

Macroeconomics scenario reflect the Foreign Direct Investment (FDI) in ASEAN-3 countries

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Abstract

Foreign direct investment (FDI) inflows are one of the main instruments for developing countries, especially ASEAN-3. The influx of FDI is an important motivation in driving economic growth through increased productivity. The diversity of empirical results does not provide confirmation of the determinants of FDI inflows in the host country. This study examines macroeconomic scenarios that reflect the FDI inflows. This study used annual time series data from 1980-2019 using Autoregressive Distributed Lag (ARDL) analysis. Empirical results show that economic growth and domestic investment are the main factors for the three countries studied where it shows a significant relationship with FDI inflows. This is because the economic environment is a driving factor in FDI inflows into a country. The overall findings of the study can assist policymakers in focusing on the stability of macroeconomic indicators as a driver of ASEAN-3 FDI inflows and formulate a comprehensive investment policy in achieving the ASEAN 2025 vision.

Keywords: Foreign Direct Investment FDI, Macroeconomic Variable, ASEAN-3.

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How to cite this article: Noris Fatilla Ismail, Suraya Ismail, Mustafa Dakian, Macroeconomics scenario reflect the Foreign Direct Investment (FDI) in ASEAN-3 countries, Journal of Management and Science, 15(1) 2025 17-26. Retrieved from <https://jms.eleyon.com/index.php/jms/article/view/816>

Received: 28 August 2024 **Revised:** 7 November 2024 **Accepted:** 10 November 2024 **Published:** 7 February 2025

1. INTRODUCTION

Economic integration in developing countries has resulted in increased cooperation and integrated relations between countries through FDI flows. FDI is an important tool for developing countries' economic development. FDI plays an important role as a driver in technological advancement, increased productivity, and economic growth. In developing countries, FDI plays a major role in reducing the development, investment, and tax revenue gaps. FDI is also seen to serve as an investment instrument to host countries to enhance long-run economic growth. The transformation of FDI inflows has resulted in the existence of additional resources that assist the transfer of new technologies. Technology transfer through production, skills, innovative capabilities, and management between locations as well as exploring international marketing networks is derived from FDI. In addition, FDI is also seen to provide market opportunities and business ties with regional countries.

Domestic market oriented FDI plays an important role in bringing new products to the global market. FDI inflows from developed countries are considered important for developing countries in boosting the

domestic market. ASEAN-3 has become an attractive opportunity for FDI inflows due to its strong macroeconomic indicators. Foreign investors were encouraged to invest in ASEAN-3 because of the stronger GDP growth rate. Meanwhile, increased domestic investment might reduce transaction costs and increase the spread of technology and labor among businesses. Therefore, the positive influence of domestic investment could attract higher FDI inflows. However, macroeconomic indicators tend to fluctuate in global economic performance. According to Abel et al. (2008), economic behavior is reflected in macroeconomic indicators. The instability of the economic environment affects the performance of macroeconomic indicators. Referring to ASEAN-3, financial development took place due to the reform of the financial system leading to credit efficiency in financial services.

WDI (2020) reported Malaysia's positive GDP growth throughout the year except in 1985 which was -1.03 percent. Malaysia's highest growth rate was recorded at 9.83 percent which occurred in 1995 as a result of the transformation of the

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agricultural to industrial economy. In addition, in the same year the value of inflation was recorded at 3.5 percent while domestic investment was 43.59 percent. Financial development is seen to record a high value of 115.63 which has a positive impact on infrastructure development. Total domestic investment reached 43 percent in 1995 and increased slightly in 2000 by 25.29 percent and further decreased in 2019. Malaysia also experienced growth in the financial sector with a continuous money supply until 2015. Next, WDI (2020) reported a decline in financial development in 2019 recorded by 123.33 percent. However, the figure reveals that the financial sector in Malaysia is more developed than other countries. According to Feridun (2014), after the Asian financial crisis in 1998-1999 and the economic recession in 2008, Malaysia's GDP trend slumped in the third quarter of 2008 and negative in the first quarter of 2009. A series of experiences, Ibrahim (2010) stated the Malaysian government introduced a ringgit peg at RM3.8 to USD1.00 and implemented a strict market control policy.

Indonesia showed a positive real GDP growth rate throughout the year with the highest value recorded at 9.88 percent as was the case in 1980 (WDI, 2020). This situation is due to radical industrial changes with a focus on the production of finished goods. The WDI (2020) report on financial development recorded a high value of 53.88 percent in 2000 which had a positive impact on industrial development but after that the decline was seen in 2019. Industrial development in Indonesia was limited by the economic recession in 1997 and 2008. Moreover, WDI (2020) recorded total domestic investment as a percentage of GDP reaching 32.81 percent in 2015 and the amount increased slightly in 2010 with a record 31 percent while an increase occurred. However, in 2019 domestic investment was reported to decline slightly with a record 32.34 percent (WDI, 2020). However, the economic recession in 1997 and 2008 posed a severe threat to Indonesia which affected the collapse of the Rupiah causing Indonesia to become involved in foreign borrowing.

Furthermore, WDI (2020) recorded that Thailand's economic growth is good with a rate of 11.4 percent in 1990. Thailand's economic performance is seen to improve and be among the highest compared to Malaysia and Indonesia but still behind Singapore. This increase in performance is due to the development strategy of the agricultural sector to industrial exports. Thailand's highest GDP is due to new liberal policies that bring the trend of domestic investment in Thailand in line with Malaysia with the highest volume recorded in 1990 and 1995. This shows that domestic investment in Thailand is performing well. Mohammed et al. (2015) stated that the development of the financial sector in developing countries such as Thailand can attract more FDI inflows. Financial development was seen to improve

over the period under review and continued to increase in 1980 at a rate of 42.01 percent to 127 percent in 2015 (UNCTAD, 2016). However, Thailand is seen to be experiencing domestic changes which show that the country is more stable with the experience of the 1997 financial crisis which affected economic performance.

Thus, the experience from the financial crisis has made the ASEAN regional production network continue to be strong to support regional economic growth. Efforts from member countries have created competition in attracting FDI which has had an impact on ASEAN countries. However, Malaysia, Indonesia and Thailand are the main weapons of ASEAN member countries in attracting FDI which affects regional economic development. Clearly, ASEAN has experienced a period of sustainable economic growth. Macroeconomic stability is very helpful in the process of economic growth. ASEAN has restructured macroeconomic policies to improve economic performance. Through competitive exchange rates, effective financial development, good domestic investment, low inflation, and the implementation of open economic policies make ASEAN more competitive. However, economic stability as a result of national integration has made macroeconomic indicators a driver of FDI inflows in ASEAN. According to Rudiger and Stanely (2007), economic growth is more supported by macroeconomic variables that are overall indicators in the economic system. This is because macroeconomic indicators are important instruments in making analysis and forecasts about the direction of FDI flows to a country.

Therefore, the main question of this study is: what extent do macroeconomic indicators influence FDI inflows into ASEAN-3? This paper is organized as follows: Section one is an introduction. Section two discusses the highlights of past studies. Methodology and estimation are described in Section three. Section four is a detail in the empirical findings. Section five is a conclusion and policy recommendations.

2. LITERATURE REVIEW

In much of the empirical literature, the key issue is whether the stability of the country's macroeconomic scenario truly reflects FDI inflows. The stability of macroeconomic variables is considered to be a key factor in attracting FDI inflows. In response to the changing investment climate, empirical examination of the relationship between FDI and determinants has attracted attention in recent years. Bekhet and Al-Samadi's (2015) study in Jordan using data from 1978 to 2012 found that GDP growth, foreign exchange rates, and trade openness had a positive and significant relationship with FDI inflows. In line with the study of Boateng et al. (2015) in Norway using annual data from 1986 to 2009. Results obtained in Jordan showed an increase in GDP growth, trade openness, financial

development and domestic investment affecting the increase in FDI inflows. On the other hand, there is a negative relationship between inflation and FDI inflows in Jordan. The high inflation rate in Jordan indicates that the economy is unstable but to balance the economic situation, monetary policy needs to be used to balance economic instability.

Nevertheless, several research findings have proven macroeconomic variables as a determinant of FDI inflows into a country (Ismail, N.F. and Ismail, S., 2021; Sulong and Harjito, 2005). Guesmi and Frederic (2014) research focused on the South Asian Association for Regional Cooperation (SAARC) from 1998 to 2010. The results demonstrated that macroeconomic variables such as trade openness, growth rate, exchange rate, and economic instability had long-run effects on FDI inflows using panel data approaches. Samina (2020) also revealed that trade openness, democratic institutions, machine imports, life expectancy, high-speed telephone line subscriptions, and higher education all had a positive and statistically significant relationship with FDI inflows in South Asia. The findings of the study in South Asia illustrate that infrastructure and other macroeconomic indicators are important for host countries to attract not only FDI but also develop human capital to achieve sustainable long run economic development.

In addition, Yameogo et al. (2015) found the importance of infrastructure development and macroeconomic indicators as determinants of FDI. The study involved 5 regions of Africa covering the years 1970 to 2010. Using the Generalized Method of Moments (GMM) found that GDP growth, domestic investment, infrastructure, trade openness and inflation have a positive and significant impact on FDI inflows. Ifandi (2019) also conducted a study in Southeast Asia using annual data from years 2000 to 2016. The results of the study using Fixed Effect Model analysis showed that market size, domestic investment, human capital, and level of corruption are significant and positive effect on FDI inflows. Seyed (2013) also focused on the scope of the same study in Iran using annual data from years 1991 to 2009. The results of the estimations in Iran reveal that real GDP growth, infrastructure, and return on investment are all positively related to FDI inflows. However, the relationship between government spending and FDI inflows was negative and significant.

There are differences in the findings of Adnett (2017) study which examined the determinants of FDI inflows in E7 economic countries. The E7 economies represented by Brazil, China, Russia, India, Indonesia, Mexico and Turkey were highlighted by economists as FDI destinations with optimistic investment prospects. In this investigation, the observations of the study involved 1990 to 2015. According to the findings of E7, market size, trade openness, capital formation, and infrastructure are insignificant determinants of FDI

inflows, however the inflation rate of exchange rate are statistically significant determinants of FDI. These differences in findings indicate that the increase in GDP growth did not affect FDI inflows. Aderemi et al. (2018) also conducted a study in Nigeria on the determination of FDI inflows involving annual data from 1990 to 2017. The results obtained in Nigeria show that market size, exchange rate and economic growth rate influence FDI inflows in Nigeria. However, the Findings show that the inflation rate does not encourage the inflow of FDI into Nigeria which causes policymakers to be committed to policies that are to ensure continued expansion.

FDI is seen as a major force in domestic investment. There is a negative interaction between FDI and the technology gap in emerging countries. In addition, human capital is very important in attracting FDI inflows which have a positive impact on economic growth. One of the remarkable features of globalization is due to the factor of private capital flows in shaping FDI. The growth effect of FDI is influenced by other factors in the host country (Ayub, 2019). In addition, FDI has the potential to promote the growth of the host economy. Overall, FDI is seen as an interaction with foreign countries and a key element of a country's industrial development. Thus, there is a complementary relationship between FDI and macroeconomic variables. Moreover, FDI not only enhances economic growth, but also indirectly has a positive interaction effect on employment. However, some of the findings of previous studies do not provide clear conclusions on the liberalization of FDI inflows leading to economic improvement in developed and developing countries.

3. DATA AND ECONOMETRIC FRAMEWORK

The selection of variables for the model macroeconomic scenarios reflect the FDI inflows was specifically based on macroeconomic variables that are important on ASEAN-3 economics stability. The regression equation introduced in the study based on previous study of Ndubuidi (2017), Ullah Khan (2017) and Aftab and Naem (2017) are as follows:

$$FDI = f(GDP, FD, DI, GC, IN) \quad (1.1)$$

where;

FDI = FDI inflows

GDP = real economic growth rate

FD = financial development

DI = domestic investment

GC = government consumption

IN = percentage of the annual inflation rate against the consumer price index

where is annual FDI inflows (percent of GDP), GDP is the real economic growth rate. FD refers to the value of the M2 money supply to GDP which represents financial development. DI represents gross fixed capital formation percent of GDP as domestic investment and

GC represent general government final consumption expenditure percent of GDP and IN is a percentage in the consumer price index representing the rate of inflation. The log-linear form (L) of each variable in the above equation is shown as follows:

$$LFDI_t = \alpha_0 + \beta_1 LGDP_t + \beta_2 LFD_t + \beta_3 LDI_t + \beta_4 LGC_t + \beta_5 LIN_t + \varepsilon_t \quad (1.2)$$

For consistent and efficient results, financial development, domestic investment and export were transformed into natural logarithms (L) in order to produce elasticities outcomes as well as to reduce heteroscedasticity problem (Bekhet and Matar, 2013). In equation (1.2), the symbol ε represents the error and t represents the study time. The expected signs for $\beta_1, \beta_2, \beta_3$ and β_4 are positive meanwhile β_5 are negative. The next test was the ARDL test introduced by Pesaran et al. (2001). The ARDL test has an advantage over previous analysis because it is able to correct the serial correlations (Pesaran and Shin, 1999). The ARDL test adopted in this study is based on the following equations:

$$\begin{aligned} \Delta LFDI_t = & \beta_0 + \vartheta_0 LFDI_{t-1} + \vartheta_1 LGDP_{t-1} + \\ & \vartheta_2 LFD_{t-1} + \vartheta_3 LDI_{t-1} + \vartheta_4 LGC_{t-1} + \vartheta_5 LIN_{t-1} + \\ & \sum_{i=1}^p \beta_i \Delta LFDI_{t-i} + \sum_{i=0}^q \gamma_i \Delta LGDP + \\ & \sum_{i=1}^r \vartheta_i \Delta LFD_{t-i} + \sum_{i=1}^s \varphi_i \Delta LDI_{t-i} + \\ & \sum_{i=1}^t \psi_i \Delta LGC_{t-i} + \sum_{i=1}^t \eta_i \Delta LIN_{t-i} + v_t \end{aligned} \quad (1.3)$$

where Δ is the first degree of differentiation and (μ_t) is the residual term in the time period t. Level of lag selection in ARDL model estimation. To determine the estimation of the ARDL model, F-statistical test was adopted and the values were compared with the critical values by Pesaran et al. (2001). If the value of F- statistic are below the critical bound level, the null hypothesis cannot be rejected; if the value of F-statistic exceeds critical bound level, the null hypothesis is rejected, which indicated the existence of cointegration. However,

Table 1. Descriptive Statistics

Malaysia	FDI	GDP	FD	DI	IN	GC
Mean	4.855	14.16	119.5	28.46	2.909	1.790
Maximum	9.760	18.36	140.7	43.58	9.700	4.510
Minimum	1.056	1.000	64.37	20.57	0.290	4.050
Std. Dev	1.822	3.502	18.89	6.922	1.901	1.450
Observation	40	40	40	40	40	40
Indonesia	FDI	GDP	FD	DI	IN	GC
Mean	4.490	19.27	39.33	26.77	9.344	3.340
Maximum	6.322	24.00	59.86	32.81	58.45	9.860
Minimum	1.000	1.000	17.10	19.42	3.030	5.430
Std. Dev	1.146	3.404	10.89	4.413	8.809	3.260
Observation	40	40	40	40	40	40
Thailand	FDI	GDP	FD	DI	IN	GC
Mean	3.249	12.84	94.62	28.32	5.604	2.940

if the value of F-statistic between critical bound level, the result is inconclusive. The error correction model (ECM) is developed with reference to the short run estimation on the following equations:

$$\begin{aligned} \Delta LFDI_t = & \beta_0 + \sigma ECT_{t-1} + \sum_{i=1}^p \beta_i \Delta LFDI_{t-1} + \\ & \sum_{i=0}^q \delta_i \Delta LGDP_{t-1} + \sum_{i=0}^r \gamma_i \Delta LFD_{t-1} + \\ & \sum_{i=0}^s \omega_i LDI_{t-1} + \sum_{i=0}^t \vartheta_i LGC_{t-1} + \sum_{i=0}^t \eta_i LIN_{t-1} + v_t \end{aligned} \quad (1.4)$$

where σ represents the ECT meanwhile the ECT_{t-1} is an equilibrium that indicates the level of variable speed against equilibrium that is expected to have a negative value and (v_t) represents the long run model referring to equation (1.3). Furthermore, the last step of research analysis is stability test. The stability test uses to examine the robustness checks for getting a constancy of parameter in the model.

In the following sections, this study is encouraged to elaborate on the analytical data collection and selection of the macroeconomic indicators selected in this study. The time series data used are from 1980 to 2019. Data collection began in 1980 because in that year, data for all three countries were fully recorded. The selected study period covers a number of emerging challenges involving current developments affecting FDI inflows and economic growth in ASEAN-3. Thus, other data such as economic growth, financial development, domestic investment, government consumption and inflation are collected from the World Bank and World Development Indicators.

4. RESEARCH EMPIRICAL ANALYSIS

4.1. Descriptive Statistics

Table 1 provides information for the descriptive statistics of research variables in ASEAN-3 for 40 years.

Maximum	7.434	21.02	127.7	41.65	21.60	8.810
Minimum	1.419	0.100	42.01	20.41	1.000	3.980
Std. Dev	1.435	3.827	26.21	6.432	3.667	2.600
Observation	40	40	40	40	40	40

Source: Secondary data (2021)

Each variable has an equivalent mean value, standard deviation, minimum and maximum values. The results showed that the highest average value of FDI inflows was in Malaysia at 4.855, followed by Indonesia at 4.490 and Thailand at 3.249. It shows ASEAN-3 benefits from FDI because the minimum value earned is high. Next, the minimum values indicate the normal distribution of data for each variable is relatively close for each country. The minimum and maximum values indicate that there is an overall upward trend in the variable.

Financial development in Thailand recorded the highest average value of 44.62 while Malaysia and Indonesia recorded values of 119.5 and 39.33. The value recorded by domestic investment showed an equivalent value of 28.46 recorded in Malaysia, 26.77 in Indonesia, and 28.32 in Thailand. Government expenditure, on the other hand, showed an equivalent value for ASEAN-3 with an average value recorded between 1.790 to 5.604. The highest average value of inflation was recorded

in Indonesia at 9.344 while Thailand and Malaysia recorded an average value of 5.604 and 2.909.

4.2. Unit Root Tests

As the basis of cointegration analysis, unit root test is necessary. In this study, 2 forms of unit root test were highlighted, namely ADF and PP test to examine the data is stationary on I(1) or I(0) or both. The results of the study through Table 2 show that the null hypothesis is rejected at stage I(1) and to all variables for the three stationary states at stage I(1). The results of ADF unit root test and PP explained that FDI inflow, Gross Domestic Product per capita, financial development and inflation became stationary at level in Malaysia and Thailand for 1 percent and 5 percent, meanwhile GDP, and inflation in Indonesia became stationary at level for 1 percent and 5 percent. The results of ADF and PP unit root test explained that all variable became stationary at 1st difference. Their

Table 2. Unit Root Test

Countries	Augmented Dickey-Fuller (ADF)					Phillips-Perron (PP)			
	Variables	Level I(0)		1st Difference I(1)		Level I(0)		1st Difference I(1)	
		Intercept	Intercept & Trend	Intercept	Intercept & Trend	Intercept	Intercept & Trend	Intercept	Intercept & Trend
Malaysia	LFDIt	-4.04(0)A	-4.11(0)B	-6.45(1)A	-6.36(1)A	-4.05A	-4.12B	-9.92A	-9.76A
	LGDRt	-6.07(0)A	-6.01(0)A	-7.82(1)A	-7.70(1)A	-6.07A	-6.01A	-25.8A	-25.8A
	LFDt	-3.19(0)B	-3.75(1)B	-5.90(1)A	-5.88(1)A	-3.24B	-3.48C	-7.07A	-7.06A
	LDIt	-1.49(0)	-2.64(1)	-4.66(0)A	-4.59(0)A	-1.496	-2.196	-4.62A	-4.54A
	LGct	-0.32(0)	-1.92(0)	-5.09(0)A	-5.02(0)A	-0.322	-2.089	-5.11A	-5.04A
	LINt	-3.89(0)A	-3.94(0)C	-4.87(1)A	-4.77(1)A	-3.80A	-3.87C	-9.14A	-9.01A
Indonesia	LFDIt	-2.45(0)	-2.61(0)	-5.70(0)A	-5.63(0)A	-2.606	-2.775	-5.69A	-5.61A
	LGDPt	-5.59(0)A	-5.52(0)A	-9.45(0)A	-9.32(0)A	-5.58A	-5.50A	-30.1A	-32.0A
	LFDt	-2.56(1)	-1.89(1)	-3.28(0)C	-3.96(0)C	-2.75C	-1.672	-3.22C	-3.91C
	LDIt	-1.81(1)	-1.99(1)	-4.52(0)A	-4.46(0)A	-1.672	-1.839	-4.52A	-4.46A
	LGct	-0.23(0)	-1.86(0)	-6.11(0)A	-6.14(0)A	-0.176	-1.853	-6.12A	-3.19A
	LINt	-4.13(0)A	-4.83(0)A	-9.36(1)A	-9.26(1)A	-4.09A	-4.81A	-15.2A	-16.9A
Thailand	LFDIt	-3.33(0)B	-3.38(0)C	-9.26(0)A	-9.24(0)A	-3.30B	-3.41B	-9.89A	-11.9A
	LGDPt	-4.98(0)A	-4.98(0)A	-8.98(0)A	-8.85(0)A	-4.98A	-4.98A	-23.6A	-23.4A
	LFDt	-3.38(0)C	-1.87(0)	-4.36(0)A	-5.18(0)A	-3.38B	-1.895	-4.41A	-5.19A
	LDIt	-2.31(1)	-2.88(1)	-4.28(1)A	-3.81(0)B	-1.301	-1.786	-3.52B	-3.46C
	LGct	-0.44(1)	-4.78(3)A	-3.67(0)A	-3.62(0)B	-0.493	-2.308	-3.70A	-3.65B
	LINt	-4.24(0)A	-4.94(0)A	-9.40(0)A	-9.32(0)A	-4.20A	-4.92A	-10.2A	-9.66A

Notes: A, B and C are significant levels at 1 percent, 5 percent and 10 percent.

Source: Secondary data (2021)

significance level is 1 percent. The ADF unit root test suggests checking the long run association of this study using Auto Regressive Distributed Lag (ARDL) model.

4.3. ARDL Bound Test

The next step is to analyzed long run relationships in the model. In this study, the ARDL test was adopted because this approach is synonymous with the analysis of short time series data as emphasized by Pesaran

et al. (2001). Through Table 3, shows the results give an absolute solution because the estimated value of statistic-f is more than the critical value of the upper bound I(1). This can be reported when the results show that the f-statistical value in Malaysia (8.354), Indonesia (4.486) and Thailand (14.485) is greater than the critical value of the upper bound I(1) at a significant level of 1 percent. Thus, it is confirmed that the model has a long run relationship between the variables.

Table 3. ARDL Bound Test

Country	Model	F-Statistic	Hypotesis Null
Malaysia	(2, 1, 1, 1, 0, 0)	8.354***	Reject
Indonesia	(1, 2, 0, 0, 2, 0)	4.486**	Reject
Thailand	(1, 1, 2, 0, 0, 2)	14.485***	Reject
Critical Value	I(0)	I(1)	
1 Percent	2.26	3.35	
5 Percent	2.96	4.18	
10 Percent	3.41	4.68	

Note: 1. * and ** are significant at the rates of one percent and five percent. 2. F-bound critical value based on Pesaran (2001) critical value table. 3. Refer to case III with the value of the independent variable (k) = 5

Source: Secondary data (2021)

4.4. ARDL Estimation Results

To measure the level of long run and short run relationship between variables, the ARDL-ECM version cointegration test was adopted and full results were reported through Table 4. Thus, Table 4 reports a summary of study findings for each ASEAN-3 country showing some variables to be puller in FDI inflows empirically.

Table 4 shows the results of the ARDL model based on long -run and short -run coefficients. The results show that there is a significant relationship with the interpretation of a 1 percent increase in economic growth resulting in an increase in FDI inflows of 0.41 percent in Malaysia, 0.72 in Indonesia, and 3.77 in Thailand. This clearly proves that economic growth is one of the important determinants in explaining FDI

Table 4. Long run and short run coefficients based ARDL models

Country	Long-run			Short-run		
	FDI (DV)	Coefficient	P-Value	FDI (DV)	Coefficient	P-Value
Malaysia (2, 1, 1, 1 0, 0)	LGDp _t	0.4172*	0.067	ΔLGDp _t	6.3238	0.033
	LFD _t	-1.000***	0.010	ΔLFD _t	-0.480	0.224
	LDI _t	0.4053*	0.088	ΔLDI _t	-0.331	0.611
	LGc _t	-0.170	0.304	ΔLGc _t	-0.235	0.320
	LIN _t	0.1520**	0.012	ΔLIN _t	0.2103	0.013
				ECT _{t-1}	-1.382	0.000
				R-sq _{ure}	0.7845	
Indonesia (1, 2, 0, 0, 2, 0)	LGDp _t	0.7210*	0.055	ΔLGDp _t	1.4168	0.026
	LFD _t	-0.036	0.889	ΔLFD _t	-0.021	0.887
	LDI _t	1.0195***	0.003	ΔLDI _t	0.5969	0.001
	LGc _t	0.6060***	0.006	ΔLGc _t	0.6314	0.000
	LIN _t	0.0894	0.182	ΔLIN _t	0.0523	0.129
				ECT _{t-1}	-0.585	0.001
				R-sq _{ure}	0.9335	

Thailand (1, 1, 2, 0, 0, 2)	LGDPt	3.7736***	0.000	Δ LGDPt	9.7134	0.000
	LFDt	-0.772	0.337	Δ LFDt	3.2166	0.021
	LDIt	-1.408***	0.000	Δ LDIt	-1.651	0.000
	LGcT	-1.583***	0.000	Δ LGcT	-1.856	0.000
	LINt	0.490***	0.001	Δ LINt	0.2025	0.056
		ECTt-1	-1.172	0.000		
		R-square	0.7647			

Note: DV is a dependent variable. ***, ** and * are significant levels at 1, 5 and 10 percent.

Source: Secondary data (2021)

inflows is in line with Elfakhani and Mackie (2015). Financial development is a driver of significant FDI inflows in Malaysia contrast to Pokou (2020). The negative relationship was shown by Malaysia which revealed that unstable financial development resulted in less confidence of foreign investors to invest similar to the findings of Nwosa et al. (2011). However, the results of studies in Indonesia and Thailand show that financial development does not affect FDI inflows similar to the findings of Fauzel (2016). Therefore, Indonesia and Thailand need stable financial development so that FDI inflows can be increased.

Caves (1996) sees domestic investment as beneficial to a country in influencing FDI inflows. However, the findings in Thailand show that domestic investment and FDI inflows have a significant but negative relationship similar to Durani, F. et al. (2021). On the other hand, domestic investment in Malaysia and Indonesia showed a positive and significant relationship. This shows that the investment promotion of domestic firms is seen to be able to stimulate FDI more efficiently in Malaysia and Indonesia. Government spending promotes economic growth with increased productivity that can attract FDI inflows such as the findings obtained in Indonesia. Government spending is seen to help in providing facilities to foreign investors which results in positive FDI inflows in Indonesia similar to Zenegnaw (2010). However, excessive government spending can lead to high deficit and debt problems. Results in Thailand show a negative relationship that led to a decrease in FDI inflows. However, government spending is not significant in attracting FDI inflows into Malaysia.

Kodongo (2011) states that instability of inflation

Table 5: Diagnostic Test

Country/Test Statistic	Malaysia	Indonesia	Thailand	Outcome
Autocorrelation	0.3387	0.7375	0.1563	No autocorrelation
Heteroscedasticity	0.2025	0.4188	0.1579	Errors are homoscedastic
Normality	0.2949	0.2427	0.5486	Errors are normally distributed

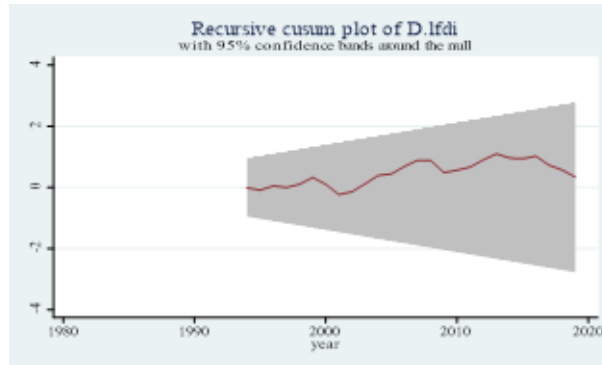
Source: Secondary data (2021)

causes long-run and short-run investment uncertainty. Thus, the relationship between inflation and FDI inflows in Malaysia and Thailand shows a positive and significant relationship with FDI inflows with a small fraction of the value of inflation. However, there are different findings in Indonesia with previous researchers where the influence of FDI is in a small amount. However, Ayaya's (2017) view supports the results of a study in Indonesia where there is a negative and insignificant relationship between FDI and inflation. This is because the balance of the inflationary environment affects all aspects of the economy. The dynamic estimation of short-run coefficients is explained based on the estimation of error correction coefficients (ECM). It aims to make an estimate of the equilibrium speed of a dependent variable after changes in other variables have occurred. The ECM showed significant results at the 1 percent significance level in the three countries studied. This indicates that there is a short-run equilibrium adjustment that is adjusted in the long-run.

Therefore, the stability of macroeconomic indicators is one of the important aspects in measuring the economic development of a country. In conclusion, the superiority of evidence on the impact of macroeconomics on FDI inflows supports the hypothesis that macroeconomic factors play a role in attracting FDI inflows. These implications help promote a dynamic competitive advantage in the host country and at the same time contribute to the increase in FDI flows in the ASEAN-3 countries.

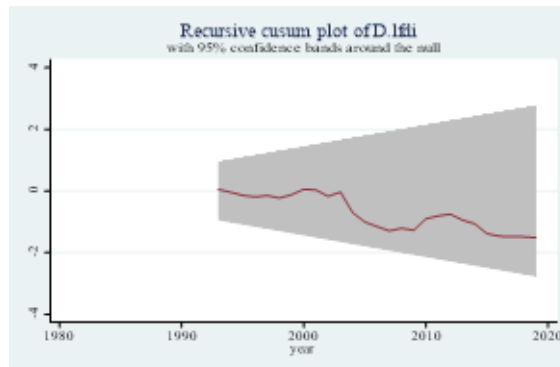
4.5. Diagnostic Test

Table 5 show that the diagnostic tests such as autocorrelation, heteroscedasticity, normality, and



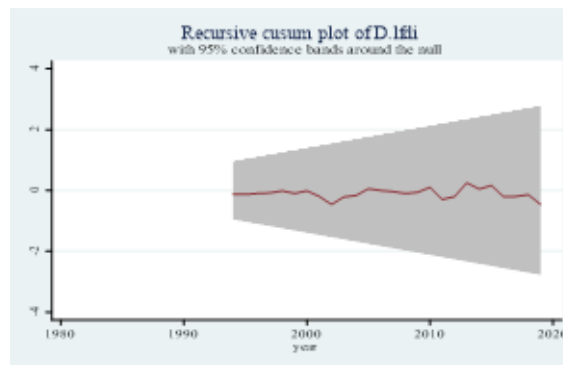
Picture 1 : Malaysia

Source : Research Findings (2021)



Picture 2 : Indonesia

Source : Research Finding (2021)



Picture 3: Thailand

Source : Research Findings (2021)

equilibrium of CUSUM diagrams have been highlighted through this study. In general, the result show that the model did not experience any diagnostic problems as reported because no probability value obtained was smaller than the critical value at the 5 percent level.

In general, ASEAN-3 countries did not experience any diagnostic problems and the CUSUMS diagrams are stable at 95 percent confidence interval and also did not provide any situation beyond the equilibrium boundary of the estimation. With this it can be concluded that, the estimation of the ARDL model with the lag selection meet the basic requirements of the econometric model.

5. CONCLUSION

FDI is one of the issues that is often focused by a country through economic transformation such as

in Malaysia, Indonesia and Thailand. The stability of macroeconomic indicators is seen to play an important role in attracting FDI flows to ASEAN-3. ASEAN-3 is experiencing an investment boom with its regional economies growing rapidly. ASEAN is also an investment destination for multinational companies (MNCs) that are attracted to countries with a young workforce and good technological skills. According to UNCTAD (2019), FDI inflows into ASEAN reached its highest level with a record US149 billion. The attractiveness of ASEAN as an investment destination is driven by strong macroeconomic growth as well as a robust legal framework. In addition, the fast-growing digital generation also helps in facilitating technology focused investments.

6. RECOMMENDATIONS

This situation is helping ASEAN to develop into a dynamic economy. With its unique culture, customs and language makes ASEAN a complex union in its own way. Therefore, ASEAN-3 is a member country that is of concern to investors with the characteristics of a dynamic business environment. Therefore, inter-sectoral dynamics are crucial for balanced regional economic development in the emergence of new markets. Developing countries such as ASEAN-3 need foreign capital to improve infrastructure and external debt financing in ensuring rapid economic growth. ASEAN-3 member countries are seen to offer attractive incentives to foreign investors such as reducing barriers to international trade, liberalizing the financial system by reducing taxes and raising interest rates. This situation can attract foreign investors by providing good opportunities.

Acknowledgement

The authors would like to thank to the respective of postgraduate of lecturer at Faculty of Business & Management FEM, Universiti Sultan Zainal Abidin (UniSZA), Kuala Nerus, Terengganu, Malaysia. This study is part of UniSZA PhD Thesis to fulfill the requirement of PhD in Economics requirements.

Funding

No funding was received to carry out this study.

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