Impact of Real Exchange Rate on Foreign Direct Investment in Four Emerging Markets of Southeast Asia

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ABSTRACT

This study investigates the impact of real exchange rates (RER) on the inward foreign direct investment (FDI) in four Southeast Asian developing countries, namely, Indonesia, Malaysia, Philippines, and Thailand (the ASEAN-4). Using annual data over the period of 1970-2017, this study employed the Autoregressive Distributed Lag (ARDL) framework to test for the existence of a long-run co-integration relationship between adjusted FDI (AFDI) and RER, and applied the Granger Causality test to identify the direction(s) of causation between the two variables. Results from this study reveal a long-run association between AFDI and RER for all of the four ASEAN economies. With regard to the impact of RER on AFDI, a short-run unidirectional causality is found in Indonesia, the Philippines, and Thailand. However, the long-run effect of RER on AFDI is evident only in Thailand.

Keywords: Real exchange rate; Foreign direct investment; ASEAN emerging markets.

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1. INTRODUCTION

Foreign direct investment (FDI) is long-term foreign investment made by multinational corporations (MNEs) who are economically and physically outside the host countries' boundaries (Muema, 2013). A definition suggested by Goldberg (2006, 1) for FDI is: "*an international flow of capital that provides a parent company or multinational organization with control over foreign affiliate*". According to Sjoholm (2010), FDI creates economic benefits because: FDI substitutes for domestic savings to increase consumption; FDI transfers to the host countries various important technologies controlled by MNEs, and; FDI increases the host countries' exports, output, and incomes due to the investments made by MNEs in these countries.

Exchange rate is one of the determinants of FDI (Gunes and Cambazoglu, 2016). Goldberg (2006) defined exchange rates as "*the domestic currency price of a foreign currency*". Malik and Malik (2013) found that core macroeconomic variables (including exchange rates) have significant effects on FDI inflows. Exchange rates were found to influence FDI in the sense that a depreciation of the host country's currency affects FDI in two ways. First, it reduces the host country's wages and production costs, thereby increasing the profits made by foreign investors in that country. Second, it raises the foreign investors' relative wealth and thus their acquisition of assets in the host country. The first argument is called the relative wage channel, while the second is known as the relative wealth channel. Based on these two arguments, it is

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imperative to test for the possible impacts of exchange rate movements on FDI, specifically the inward FDI to the host countries.

There were several studies exploring the relationship between exchange rate and FDI (e.g., Dahir, *et al*., 2017; Gunes and Cambazoglu, 2016; Bilawal, *et al*., 2014; Kabura, 2014; Jin and Zang, 2013; Mariel and Pankova, 2010; Dhakal, *et al*., 2010; Phillips and Ahmadi-Esfani, 2008; Chen, *et al*., 2006). However, there was no consensus among them on the nature of such a relationship from their theoretical or empirical works (Phillips and Ahmadi-Esfahani, 2008). Shankar (2008) suggested in an official document at the OECD Global Forum on International Investment that identifying the determinants of FDI was indeed difficult. In her study, Shankar considered the uniqueness of the US dollar (USD) in international finance as a basis for FDI, which is in line with the idea of the East Asian dollar standard advocated by McKinnon (2005) who identified the USD as the monetary anchor to which East Asin countries (including Indonesia, Malaysia, the Philippines, and Thailand) has informally pegged their currencies and made the area an USD-zone (Dong-lin, 2012). Further, Shankar (2008) documented that past studies were conducted to investigate how the relationship between the USD and the developing countries' (encompassing emerging markets) currencies affected investments after the introduction of Euro and the idea of an Asian Monetary Unit. However, none of these studies were focused on the Southeast Asian emerging markets.

According to the report of Leading Edge Alliance (n.d., 2), "*no region on Earth is more defined by the trend of emerging economic markets than Asia*". This was corroborated by a report from Bloomberg Market Magazine (2013) suggesting that Asian Nations dominated the list of top twenty emerging markets in the world. That list was compiled based on forecasted data from Bloomberg, IMF, and World Bank using macroeconomic indicators including GDP growth, inflation rate, government debt, and investor concerns such as the ease of doing business, the perceived level of corruption, and economic freedom.

Since the Asian financial crisis of 1997 affected the ASEAN economies by initiating capital outflows and even capital flight, it is important to investigate how the relationship between foreign exchange rates and FDI affected these economies, particularly the ASEAN-4 emerging markets that is a heterogeneous group of countries, after the crisis. The ASEAN-4 emerging markets as classified by MSCI's (2018) Annual Market Classification Review include: Indonesia (ranked the 10th), Malaysia (ranked the 6th), the Philippines (ranked the 20th), and Thailand (ranked the 3rd). The ranking was based on the top twenty emerging markets complied by Bloomberg. Some argued that a factor leading to the Asian financial crisis was the inflexibility of the exchange rates of the Asian economies' currencies (e.g., Chung and Eichengreen, 2007). This kind of argument warranted a further study to examine how the flexibility of the ASEAN-4 exchange rates is linked to FDI.

2. OBJECTIVES

This study investigated the impact of real exchange rates on the inward foreign direct investment in four emerging markets in Southeast Asia (i.e., the ASEAN-4 including Indonesia, Malaysia, the Philippines, and Thailand). Since the movements of the US Dollar (USD) value are expected to create financial spillovers in emerging markets, this study is focused on the possible impacts of the USD on the inward FDI of the ASEAN-4. Specifically, the objectives of this study are:

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- To test for serial correlation, functional form misspecification, and non-normality of the variables measuring the real exchange rates (RER) and the FDI inflows of the ASEAN-4.
- To test for the long-run co-integration relationship between RER and FDI inflows under the Autoregressive Distributed Lag (ARDL) framework.
- To examine the causal relationship between RER and FDI inflows using the Granger Causality Test within the Error Correction Model (ECM).

3.0 THEORETICAL BACKGROUND

3.1 Theoretical Framework

According to Phillips and Ahmadi-Esfahani (2008), several theories about the FDI – Exchange Rate linkage are enumerated as follows:

- The imperfect capital markets theory argues that exchange rates affect FDI through the wealth effect, which gives rise to the relative wealth channel.
- The theory of FDI acquisition postulates that currency movements affect relative asset valuation. Thus, a depreciation of the host's currency increases inward FDI.
- The real option approach considers that a firm can have an option to invest abroad, and the expected returns to this option is potentially influenced by exchange rate uncertainties.
- The risk aversion model assumes that exchange rate risks arise due to the differences in timing between investment and profits. Therefore, firms invest abroad if the expected returns equal the sum of investment costs and the compensation for risk-taking caused by exchange rate volatilities.

From the past literature, the impact of exchange rates on FDI is ambiguous across these theories. This ambiguity at the theoretical level suggests that there is a need for empirical research to confirm the empirical relationship between exchange rates and FDI, particularly in the case of the ASEAN-4 economies.

3.2 Literature Review

There were several theories on the FDI-exchange rate linkage and several studies attempted to identify such a theoretical linkage. Froot and Stein (1991, in Phillips and Ahmadi-Esfahani, 2008) used an imperfect market approach to make a prediction that a depreciation of the host country's currency has a positive effect on inbound FDI. This theory, however, was challenged by the work of Jin and Zang (2013), who found that for market oriented FDI, production and sales are both undertaken in the host country, and thus an appreciation of the host country's currency increases the profits and consequently the wealth of foreign investors. Mariel and Pankova (2010) focused on acquisition FDI and based their study on the belief that MNEs can acquire the host country's assets and technologies at low prices when the host country has a weak currency. Dixit and Pindyk (1994, in Phillips and Ahmadi-Esfahani, 2008) considered the real option approach to investing abroad and argued that the exchange rate uncertainties increase the value of holding onto the option of not making any foreign investment. The work of Chen *et al.* (2006) used the same approach and showed that given the irreversibility of investment, the uncertainties of exchange rates have a negative impact on outward FDI for both

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market-oriented or cost-oriented firms. It is assumed that investors are generally risk averse. The empirical work of Goldberg and Kolstad (1995, in Dhakal *et al*., 2010) showed that exchange rate volatility and the share of FDI in a firm's total investment are positively related, which implies that investors are risk averse. In addition, a study by Lee and Min (2011) discovered that the response of FDI to exchange rate volatility is robust, but the same response becomes *mixed* when the level of exchange rate is taken into consideration. This mixed finding is consistent with the real option-based theory of FDI. More recently, researchers examined the relationship between exchange rates and FDI with the use of correlation and regression analysis. The work of Bilawal *et al*. (2014), Kabura (2014), and Zakari (2017) found a positive and significant relationship between exchange rate changes and FDI.

Other recent studies used the Autoregressive Distributed Lag (ARDL) framework as presented in the foregoing discussions. In a study by Wang (2012), the standard deviation of monthly exchange rate changes was used to analyze the exchange rate volatility and its effect upon foreign direct investment by applying the Autoregressive Distributed Lag (ARDL) approach and the Co-integration and Error Correction Model. The author found that a negative long-run relationship existed in India and Russia for the variables exchange rate volatility and foreign direct investment. In addition, a short-run association between the variables was found in China, India, and Russia. Lily, *et al*. (2014) studied the exchange rate movements and FDI in ASEAN economies employing ARDL bounds testing and obtained a significant long-run co-integration between the aforesaid variables for the case of Singapore, Malaysia, and the Philippines, with all countries recording a negative coefficient implying that the appreciation of Singapore dollar, Malaysian ringgit, and the Philippine peso has a positive impact on FDI inflows. Another study that applied ARDL in exploring the link between exchange rate and FDI is the work by Gunes and Cambazoglu (2016) in Turkey. The empirical results of this paper indicated the existence of a co-integration relationship between the variables. A recent study by Dahir *et al*. (2017) revealed a long-run co-integration relationship between exchange rate and FDI in South Africa with the application of the ARDL approach resulting in an implication that FDI is stimulated by real exchange rates in the long-term. Further, their work also uncovered a significant Granger unidirectional causality running from FDI to exchange rates in both the short-run and the long-run.

4. METHODS

According to Lily *et al*. (2014), apart from being a dynamic region in the world, the ASEAN economies are interrelated among themselves. A paper published by the Leading Edge Alliance (n.d., 3) stated that "*the ASEAN region continues to see growth in FDI particularly in the five largest ASEAN countries, often referred to as the ASEAN-5*" The countries comprising the ASEAN-5 are: Indonesia, Malaysia, Philippines, Singapore, and Thailand. Singapore is not included in this study because it is categorized as a developed economy by MSCI. Thus, the term ASEAN-4 is used to represent the largest four emerging economies in Southeast Asia.

An annual dataset over the period 1970-2017 was taken from the World Development Indicators including the following variables: Official exchange rate (LCU per US$, period average), Wholesale price index (2010 = 100) in the USA, Consumer price index (2010 = 100), and GDP (constant 2010 US$). In addition, data on Inward Foreign Direct Investment (US$ at current prices) over the same period were taken from the database of the United Nations

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Conference on Trade and Development (UNCTAD). An IMF study by Druck *et al*. (2015) provided a clue on how to divide the sample period into two parts, with one part covering those years in which USD appreciates, and the other part covering those years in which USD depreciates. Table 1 shows the two parts of the dataset.

Table 1. Increase and Decrease in the value of the US Dollar

Appreciating USD		**Depreciating USD**	
Covered Period	**No. of Years**	**Covered Period**	**No. of Years**
1979 – 1985	7	1970 – 1978	9
1993 – 2001	9	1986 -1992	7
2012 – 2016	5	2002 - 2011	10
		2017*	1

*Source: Druck, Magud,, and Mariscal, 2015, * Verma in Bloomberg, 2017*

According to Hernandez and Montiel (2003), majority of the East Asian countries have a certain degree of foreign exchange flexibility against the USD in general. Since the ASEAN-4 is a part of the East Asian region, insights will be created by examining the behavior of FDI flows in response to foreign exchange rate changes during the periods of an appreciating USD and the periods of a depreciating USD separately. According to an IMF report (2015), both the appreciation and depreciation periods have an average length of about 8 years, where the average annual rate of appreciation is 3.4% and the average annual rate of depreciation is 3.7%.

4.1 Model Estimation

The ratio of the domestic currency value to the foreign currency value (i.e., USD) is called the nominal exchange rate (NER). When the NER of the domestic currency against the USD is multiplied by the ratio of the price levels in the USA (P_{us}) to the price levels in the domestic markets (P_d), the resulting figure is called the real exchange rate (RER). The Wholesale Price Index (WPI) of the USA represents the U.S. price levels, while the Consumer Price Index (CPI) represents the domestic price levels. The formula for calculating RER is presented as follows:

$$RER = NER \times P_{us} / P_d = NER \times WPI/CPI$$

Data on inward FDI were taken from the UNCTAD World Investment Report in current US dollar price. Inward FDI is divided by the constant price Gross Domestic Product with 2010 as the base year (GDP_{2010}) to control for country size (Albuquerque *et al*., 2005 in Lily *et al.* 2014). The resulting figure is called Adjusted FDI (AFDI) which is presented as follows:

$$AFDI = \frac{FDI_{current\ Price}}{GDP_{2010}}$$

The following relationship is developed for this study:

$$AFDI = \alpha_0 + \alpha_1 RER + \varepsilon$$

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where: the independent variable is RER and the dependent variable is inward AFDI, α_0 and α_1, are coefficients, and ε is the error term. The natural logarithm of the adjusted values of the foreign direct investment inflows and the real exchange rate were not used in this study because the natural log of some of the values of FDI are undefined (some inward FDI values for the Philippines and Indonesia were negative indicating "divestments" in some periods).

4.2 Analysis of Data

The long-run relationship between real exchange rates and inward foreign direct investment were empirically examined by co-integration analysis employing the Autoregressive Distributed Lag (ARDL) bounds testing approach. The null hypothesis to be verified by ARDL is stated as follows: "For the period 1970 – 2017 during the USD appreciation and depreciation phases, there is no long–run relationship exists between RER and AFDI in the ASEAN-4 countries". The study used the F–statistics of ARDL that were calculated by applying the Wald Coefficient restrictions and were compared with the critical values (Pesaran, *et al*., 2001) at the 1%, 5%, and 10% levels of significance. If the value of the F-statistics is larger than the upper bound as reported by EViews, the null hypothesis is not supported. In the same vein, if the F-statistics is smaller than the lower bound as reported by EViews, the null hypothesis is supported. If the F-statistics is between the upper and lower bounds, the result regarding the null hypothesis is inconclusive.

Finally, the Granger Causality Test was used to capture the direction of causality between RER and AFDI in both the short run and the long run. According to Engle and Granger (1987), the causality between the aforementioned variables must be verified once their co-integration relationship is established. Specifically, a Granger causality running from RER to AFDI was a main theme of the analysis aiming to determine the impact of the former on the latter, while a reverse causality, if any, is also examined for comparison purposes.

5. EMPIRICAL RESULTS

This study employed the Autoregressive Distributed Lag (ARDL) framework and the Error Correction Model (ECM). Applying these statistical tests necessitates an optimum lag length that was determined by the Akaike Information Criterion (AIC). An optimum lag length turned out to be four based on AIC. Using this optimal lag length, the data were checked if they exhibit autocorrelation, functional form misspecification, and non-normality. The Breusch-Godfrey Serial Correlation LM test was used for autocorrelation analysis, the Ramsey Reset Test for functional form misspecification assessment, and the Jarque-Bera Test for Non-Normality inspection. Applying the three different tests on the available data at the 5% level of significance, it was found that the data do not display any econometric issues of autocorrelation (> 0.05), non-normal distribution (> 0.05), and functional form misspecification (> 0.05). The results are reported in Table 2.

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Table 2. Econometric Problems of the Data at the Optimal Lag Length

Problems/ASEAN Economy	**1970 – 2017**	**Appreciation Phase**	**Depreciation Phase**
Autocorrelation			
Indonesia	0.723 (0.401)	0.800 (0.406)	0.152 (0.704)
Malaysia	1.866 (0.181)	3.449 (0.113)	0.249 (0.626)
Philippines	0.052 (0.965)	0.800 (0.406)	0.458 (0.512)
Thailand	0.065 (0.800)	0.215 (0.659)	0.571 (0.465)
Functional Form Misspecification			
Indonesia	0.703 (0.487)	0.334 (0.750)	1.356 (0.200)
Malaysia	1.673 (0.104)	0.051 (0.969)	1.341 (0.205)
Philippines	1.432 (0.162)	0.502 (0.633)	2.158 (0.052)
Thailand	2.776 (0.009)	2.011 (0.091)	0.681 (0.509)
Non-normal Distribution			
Indonesia	708.5 (1.000)	32.850 (0.000)	2.249 (0.325)
Malaysia	2.102 (0.350)	0.474 (0.789)	2.149 (0.342)
Philippines	7.122 (0.028)	2.002 (0.367)	29.65 (0.000)
Thailand	3.912 (0.141)	1.033 (0.596)	0.112 (0.946)

Source: Author's Computations, 2018

It is a routine to conduct an unit root test before assessing the co-integration between the variables because the Autoregressive Distributive Lag (ARDL) framework requires that the variables are stationary at the level I(0) or at the first difference I(1), or at least a mixture of I(0) and I(1). This study used the Augmented Dickey Fuller (ADF) test to check the presence of unit root in the data. The t-statistics for the constant (intercept) and the linear trend (intercept and trend) were computed and presented in Table 3.

The null hypothesis applied in the ADF test states that: "ADFI/RER has a unit root". It can be gleaned from Table 3 that the variables are not stationary for some periods (1970-2017, during the appreciation phases and/or the depreciation phases) for some of the ASEAN economies. The presence of unit root is nullified for all cases after taking the first difference on the data, which indicates that there may be a co-integration relationship between AFDI and RER in the long run.

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Table 3. Results of Unit Root Test using Augmented Dickey-Fuller Test

ASEAN Country	Variable	1970 – 2017		Appreciation Phase		Depreciation Phase	
		Intercept	Intercept & Trend	Intercept	Intercept & Trend	Intercept	Intercept & Trend
at Level							
Indonesia	AFDI	-3.498***	-3.529**	-3.249**	-3.159	-1.324	-2.369
	RER	-4.472***	-3.738**	-1.634	-0.803	-2.429	-0.953
Malaysia	AFDI	-2.746*	-2.906	-3.011**	-2.925	-2.649*	-3.811**
	RER	-2.355	-2.561	-0.989	-2.212	-2.259	-1.871
Philippines	AFDI	-0.122	-1.779	-0.862	-3.409*	-0.765	-4.507***
	RER	-4.611***	-1.883	-2.423	-0.643	-2.207	-1.520
Thailand	AFDI	-2.305	-5.455***	-2.159	-2.178	-1.390	-4.759***
	RER	-1.159	-0.875	-1.867	-1.226	-0.897	-0.897
At 1st Difference							
Indonesia	AFDI	-6.767***	-6.699***	-4.172***	-4.043**	-5.115***	-5.545***
	RER	-3.205**	-4.852***	-4.102***	-4.627***	-4.391***	-5.069***
Malaysia	AFDI	-6.095***	-6.078***	-4.299***	-4.160**	-5.606***	-5.463***
	RER	-4.862***	-4.942***	-3.887***	-3.783**	-4.227***	-4.344***
Philippines	AFDI	-10.61***	-10.69***	-7.951***	-7.727***	-3.555***	-3.412*
	RER	-6.023***	-6.819***	-1.283*	-3.320*	-5.584***	-5.926***
Thailand	AFDI	-8.120***	-8.098***	-5.327***	-5.382***	-10.43***	-10.42***
	RER	-5.320***	-5.534***	-3.505**	-3.635**	-5.252***	-5.196***

****, **, and * denote level of significance at 1%, 5%, and 10%, respectively*

The ARDL Bounds test was used to test for the null hypothesis of this study that there is not a long-run co-integration relationship between RER and AFDI. The calculated F-statistics for the ASEAN-4 emerging markets together with the critical values for the Upper Bound and the Lower Bound at various levels of significance are provided in Table 4. The following rules apply to the test: (1) a calculated F-statistics that is higher than the upper bound means that the null hypothesis is not supported, thus RER and AFDI are co-integrated in the long run; (2) a calculated F-statistics that is lower than lower bound means the null hypothesis is supported, and; (3) a calculated F-statistics that is between the upper and lower bounds means that the result is inconclusive.

Table 4. Results of Auto Regressive Distributive Lag Bounds Test

ASEAN Economy	1970 – 2017	Appreciation Phase	Depreciation Phase
Indonesia	2.711	1.709	0.820
Malaysia	0.645	0.920	0.605
Philippines	1.093	0.862	1.370
Thailand	7.490	1.320	8.106
Bounds	**Level of Significance**		
	1%	**5%**	**10%**
Lower Bound, I(0)	4.94	3.62	3.02
Upper Bound, I(I)	5.58	4.16	3.51

Source: Author's Computations 2018

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Results as shown in Table 4 reveal that there is not any long-run connection between AFDI and RER in all periods for all the ASEAN-4 counties except for Thailand (1970-2017 during the depreciation phase) at the 1%, 5%, and 10% levels of significance. These findings of non-integrated variables were checked by further empirical results as reported in Table 5 where significance as indicated by the ρ-values.

Table 5. Result of ARDL Test for Long-run Relationship

Statistics/ASEAN Economy	**1970 – 2017**	**Appreciation Phase**	**Depreciation Phase**
Coefficient			
Indonesia	0.742	0.593	0.540
Malaysia	0.754	0.402	0.886
Philippines	0.446	0.022	0.581
Thailand	0.071	-0.025	-1.007
t-value			
Indonesia	4.405	1.741	1.970
Malaysia	4.448	1.035	2.991
Philippines	2.258	0.049	1.228
Thailand	0.454	-0.054	-3.808
ρ-value			
Indonesia	0.000	0.125	0.070
Malaysia	0.000	0.335	0.010
Philippines	0.030	0.962	0.241
Thailand	0.653	0.958	0.002

Source: Author's Computations, 2018

It can be seen in Table 5 that the ρ-values for Indonesia, Malaysia, and the Philippines in the period 1970-2017 are all statistically significant. The same is true during the depreciation phase for Indonesia and Malaysia. This may imply that some forms of relationship between the variables AFDI and RER may exist in the aforementioned emerging markets during the sample periods. Thailand, of course, exhibited a long-run co-integration as shown in the ARDL Bounds test presented in Table 4.

After establishing the long-run relationship between AFDI and RER, this study tried to determine the Granger causality between the two variables in both the short run and the long run. Pairwise Granger Causality Test was used for the short-run effect while the ECM Causality test was used for the long-run effect. The focus here is to examine the impact of RER on AFDI. Granger causality running from AFDI to RER was also considered for comparison purposes. Table 6 reports the results of the two Granger Causality Tests.

A short-run unidirectional causality running from RER to AFDI can be seen for Indonesia, the Philippines, and Thailand in all periods except for the appreciation phase in Indonesia. A long-term unidirectional causality running from RER to AFDI can also be detected for Thailand in all periods and for Indonesia in the period 1970-2017. A reverse causality of AFDI affecting RER is observed in the case of Malaysia during all periods in the short run and during the period 1970-2017 in the long run.

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Table 6. Results of Granger Causality Test

Country	Variable	1970 – 2017		Appreciation Phase		Depreciation Phase	
		Short Run	Long Run	Short Run	Long Run	Short Run	Long Run
Indonesia	AFDI =/> RER	0.404	0.026	0.027	0.721	0.498	0.672
	RER =/> AFDI	2.827**	4.099*	0.365	0.944	2.239*	0.459
Malaysia	AFDI =/> RER	7.422***	7.521**	6.247**	1.502	10.50***	10.28
	RER =/> AFDI	0.726	3.871	0.015	0.618	1.252	3.754
Philippines	AFDI =/> RER	0.140	0.026	1.908	8.299***	0.079	0.985
	RER =/> AFDI	5.188**	0.181	8.560***	0.579	3.791*	0.919
Thailand	AFDI =/> RER	0.559	0.263	0.608	3.651	0.562	1.879
	RER =/> AFDI	20.33***	12.90***	3.081*	7.278**	25.89***	6.706**

****, **, and * indicate the level of significance at 1%, 5%, and 10%, respectively and the sign" =/>" means "does not granger cause"*

6. CONCLUSIONS

This study contributes to the existing literature on the causal relationship between Foreign Direct Investment (FDI) and Real Exchange Rate (RER). It is focused on the impact of RER on the adjusted inward FDI in four ASEAN emerging markets including Indonesia, Malaysia, the Philippines, and Thailand over the period of 1970-2017. Two regimes were considered: the appreciation regime and the depreciation regime. This study employed the Autoregressive Distributive Lag (ARDL) framework for co-integration to test for a long-run relationship between the two variables. It also applied the Granger Causality test to identify the directions of causation between adjusted inward FDI and RER.

Results from this study reveal a long-run association between AFDI and RER in the period 1970-2016 during the depreciation phase for all the four ASEAN economies. With regards to the impact of RER on AFDI, a short-run unidirectional causality is found in Indonesia, the Philippines, and Thailand. However, the long-run effect of RER on AFDI is evident only in Thailand.

This study contributes to the literature by enhancing our understanding regarding the connection between foreign exchange rate movements and FDI, particularly about the influence of USD valuation on FDI. The findings help investors and industry practitioners recognize the possible effects of the interactions between foreign exchange movements and FDI on the risks and returns of their investment portfolios. In addition, this study suggests ways for firms to lower their risks, specifically foreign exchange risks, by enhancing the understanding of the possible behavior of inward FDI in reaction to RER changes.

This study's findings imply that changes in foreign exchange rates have enormous influences on individual households, firms, and the economy as a whole in both the short run and the long run. The public experiences the direct impacts of such changes through various

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aspects in terms of labor incomes, product prices, loan interest rates, and bank deposit interest rates. Individual firms, consumers, and investors could experience wealth effects caused by fluctuations in the value of domestic currency relative to those of foreign currencies. Further research on this issue is warranted.

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