consumption but it does not exceed the total income. In addition, per capita income is also a measure of the rapid level of development of a country.

Table 2. Growth Percentage Annual GDP Growth per capita (%) 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Indonesia	4.75	4.61	4.15	3.64	3.56	3.76	3.84	3.99	3.87	-3.10
Malaysia	3.67	3.96	3.27	4.60	3.69	3.04	4.38	3.44	3.06	-6.86
Singapore	4.02	1.90	3.13	2.59	1.76	2.23	4.57	3.18	-0.05	-3.84
Brunei Darussalam	2.41	-0.43	-3.44	-3.78	-1.63	-3.61	0.21	-0.99	2.83	0.17
Philippines	2.12	5.09	4.96	4.61	4.68	5.55	5.40	4.87	4.68	-10.73
Thailand	0.36	6.74	2.22	0.55	2.72	3.05	3.82	3.89	1.86	-6.43
Cambodia	5.38	5.58	5.60	5.40	5.26	5.27	5.37	5.88	5.52	-4.44
Lao PDR	6.36	6.40	6.43	6.02	5.66	5.39	5.24	4.62	3.87	-0.96
Myanmar	6.70	5.61	6.99	7.31	2.49	9.75	5.08	5.76	6.08	2.48
Vietnamese	5.33	4.41	4.44	5.30	5.88	5.59	5.85	6.14	6.13	2.01
Japan	0.21	1.54	2.15	0.43	1.67	0.81	1.76	0.71	-0.10	-4.23
Korea, Rep.	2.89	1.87	2.70	2.56	2.27	2.54	2.87	2.46	1.89	-0.99
China	8.95	7.13	7.05	6.75	6.42	6.24	6.30	6.25	5.58	2.00

Source: World Bank (World Development Indicator 2020).

Based on table 2, it can be seen that in the last decade the per capita income of the thirteen ASEAN plus three countries experienced a positive trend that affected per capita income, only Singapore and Malaysia experienced a sharp decline in 2019, however, after the per capita income crisis these two countries are starting to improve compared to before the 2019 crisis. However, in 2020 there are only 4 countries from 13 ASEA plus three countries that have not experienced a decline, namely Brunei Darussalam with a percentage of 0,17, China with a percentage of 2,00, Vietnam with a percentage of 2,01, and the highest is Myanmar with a percentage of 2,48.

The stability of the exchange rate in an economic regional area is a key or a signal that countries in the region are able to survive in international competition and trade. Furthermore, theexchange rate is also an attraction for investors to invest their capital, the exchange rate which tends to fluctuate will reduce investors' interest because the exchange rate is used by investors to predict their future investment returns. If the exchange rate fluctuates, then the rate of return on investment will be difficult to predict.

Table 3. The Development of Exchange Rate Growth (US$ Average Period) 2011-2020

Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Indonesia	8,770.43	9,386.63	10,461.24	11,865,21	13,389.41	13,308.33	13,380,83	14,236.94	14,147.67	14,582,20
Malaysia	3.06	3.09	3.15	3.27	3.91	4.15	4.30	4.04	4.14	4.20
Singapore	1.26	1.25	1.25	1.27	1.37	1.38	1.38	1.35	1.36	1.38
Brunei Darussalam	1.26	1.25	1.25	1.27	1.37	1.38	1.38	1.35	1.36	1.38
Philippines	43.31	42.23	42.45	44.40	45,50	47.49	50,40	52.66	51.80	49.62
Thailand	30.49	31.08	30.73	32.48	34.25	35,30	33.94	32.31	31.05	31.29
Cambodia	4058,50	4,033.00	4,027.25	4037.50	4067.75	4058,69	4050.58	4051.17	4061.15	4092.78
Lao PDR	8029.26	8.006.58	7,833.23	8042.42	8,127,61	8,124.37	8,244.84	8,401.33	8,679.41	9,045.79
Myanmar	5.44	640.65	933.57	984.35	1,162.62	1,234.87	1,360.36	1,429.81	1,518,26	1,381.62
Vietnamese	20,509.75	20,828.00	20933.42	21,148.00	21,697.57	21935.00	22370.09	22,602.05	23,050,24	3,208.37
Japan	79.81	79.79	97.60	105.94	121.04	108.79	112.17	110.42	109.01	106.77
Korea, Rep.	1108.23	1,126.81	1,094.98	1,052.84	1,130.95	1,160.77	1131.00	1100,16	1165.36	1180.27
China	6.46	6.31	6.20	6.14	6.23	6.64	6.76	6.62	6.91	6.90

*according to the currency of each country
Source: World Bank (World Development Indicator 2020)

From the data above, it can be seen that the Rupiah (Indonesian) exchange rate is the currency with the worst exchange rate in ASEAN plus three in 2020. This can be seen from the amount of the Rupiah exchange rate against the US Dollar reaching Rp14.582,20/USD in 2020. This is inversely proportional to the other 4 countries whose exchange rates against the US dollar tend to be high. Meanwhile, in the 2011-2019 period, the country with the Lao Kip exchange rate was the worst in ASEAN plus three. The Singapore and Brunei Darussalam dollars are the currencies with the highest exchange rates in ASEAN plus three. This can be seen from the amount of Singapore and Brunei Darussalam dollars against the US dollar which was only SGD 1,38/USD in 2020. This was followed by China Reinminbi 6.90/USD, Thailand Bath 31,29/USD, and finally the Philippine Peso 49,60/USD. Although the exchange rates of the 4 ASEAN countries have different magnitudes, the exchange rates do not fluctuate, instead tend to strengthen and are easy to predict.

Mukhtar et al. (2014) states that the exchange rate in domestic countries has a negative correlation with FDI because the depreciation of the exchange rate will attract investors due to low labor costs. Even so, exchange rate uncertainty will cause FDI risk to increase because it will affect future export demand (Goldberg in (Flora & Agrawal, 2014)). Several other studies have shown that the effect of the exchange rate on FDI is "ambiguous". The exchange rate will have a positive effect on FDI if it is combined with economic openness, domestic investment, and government spending, but will have a negative effect if there is no role for domestic investment (Kok and Ersoy in Flora 2014). The relationship between Exchange Rate and FDI can be seen from two motives, namely market-oriented and cost-oriented. Exchange rate appreciation will have a positive correlation with FDI if the motive is market-oriented. In this condition, investors gain from the appreciation of the country's exchange rate against other countries. In contrast to market-oriented, with a cost-oriented motive where to reduce investment costs, production is carried out in countries with low investment costs and sales are carried out in other countries (Jin & Zang, 2013).

3.2. Discussion

De Mello Jr. (1997) states that the effect of FDI on economic growth can be analyzed based on two sources, namely: (i) capital accumulation, and (ii) total factor productivity (TFP). According to the classical theory of growth and the theory of endogenous growth, FDI can increase economic growth through capital accumulation in domestic countries, FDI contributes to increasing science and technology which can increase the total factors of production. In the research of Hansen and Rand (2004), FDI and economic growth have a positive relationship but the direction in the cause-and-effect relationship is still ambiguous.

The low level of FDI in influencing growth after the implementation of RoO is more due to a sector that does not receive additional capital from FDI (Sarumi, 2006). It is possible that FDI contributes little to growth because the most dominant sector in a country does not receive additional capital. The ASEAN region, which has natural resources such as agriculture, does not receive capital flows, or in other words, the inflow of capital does not extend to the agricultural sector but to sectors that generate "quick profits" such as the oil and mineral sector.

From the figure above, it can be seen that in the last 10 years, investment outflows (FDI outflows) have almost reached half of investment inflows (FDI inflows). This has implications forthe low influence of foreign investment or FDI on economic growth. Even so, the low influence of FDI on economic growth is not only influenced by FDI outflow, but is also influenced by the role of domestic investment which is relatively larger than FDI in the five ASEAN countries. The average role of domestic investment to GDP is 20% or more, while the role of foreign investmentto GDP is not more than 10%. This condition means that FDI has not been effective in acceleratingeconomic growth. This role can be seen in table 2 Brunei Darussalam, China, Vietnam and Myanmarhas a balance between foreign investment and domestic investment, however, this is not followed by the other 2 countries where most of the economy is supported by domestic investment compared to foreign investment.

According to Jordaan (2004) FDI will move to countries with high purchasing power becauseat a certain point it can increase investor profits. The large market potential will increase the return on investment which will attract foreign investors. Furthermore, GDP per capita is a measure of the purchasing power of a country's people and can also be used to see the market size of a country.Market Size shows the utilization of resources and the achievement of economies of scale, so that when market expansion occurs it will increase FDI flows (Chakrabarti, 2001). Tsai (1994) states that market size and trade balance are the two main keys in attracting FDI. Meanwhile, according to Gomes, Castro and Aparecida (2013), the size of the domestic market is an important factor in attracting FDI in Brazil. Changes in the output of goods and services (per capita income) are generally used as a measure of whether a country's welfare is better or worse. This encourages investors to choose certain countries over other countries (Alshamsi & Azam, 2015).

The exchange rate fluctuates and is difficult to predict, so foreign investment tends to be low. According to Chakrabarti (2001), exchange rate stability will have a positive effect on FDI, wherehigh exchange rate volatility will make it difficult for investors to predict investment costs and benefits. The exchange rate conditions of the thirteen ASEAN countries tend to appreciate from the beginning of the period to the end of the period. This appreciation resulted in a significant increase in FDI. The inflow of foreign investment indicates that there is a higher demand for domestic money against the dollar, so the exchange rate will increase.

Not only based on the demand for domestic money, but also through the provision of local content of 40%, the investment to meet the content increases. At a certain point, increased investment will boost people's purchasing power which has implications for higher demand for domestic money, thus encouraging the strengthening of the exchange rate. The development of GDP per capita has been described earlier in table 3. Exchange rate movements and per capita income are closely related to purchasing power parity. The appreciation of the exchange rate followed by an increase in per capita income will have a positive impact on purchasing power parity. This means that the prices of domestic and foreign goods are not much different (Niu et al., 2016).

These results are supported by research Umeora (2013), that an increase in FDI flows will increase the domestic currency money supply so that the domestic exchange rate appreciates. Meanwhile, according to Biswas & Dasgupta (2012), an increase in capital flowing through FDI will increase the exchange rate. Meanwhile, based on research conducted Rahaman & Chakraborty (2015), FDI affects per capita income through an increase in labor force income which has an impact on people's purchasing power. Furthermore, an increase in purchasing power will increase economic growth.

As presented above, the results reveal the importance of asymmetric information reflecting market transparency consistent with the study Neumann (2003) and Kirabaeva & Razin (2010). This result is also consistent with Mody et al. (2002) research which states that a higher level of stock market transparency leads to an increase in FDI inflows. Both methods of measuring asymmetric information, depth and width aspects have a significant influence on FDI. Therefore, higher market transparency (lower asymmetric information) will lead to higher FDI and vice versa which supports the results expressed by Aggarwal et al. (2005) and Chipalkatti et al. (2007). They concluded that the factors that were strongly associated with higher levels of information transparency were significant in attracting international investors.

Based on the findings, it shows that asymmetric information affects capital inflows. Therefore, increased transparency (associated with lower asymmetric information) from a stock market perspective leads to an increase in FDI.

As explained by Neumann (2003), the difference between FPI and FDI is that, the increase in ownership associated with FDI will imply more significant control over the firm and thus it will be cheaper to regulate the actions of firm managers. Furthermore, in the model presented, countries with high GDP show a tendency to have higher FPI and FDI. This is in line with Mody et al. (2002) research that reveals that an increase in GDP indicates an increase in national prosperity and the level of financial development. From these results, stock market capitalization is more significant in the model related to FPI compared to FDI, thus supporting the research I. Goldstein et al. (2010; Sakuragawa & Watanabe (2010) who stated that the significant capitalization of the stock market is another evidence of the importance of the stock market in attracting foreign capital to the host country, especially in FPI. These results are also in line with research Sakuragawa & Watanabe (2010) which shows that stock market capitalization is an index to measure market developments.

4. Conclusion

Foreign direct investment to ASEAN countries shows positive developments. The positive trend for foreign direct investment will continue in line with the dynamic development of the industry and increased investment, as well as the business environment in the region. The services sector isthe largest recipient of foreign direct investment in ASEAN. From the estimation results obtainedthat GDP per capita and exchange rates have an effect on foreign direct investment in ASEAN Plus Three countries. The governments of countries in Southeast Asia should further improve and maintain political stability in their countries because of the political stability of a country in addition to attracting foreign investors to invest their capital.

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