

The Role of Foreign Capital Inflows on Economic Growth of the Southeast Asian Least Developed Countries

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Abstract The economic development of the least developed countries relies on foreign capital inflows significantly. The existing literature indicates the ambiguous effects of capital inflows on economic growth. This work investigates the effect of foreign capital flows on Southeast Asian least developed countries: Cambodia, Lao PDR and Myanmar, by including remittance, foreign direct investment and official development assistance in the regression simultaneously. An autoregressive distributed lag (ARDL) model, based on neoclassical growth theory, is employed using annual data between 1980 and 2017. Our empirical findings reveal that the short run effect of international remittance becomes insignificant in the long run in Cambodia and Lao PDR, whereas the short run positive impact still remains in the long run for Myanmar. The foreign direct investment raises economic growth in all three countries in both short run and long run. Lastly, while the short run contribution of official development assistance on economic growth of Cambodia and Lao PDR still remains in the long run, the effect becomes insignificant for Myanmar.

Keywords: Foreign capital inflows; Economic growth; Southeast Asia

JEL classification: O40; C22

1. Introduction

The countries in Southeast Asia have formed the Association of Southeast Asian Nations or ASEAN since 1967 in order to promote economic growth and regional stability among the member states. Currently, the member states comprise Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar or Burma, the Philippines, Singapore, Thailand, and Vietnam. Among ten states, three countries are classified as least developed countries: Cambodia, Lao PDR and Myanmar. Due to the low domestic investment, these least developed countries rely on foreign capital inflows to promote their economic growth considerably. However, the existing works reveal the unclear impact of foreign capital flows on economic growth. Additionally, most

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of the studies examine the effect of a single foreign capital inflow on economic growth, which may create omitted variable bias in the study. As a consequence, this study scrutinizes the role of foreign capital inflows on growth of economy of three least developed Southeast Asian countries by including three important kinds of foreign capital inflows in the estimations simultaneously: remittance, foreign direct investment and official development assistance. Hence, the study minimizes the potential omitted variable bias. This produces more reliable empirical outcomes.

The study is structured as the followings. While section 1 is introduction, section 2 gives background of least developed Southeast Asian countries. Literature review is presented in section 3 and the methodology is demonstrated in section 4. While the estimation results are presented in section 5, conclusion of study is drawn in section 6.

2. The least developed Southeast Asian countries

The general backgrounds of the ASEAN member states are presented in table 1. The statistics exhibit the different level of economic development across ten member states. As stated by the World Bank and the United Nations, while Brunei and Singapore are high-income economies, the rests are either lower or upper middle income economies. Nonetheless, Cambodia, Lao PDR and Myanmar are classified as least developed countries. Not only low level of GNI per capita, but also the poverty rates in these three countries are significantly high. For instance, the population living under the national poverty line in Myanmar accounts for around 32 per cent.

Table 1. ASEAN's country profile

Country	Population (2018)	GNI per capita (2018)	Poverty (2016)	HDI (2017)	Level (2018)
	Million	USD	%		
Brunei	0.43	31,020	n.a.	0.853	HII
Cambodia	16.25	1,380	14.0	0.582	LMI*
Indonesia	267.66	3,840	10.9	0.694	LMI
Lao PDR	7.06	2,460	23.2	0.601	LMI*
Malaysia	31.53	10,460	0.4	0.802	UMI
Myanmar	53.71	1,310	32.1	0.578	LMI*
Philippines	106.65	3,830	21.6	0.699	LMI
Singapore	5.64	58,770	n.a.	0.932	HII
Thailand	69.43	6,610	8.6	0.755	UMI
Vietnam	95.54	2,400	7.0	0.694	LMI

Note:

1. Poverty shows the population living under the national poverty line.
2. HDI = Human Development Index, HII = High-income economies, UMI = Upper-middle-income economies, LMI = Lower-middle-income economies

3. * denotes the least developed countries, based on the United Nations.

Source: World Development Indicators (WDI) and ASEANstats.

In addition, the standard of living in three countries are considerably poor. For example, the infant mortality rate in Lao PDR is 49 per cent. The life expectancy at birth is lower than 70 years old in all three countries. Most of the population depend on agriculture for their survivals.

Table 2. ASEAN's Least developed countries

Indicator	Cambodia	Lao PDR	Myanmar
Adult Literacy Rate (%)	84.4 b	84.7 c	89.7 b
Infant Mortality Rate, IMR (per 1,000 live births)	25.0 a	49.0 a	39.0 a
Life Expectancy at Birth (year)	69.9 a	67.0 a	66.7 a
Employment-Agriculture (%)	54.9 c	71.7 b	51.7 b
Employment-Manufacturing (%)	13.1 c	3.5 b	10.9 b
Employment-Services (%)	32.0 c	24.8 b	37.4 b

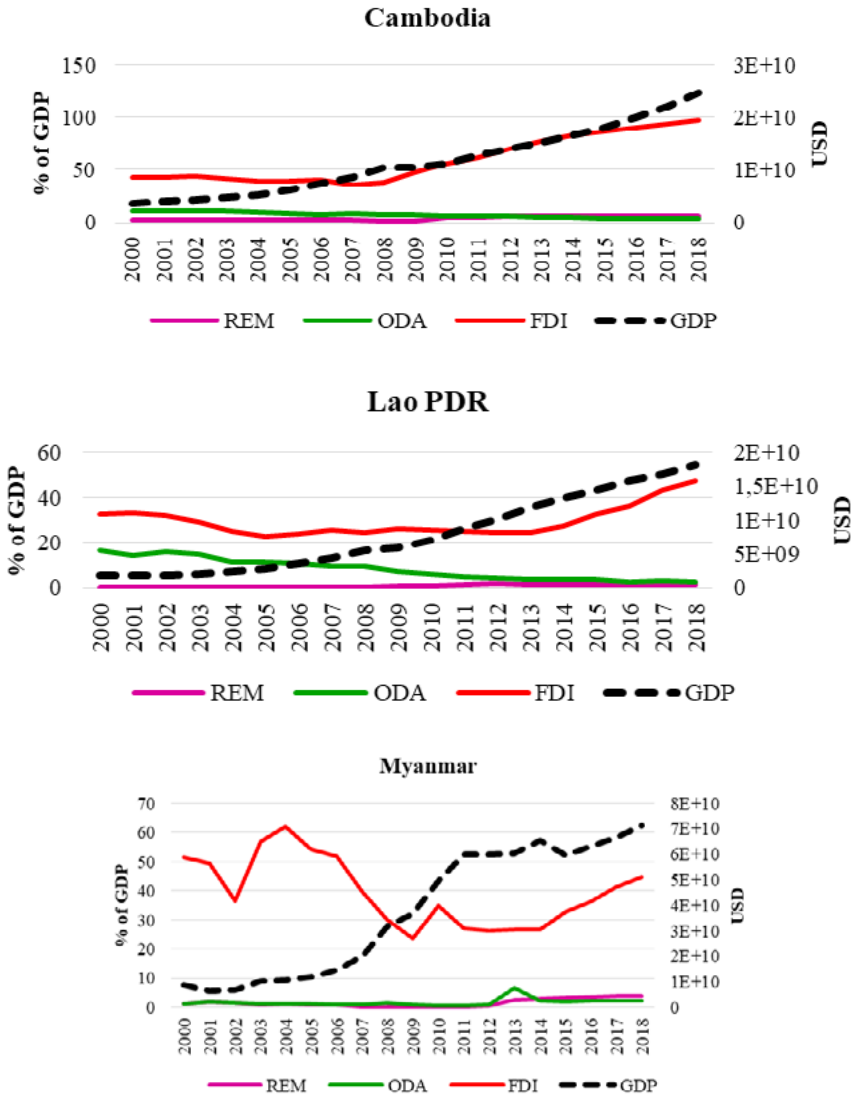
Note: a, b and c denote data in the year 2017, 2016 and 2015, respectively.

Source: World Development Indicators (WDI) and ASEANstats

The foreign capital inflows of the ASEAN's least developed countries are presented in figure 1. For Cambodia, the foreign direct investment (FDI) plays the major role compared to international remittance and official development assistance (ODA). FDI increased from 40 per cent to 97 per cent of GDP during 2000 to 2017. The statistics reveal that China and other ASEAN countries were major investors in Cambodia. Two sources made up 45 per cent of total FDI in Cambodia in 2017. Most of the FDI flew to financial, services and mining industries. The ODA was approximately 8 per cent of GDP over the last two decades. China was also the major donor of ODA. The value of international remittance was around 7 per cent of GDP in the same period. Thailand and the United States accounted for 60 and 20 per cent of Cambodian remittance, respectively.

For the case of Lao PDR, the patterns of foreign capital inflows were similar to Cambodia. Nevertheless, the FDI was approximately only 45 per cent of GDP and China alone accounted for 78 per cent of total FDI in 2017. Most of FDI belonged to electricity and construction industries. The values of ODA and remittance were small. While Japan was the major donor for ODA, Thailand was the major source of remittance (68 per cent in 2017) of Lao PDR. The similar patterns of foreign capital inflows were found for Myanmar. The average of FDI during 2000 to 2017 was 40 per cent of GDP. Most of FDI came from the other ASEAN member states (60 per cent of total FDI in 2017). Mining and quarrying industries were the major industries for FDI. While Thailand was also the major source of remittance (54 per cent of total remittance in 2017), Japan was the biggest donor of ODA (28 per cent of total ODA) of Myanmar.

Figure 1. Foreign capital inflows and GDP



Note: REM, ODA, FDI and GDP denote personal remittances received, net official development assistance received, stock of foreign direct investment and gross domestic, respectively.

Source: World Development Indicators (WDI) and UNCTADstat

3. Literature review

The related literature pertaining the influence of inflows of foreign capital on economic growth might be explained in three categories, based on the type of capital, as the followings.

First, foreign direct investment or FDI: on a theoretical point of view, according to the neoclassical growth theory, FDI may affect economic growth through either

capital accumulation of the economy or technology transfer (Lucas, 1988; Barro, 1991). Alternatively, the dependency theory asserts that FDI from developed country may lower economic growth of developing country through exploitation of resources (Fan, 2002; Khan, 2007). The existing empirical studies also reveal the mixed results. While the positive impact of FDI on growth of developing countries were found by Driffield and Jones (2013), Herzer et al. (2008) presented the insignificant effect of FDI in 28 developing nations, in both short and long run perspective. In contrast, FDI reduced economic growth of 50 African economies during 1980 to 1994 (Gui-Diby, 2014). For the case of ASEAN's least developed countries, the positive effects of FDI on economic growth were found in Cambodia (Sothan, 2017; Sokang, 2018) and Lao PDR (Wattanukul and Watchalaanun, 2017; Khamphengvong et al., 2017; Srithilat et al., 2018). Nonetheless, Anitta (2013) reported that FDI in mining sector reduced GDP of Lao PDR by 0.19 per cent during 1990 to 2011. The impact of FDI on Myanmar's GDP has never been investigated.

Second, international remittance (REM): the remittance may promote economic growth through the processes of capital accumulation. Three mechanisms have been mentioned as follows. While Barajas et al. (2009) suggested that remittance increases availability of funds for investment, Imai et al. (2011) proposed that remittance lowers investment risk premium. Additionally, Jawaid and Saleem (2017) argued that remittance stimulates economic growth through productivity improvement in financial industry. However, the remittance may reduce economic growth in two ways: income effect (Barajas et al., 2009) and the Dutch disease (Amuedo-Dorantes and Pozo, 2004). The income effect emanated from the decrease of labour force in production function as labour enjoys more consumption and leisure from increase in remittance. Regarding the Dutch disease, the inflow of remittance leads to appreciation of domestic currency. This reduces export and economic growth, therefore. The existing empirical studies also display the ambiguous results. While Giuliano and RuizArranz (2009) claimed that the remittance promoted economic growth of 100 countries between 1975 and 2002, Ahoritor and Adenutsi (2009) found that it reduced economic growth of the Caribbean countries and also the countries in Sub-Saharan Africa and Latin America. For the case of ASEAN's least developed countries, the positive contribution of remittance on economic growth was reported in Cambodia and Myanmar (Woraphand, 2015). Nevertheless, Taguchi and Lar (2017) found the negative effect in their study, using panel data of Cambodia, Lao PDR, Myanmar, and Vietnam during 1984 and 2015.

Third, official development assistance (ODA): the impact of ODA on economic growth is still controversial. It increases availability of funds for investment (Chenery and Strout, 1966). It contributed to economic growth of Kenya (Ojiambo et al., 2015) and Ethiopia (Girma, 2015). In contrast, insufficient capacity to utilize ODA reduced economic growth of Bangladesh (Hossain, 2014). Nonetheless, Nyoni and Bonga (2017) reviewed 33 existing works which covered 100 countries. They reported the ambiguous effect of ODA on economic growth in both theoretical and empirical aspects. However, the empirical findings tended to show the positive contribution of the ODA. For the case of ASEAN's least developed countries, while Souvannaeth (2014) found that

ODA contributed to GDP of Lao PDR by 3.02 per cent between 1985 and 2012, Moolio and Kong (2016) also reported the positive effect of ODA using panel data analysis for Cambodia, Laos, Myanmar, and Vietnam during 1997 and 2014.

According to the above literature review, it is worth mentioning three points. First, the effects of inflows of foreign capital on economic growth of the recipient country are ambiguous. Second, the existing works mostly scrutinize the effect of a single type of foreign capital inflow on economic growth. This may create an omitted variable bias in the estimation. Third, the study on the case of ASEAN's least developed countries is insufficient. Consequently, our paper contributes to the existing works in that we examine the effect of foreign capital flows on economic growth of each ASEAN's least developed countries individually and all three foreign capital variables are incorporated into the regression simultaneously.

4. Methodology

4.1. The model

The theoretical framework in our study is based on the neoclassical growth model (Solow, 1956, 1957). The Cobb Douglas production function is expressed as equation (1).

$$Y_t = A_t K_t^\theta L_t^{(1-\theta)} \quad (1)$$

where Y is output of the economy and A, K and L represent technology, stock of capital and labor force, respectively. Foreign capital inflows are incorporated into the model through capital stock (Drifeld and Jones, 2013; Gutema, 2018) as in equation (2).

$$K_t = \vartheta REM_t^\beta FDI_t^\delta ODA_t^\delta KOT_t^\theta \quad (2)$$

Accordingly, capital stock of economy is a function of foreign direct investment (FDI), remittance (REM), official development assistance (ODA) and other capital (KOT). Define $y_t = \ln Y_t$ the log form of equation (1) and (2) is stated as equation (3), where gdp_t is gross domestic product.

$$gdp_t = \beta_0 + \beta_1 rem_t + \beta_2 fdi_t + \beta_3 oda_t + \beta_4 kot_t + \beta_5 lab_t + \varepsilon_t \quad (3)$$

The β_1 to β_5 are expected to give positive values. The autoregressive distributed lag (ARDL) model (Pesaran et al., 2001), equation (4), is employed for empirical estimation since it possesses two major advantages. It produces reliable estimation results under limited sample size (Toda, 1994) and it is still valid with different degree of cointegration of estimating variable; I(0) or I(1) variable.

$$\begin{aligned} \Delta gdp_t = & \alpha + \sum_{i=1}^a \beta_1 \Delta gdp_{t-i} + \sum_{i=1}^b \gamma_1 \Delta rem_{t-i} + \sum_{i=1}^c \delta_1 \Delta fdi_{t-i} \\ & + \sum_{i=1}^d \eta_1 \Delta oda_{t-i} + \sum_{i=1}^e \xi_1 \Delta kot_{t-i} + \sum_{i=1}^f \rho_1 \Delta lab_{t-i} + \lambda gdp_{t-i} + \theta rem_{t-i} \\ & + \pi fdi_{t-i} + \psi oda_{t-i} + \omega kot_{t-i} + \chi lab_{t-i} + \varepsilon_t \end{aligned} \quad (4)$$

The Δ denotes the first difference and represents short run characteristic of the model. Term a to f are optimal lag lengths. The coefficients of one lag variables ($\lambda, \theta, \pi, \psi, \omega, \chi$) represent long run multipliers.

Accordingly, the long run coefficients can be estimated by assigning all short run variables equal to zero. Consequently, the long run coefficients are obtained from equation (5).

$$gdp_t = \varnothing_0 + \varnothing_1 rem_t + \varnothing_2 fdi_t + \varnothing_3 oda_t + \varnothing_4 kot_t + \varnothing_5 lab_t + \varepsilon^t \quad (5)$$

The long run coefficients (are estimated using $\varnothing_0 = -\frac{\alpha}{\lambda}$, $\varnothing_1 = -\frac{\theta}{\lambda}$, $\varnothing_2 = -\frac{\pi}{\lambda}$, $\varnothing_3 = -\frac{\psi}{\lambda}$, $\varnothing_4 = -\frac{\omega}{\lambda}$, and $\varnothing_5 = -\frac{\chi}{\lambda}$.

Based on the long run coefficients from equation (5), equation (4) could be transformed to equation (6) to obtain the short run coefficients.

$$\begin{aligned} \Delta gdp_t = & \alpha + \sum_{i=1}^a \beta_1 \Delta gdp_{t-i} + \sum_{i=1}^b \gamma_1 \Delta rem_{t-i} + \sum_{i=1}^c \delta_1 \Delta fdi_{t-i} + \sum_{i=1}^d \eta_1 \Delta oda_{t-i} + \sum_{i=1}^e \xi_1 \Delta kot_{t-i} \\ & + \sum_{i=1}^f \rho_1 \Delta lab_{t-i} + \varphi ECM_{t-1} + \varepsilon_t \end{aligned} \quad (6)$$

The short run coefficients are $\beta_1, \gamma_1, \delta_1, \eta_1, \xi_1$ and ρ_1 . While ECM_{t-1} is error correction term, the represents speed of adjustment of disequilibrium in the short run toward the long run equilibrium.

4.2. Data

The annual data (1980-2017) are employed in our estimations. The real GDP per capita (USD at 2010 constant prices) is used to represent economic growth (gdp). The data are obtained from the World Development Indicators (WDI). To obtain real variables, the remittance (rem, million USD), net official development assistance received (oda, million USD), foreign direct investment (fdi, million USD) and other capital or kot (represented by gross capital formation, in million USD) are divided by gross domestic product (GDP, million USD). While the data of rem, oda, kot and GDP are obtained from WDI database, fdi data come from the United Nations Conference on Trade and Development database (UNCTADstat). The number of persons engaged (million persons) that is divided by number of population (million persons) is used to represent labor force (lab). The data of number of persons engaged are derived from the Penn World Table (9.0) and the population are obtained from WDI database.

5. Estimation results

5.1. Unit root test

The ADF or Augmented Dickey-Fuller test is conducted to check the degree of cointegration of variable since the ARDL model is not applicable if the estimations contain the cointegrated of order two, I(2), variable. The results in table 3 exhibit that the I(2) variable is not detected in our works.

Table 3. Augmented Dickey-Fuller unit root test

Variable	Level form		First difference form		I(n)
	t-stat	Prob.	t-stat	Prob.	
Cambodia					
gdp	-1.583	0.777	-5.148	0.001	I(1)
rem	-2.562	0.299	-6.647	0.000	I(1)
fdi	-3.807	0.028			I(0)
oda	-2.604	0.281	-4.007	0.021	I(1)
kot	-0.842	0.952	-5.715	0.000	I(1)
lab	-2.021	0.571	-5.346	0.001	I(1)
Lao PDR					
gdp	-1.026	0.928	-7.230	0.000	I(1)
rem	-1.398	0.845	-6.596	0.000	I(1)
fdi	-6.047	0.000			I(0)
oda	-0.797	0.957	-5.226	0.001	I(1)
kot	-4.250	0.009			I(0)
lab	-1.228	0.890	-7.520	0.000	I(1)
Myanmar					
gdp	-1.606	0.771	-3.413	0.065	I(1)
rem	-2.592	0.286	-6.173	0.000	I(1)
fdi	-1.407	0.841	-3.533	0.051	I(1)
oda	-2.250	0.450	-4.485	0.006	I(1)
kot	0.142	0.997	-4.451	0.006	I(1)
lab	-7.880	0.000			I(0)

Note: I(n) stands for integrated of order n variable

5.2. The ARDL bounds test

The bounds test is adopted to examine long run cointegrations among the studied variables, using equation (4).

Table 4. The bounds test

Calculated F-statistic	
Cambodia	5.027**
Laos	7.375***
Myanmar	7.419***
Critical F-statistic	

Lower bound	Upper bound	Significance level
2.879	4.114	10 %
3.426	4.790	5 %
4.704	6.537	1 %

Note: The ***, **, * indicate level of significance at 1%, 5% and 10%, respectively.

According to the bounds test, if the calculated F-statistic stays below the lower bound critical value, it implies that the cointegration relationships among studied variables do not present. The results in table 4 reveal that the cointegration properties are present in all three countries since the calculated F-statistics are bigger than the critical F-statistics, at 5 per cent significance level.

5.3. The estimating coefficients

The existence of cointegration relationships enables us to estimate for both long run and short run influences of foreign capital flows on economic growth of each country, as exhibit in table 5 and table 6, respectively.

According to table 5, the international remittance shows the mixed effects in the short run. While the remittance promotes economic growth of Lao PDR and Myanmar, it creates negative effect in Cambodia. The mixed effects are also found for the impact of ODA. While the ODA contributes to economic growth of Cambodia and Lao PDR, its positive effect changes to negative effect in the case of Myanmar. Nonetheless, the FDI raises the GDP of all three countries in the short run.

Table 5. The short run coefficients

Cambodia		Lao PDR		Myanmar	
Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
Δgdp_{t-1}	0.430** (2.709)	Δgdp_{t-1}	0.270*** (3.239)	Δgdp_{t-1}	-0.277 (-1.245)
Δgdp_{t-2}	-0.292 (-1.364)	Δrem_t	0.008 (1.766)	Δgdp_{t-2}	0.344*** (2.806)
Δrem_t	-0.009** (-2.362)	Δrem_{t-1}	0.000 (0.111)	Δrem_t	0.004** (2.429)
Δfdi_t	0.032*** (3.700)	Δrem_{t-2}	0.007* (1.826)	Δfdi_t	0.000 (0.071)
Δoda_t	-0.001 (-0.122)	Δfdi_t	0.015 (1.592)	Δfdi_{t-1}	0.016** (2.123)
Δoda_{t-1}	0.004 (0.621)	Δfdi_{t-1}	0.010 (1.075)	Δoda_t	-0.006*** (-3.047)
Δoda_{t-2}	0.023*** (3.653)	Δfdi_{t-2}	0.026* (1.929)	Δoda_{t-1}	0.005*** (2.911)

Cambodia		Lao PDR		Myanmar	
Variable	Coefficient	Variable	Coefficient	Variable	Coefficient
Δkot_t	0.062*** (2.818)	Δoda_t	0.104*** (4.480)	Δkot_t	0.010 (0.354)
Δlab_t	-0.876*** (-9.653)	Δkot_t	-1.109 (-0.993)	Δlab_t	-0.991 (-1.087)
Δlab_{t-1}	0.693** (2.365)	Δlab_t	4.054** (2.586)	Δlab_{t-1}	0.002 (0.011)
Δlab_{t-2}	-0.335 (-1.540)	Δlab_{t-1}	-1.157 (-1.213)	Δlab_{t-2}	0.344*** (2.817)
		Δlab_{t-2}	3.886*** (3.640)		

Note: The ***, **, * indicate level of significance at 1%, 5% and 10%, respectively. t-statistics are presented in parentheses.

Table 6. The long run coefficients

Variable	Cambodia	Lao PDR	Myanmar
<i>rem</i>	-0.029 (-1.621)	0.007 (1.143)	0.006* (1.916)
<i>fdi</i>	0.104** (2.818)	0.054** (2.736)	0.019*** (4.337)
<i>oda</i>	0.067*** (3.845)	0.190*** (6.408)	-0.022 (-1.523)
<i>kot</i>	0.202** (2.771)	0.807 (1.091)	0.015 (0.389)
<i>lab</i>	-0.362 (-1.107)	0.657*** (7.455)	0.904*** (5.827)

Note: The ***, **, * indicate level of significance at 1%, 5% and 10%, respectively. t-statistics are presented in parentheses.

Based on table 6, the short run effects of international remittance in Cambodia and Lao PDR become insignificant in the long run. This indicates that remittance is not allocated for investment properly. The statistics in 2017 revealed that household consumption accounted for 76 and 64 per cent of GDP composition of Cambodia and Lao PDR, respectively. Therefore, it is high likely that the remittance was allocated for consumption rather than investment, implying that the income effect plays an important role in Cambodia and Lao PDR. Its short run positive impact remains in the long run for Myanmar. A 1 per cent increase in remittance spurs economic growth of Myanmar by 0.006 per cent. The magnitude of our estimating coefficient is much smaller than the finding of Woraphand (2015) who claimed that remittance stimulated economic growth of Myanmar by 0.39 per cent. In addition, while Imai et. al. (2011) reported

the positive impact of remittance on economic growth of Lao PDR, our finding shows that the effect is insignificant. These different findings indicate that the omitted variable bias problem is improved in our works.

The short run positive impact of FDI still remains in the long run in all three countries. Even though our findings are in line with the exiting works, the magnitude of the impact is significantly smaller. For instance, while Anitta (2013) claimed that a 1 per cent increase in FDI stimulates economic growth of Lao PDR by 1.29 per cent, our empirical finding shows only 0.05 per cent.

The short run contributions of ODA on economic growth of Cambodia and Lao PDR also stay in the long run. While Souvannaeth (2014) reported that the long run effect of ODA on economic growth of Lao PDR is 3.02 per cent, it is 0.19 per cent in our finding. For Myanmar, while Moolio and Kong (2016) claimed that ODA contributes to GDP growth, using panel data analysis of three Southeast Asian least developed countries together with Vietnam, the finding from ARDL model of our study indicates insignificant effect of ODA on Myanmar economic growth. The insignificant impact of ODA in Myanmar could connect to the significantly low degree of absorptive capacity of the country, given that Myanmar has long been closed from the outside world by the military junta.

A 1 per cent rise in other form of capital stimulates economic growth of Cambodia by 0.20 per cent. However, it shows no impact in Lao PDR and Myanmar. In contrast, while an increase in labour force does not give significant effect on economic growth of Cambodia, it contributes to economic growth of Lao PDR and Myanmar by 0.66 and 0.90 per cent, respectively.

5.4. Diagnostic tests of the model

The validity of our studied ARDL model is checked using various diagnostic tests. The speed of adjustments are lower than one, in absolute value, in all three countries. Their negative values are statistically significant. These indicate that short run disequilibrium are adjusted toward long run equilibrium in all models. The LM statistics from Breusch-Godfrey LM tests are insignificant at one degree of freedom. These imply that the residual in all estimating models are free from autocorrelation problem. The chi-square statistics from Ramsey's RESET are insignificant which indicate that our models are specified correctly. The values of F are 0.61, 0.69 and 0.79 in Cambodia, Laos and Myanmar, respectively.

Table 7. Diagnostic statistics of the ARDL model

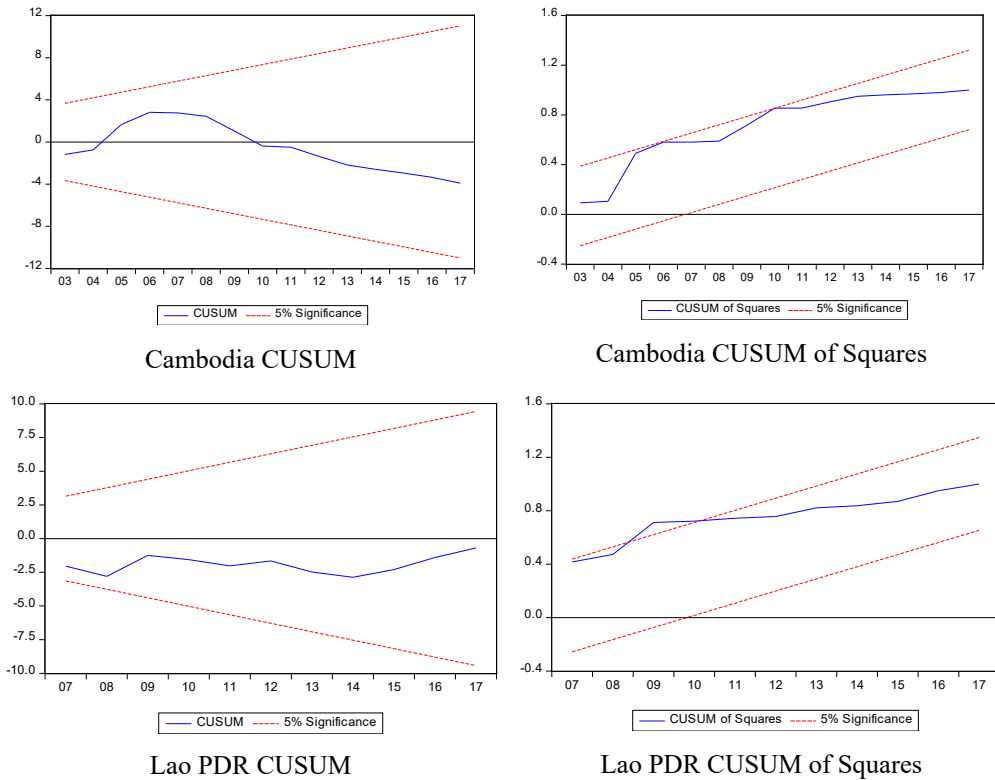
Test	Cambodia	Lao PDR	Myanmar
ECM_{t-1}	-0.306*** (0.000)	-0.990*** (0.000)	-0.688*** (0.000)
R^2	0.614	0.699	0.798

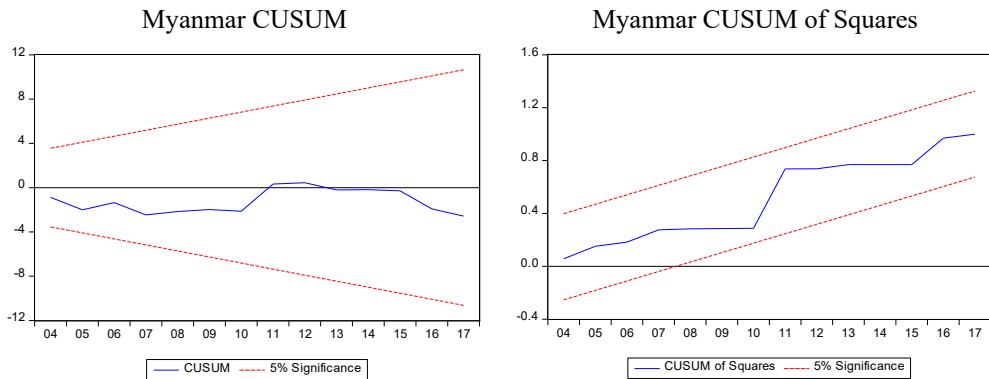
Test	Cambodia	Lao PDR	Myanmar
LM test	0.642 (0.436)	1.665 (0.226)	0.322 (0.580)
RESET test	2.189 (0.199)	0.445 (0.517)	2.065 (0.176)

Note: The ***, **, * indicate level of significance at 1%, 5% and 10%, respectively. P-values are provided in parentheses.

Finally, the stability of estimating coefficients over time are supported by the graphs from cumulative sum of recursive residuals (CUSUM) together with cumulative sum of squares of recursive residual (CUSUM of Squares) as in figure 2.

Figure 2. Stability of coefficients





5. Conclusions

The economic developments of the least developed countries rely on foreign capital inflows significantly. The existing literature indicates the ambiguous effects of capital inflows on economic growth. In addition, most of the current works observed the effect of a single kind of foreign capital individually which may create biased empirical result due to an omitted variable problem. Accordingly, we scrutinize the impact of foreign capital inflows on Southeast Asian least developed countries: Cambodia, Lao PDR and Myanmar, by including remittance, FDI and ODA in the regression simultaneously. The ARDL model, based on neoclassical growth theory, is employed using annual data between 1980 and 2017.

Our empirical findings reveal that the short run effects of international remittance become insignificant in the long run in Cambodia and Lao PDR, whereas the short run positive impact still remains in the long run for Myanmar. Regarding the impacts of FDI, the short run positive impacts still remain in the long run in all three countries. Nevertheless, the magnitude of estimating coefficients from our study are considerably smaller than the existing works which used a single foreign capital independent variable in the estimation. This indicates that the omitted variable bias problem is improved in our works. Additionally, while the short run contributions of ODA on economic growth of Cambodia and Lao PDR still remain in the long run, the effect becomes insignificant for Myanmar.

The policy implications to improve economic growth using foreign capital inflows could be drawn accordingly. In terms of international remittance, Cambodia and Lao PDR should apply policy to attract remittance to move into investment sector more than to consumption. Regarding official development assistance, Myanmar should improve absorptive capacity to utilize ODA efficiently.

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