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BANKING & FINANCE | RESEARCH ARTICLE

Foreign direct investment and economic growth: The role of financial development

My-Linh Thi Nguyen^{1*}

Abstract: This study was conducted with the aim of examining the role of financial development in the impact of foreign direct investment on economic growth. The interesting point of this study is expressed through the effort to determine the level of financial development to maximize the spillover effects of foreign direct investment on economic growth, whereby financial development is measured through the development of the banking sector and the stock market. The data were collected from 6 countries of the Association of Southeast Asian Nations (ASEAN-6) in the period 2002-2019, including: Indonesia, Malaysia, Thailand, Singapore, the Philippines, and Vietnam. Regarding the method of analysis, this study uses threshold effects and system GMM to estimate research models. The estimation results show that there are threshold values of financial development through the banking sector (85.64%) and the stock market (21.95%). Furthermore, this study found a positive impact of foreign direct investment on economic growth in the regions before and after these threshold values. In particular, the positive impact of foreign direct investment on economic growth becomes stronger when financial development exceeds the defined threshold value. This result is found in the case where financial development is measured through both the banking sector and the stock market.

Subjects: Mathematical Economics; Development Economics; Corporate Finance; Banking; Investment & Securities; Economics; International Economics; Finance



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In the context of increasing international economic integration, host countries are making every effort to attract foreign direct investment to stimulate economic growth. However, the spillover effects of foreign direct investment on economic growth depend significantly on the absorptive capacity as well as on the characteristics of the host country, whereby the characteristics of the level of financial development of countries can be mentioned. This study was conducted to highlight the role of financial development in spreading the impact of foreign direct investment on economic growth. The findings in this paper also show that the positive impact of foreign direct investment on economic growth is greater when financial development exceeds the threshold value determined. Accordingly, ASEAN-6 countries need to improve the level of financial development comprehensively in both the banking sector and the stock market in order to maximize the effectiveness of foreign direct investment for economic growth.





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Keywords: ASEAN-6; domestic credit; economic growth; foreign direct investment; market capitalization

Subjects: F38; F43; G15

1. Introduction

Foreign direct investment (FDI) is defined when an investor makes an investment of 10% or more voting shares in an enterprise operating in a country different from the investor's country, where foreigners are identified by place of residence and not by nationality (IMF, 1993). In other words, FDI occurs when an investor invests resources in production and business activities outside their home country (Yavas & Malladi, 2020). The reality is that FDI plays an important role in many host countries, especially countries with capital and technology shortages. Moreover, FDI can be many times more effective than domestic investment in stimulating economic growth in the host country (Gregorio, 2005).

The impact of FDI on economic growth can be explained through the neoclassical growth theory (Solow, 1956) and the endogenous growth theory (Romer, 1990). Accordingly, FDI is more efficient than domestic investment through promoting technological innovation and specialization in the production process in the host country, thereby stimulating economic growth in this country (Herzer et al., 2008). The impact of FDI on economic growth has also been found in many empirical studies in different economies and regions, for example: Caves (1996), Borensztein et al. (1998), Durham (2004), Ayanwale (2007), and Adegbite and Ayadi (2010), and Wong and Tang (2011), and Gui-Diby (2014). However, some studies reveal that this impact may be vague and insignificant (for instance, Akinlo, 2004; Ayanwale, 2007; Hanson, 2001; Herzer et al., 2008; Ibhaqui, 2019). The reality shows that the impact of FDI on economic growth can significantly depend on the absorptive capacity as well as the conditions of the host country (Borensztein et al., 1998; Durham, 2004). To demonstrate this, a number of studies have attempted to identify favorable conditions that play a role in stimulating the spillover effects of FDI on economic growth. Accordingly, financial development in the host country is one of the important conditions to improve the absorptive capacity as well as stimulate the spillover effects of FDI on economic growth (Alfaro et al., 2004; Durham, 2004; Ibhagui, 2019).

The important role of financial development in the impact of FDI on economic growth has been confirmed in many empirical studies (Alfaro et al., 2004; Blomstrom et al., 1992; Bluedorn et al., 2013; Kong et al., 2020; Makiela & Ouattara, 2018; Nair-Reichert & Weinhold, 2001). However, there are still many conflicting views in determining the level of financial development to maximize the spillover effects of FDI on economic growth. For example, Azman-Saini et al. (2010) argue that the positive impact of FDI on economic growth only appears after domestic credit exceeds the minimum threshold value of 49.7%. Meanwhile, others assume that financial development should not be too high; specifically, domestic credit should not exceed the maximum threshold value of 14.58% (Ibhagui, 2019) or 95.6% (Osei & Kim, 2020). This shows that the appropriate level of financial development to maximize the spillover effects of FDI on economic growth is still a question that has not been satisfactorily answered in previous studies. This fact indicates that the role of financial development in the impact of FDI on economic growth can vary depending on the characteristics of each data sample. Therefore, it is essential to provide empirical evidence on this issue in different economies and regions to supplement the existing literature. On the other hand, previous studies often encountered great limitations when they only focused on identifying financial development through domestic credit, i.e. financial development through the banking sector, without paying much attention to financial development through the size of the stock market. Nowadays, together with the banking sector, the stock market in many countries has affirmed its important role in supplying capital as well as creating a favorable investment environment for the private sector. Overall, financial development will be viewed more comprehensively if it is determined through the development of the banking sector and the stock market.

Although there are still many conflicting views in previous studies on the impact of FDI on economic growth, the governments of many countries are still making efforts to attract FDI. This is because they believe that FDI will bring significant benefits through stimulating economic growth. This is quite evident in the ASEAN countries. Accordingly, these countries presume that FDI is more stable than domestic investment flows, which will bring high efficiency for the economy, even in the period of economic difficulties. This stability was clearly demonstrated when the ASEAN countries had a financial crisis in the period 1997–1998 (Diaconu, 2014). Nevertheless, there is still a lack of empirical studies examining the role of financial development in the impact of FDI on economic growth in the context of the ASEAN countries. This has created many difficulties for the governments of these countries in making appropriate policies to stimulate the positive impact of FDI on economic growth. Therefore, it is essential for the ASEAN countries to provide empirical evidence on the role of financial development in the impact of FDI on economic growth. Accordingly, these countries will have a reliable basis to determine the appropriate level of financial development to maximize the spillover effects of FDI on economic growth.

In this study, the author fills the gap in previous studies by providing empirical evidence on the role of financial development in the impact of FDI on economic growth. In particular, financial development is measured through the development of the banking sector and the stock market, which is expected by the author to bring more interesting findings than previous studies. In addition, the data sample used in this study includes ASEAN-6 countries (Indonesia, Malaysia, Thailand, Singapore, the Philippines, and Vietnam) with many similarities; thus, the reliability of the estimation results is guaranteed.

This study is structured as follows: part 2 presents an overview of previous studies and hypothesis development, part 3 describes the estimation method and data, part 4 focuses on empirical analysis, and the last part is conclusions and policy implications.

2. Literature review and hypothesis development

2.1. The impact of foreign direct investment on economic growth

The impact of FDI on economic growth can be explained through the neoclassical growth theory and the endogenous growth theory. According to the neoclassical growth theory, economic growth depends on capital, labor and technology (Solow, 1956). In addition to capital and labor, this theory emphasizes the role of exogenous technology towards economic growth. It can be seen that the neoclassical growth theory is an important foundation to explain the impact of FDI on economic growth. However, the neoclassical growth theory is limited because it does not explain the spillover effects of FDI on economic growth in the host country. To overcome this limitation, the endogenous growth theory is developed to better explain the spillover effects of FDI in the host country, thereby stimulating economic growth in the host country (Romer, 1990). Accordingly, FDI promotes the host country to receive technology transfer from countries with advanced technology. This contributes to the improvement in technological progress in the host country. Simultaneously, the host country has favorable conditions to specialize in production and develop advantageous products at a lower cost compared to other countries. In the endogenous growth theory, FDI is estimated to be more effective than domestic investment in stimulating economic growth in the host country (Herzer et al., 2008). Different from the neoclassical growth theory, the endogenous growth theory emphasizes the role of governmental policies towards economic growth. The above problems show that the neoclassical growth theory and the endogenous growth theory have provided a relatively complete theoretical framework to explain the impact of FDI on economic growth.

It can be seen that investment capital is an important resource to improve economic growth in any country (Adegbite & Ayadi, 2010). In the context of limited domestic investment capital, many countries have made efforts to attract FDI because these countries believe that FDI is a stable and necessary source of capital to enable them to effectively supplement the shortfall (Noorzoy, 1979).

More importantly, FDI also helps these countries improve technology and increase employment (Gui-Diby, 2014). Therefore, a significant number of empirical studies have found the positive impact of FDI on economic growth in different economies and regions, such as: Caves (1996), Borensztein et al. (1998), Durham (2004), Ayanwale (2007), and Adegbite and Ayadi (2010), and Wong and Tang (2011), and Miao et al. (2021). Furthermore, the degree of the positive impact of FDI on economic growth also depends significantly on the homogeneity as well as the characteristics of the countries in the sample. To illustrate this, Blomstrom et al. (1992) emphasized that the positive impact of FDI on economic growth in high-income countries is often more evident than in lower-income countries.

Although the positive impact of FDI on economic growth has been found in most of the previous studies, some views have suggested that FDI can have a negative impact on economic growth. Accordingly, when FDI increases excessively and is not used efficiently, it can be detrimental to the host country, thereby hindering economic growth. This result has been reported in the studies of Gorg and Greenaway (2004), Sumner (2005), and Gui-Diby (2014). In particular, Gui-Diby (2014) found the negative impact of FDI on economic growth in 50 African countries in the period 1980–1994, but this impact turned positive in the period 1995–2009.

Other views argue that the impact of FDI on economic growth can become vague and insignificant, such as Hanson (2001), Akinlo (2004), Ayanwale (2007), and Herzer et al. (2008), and Ibhagui (2019). This may exist if the host country fails to ensure certain conditions to absorb and create the spillover effects of FDI on economic growth (Ibhagui, 2019). In particular, there have been many cases where foreign investors buy the assets of domestic investors who are limited in liquidity, but foreign investors do not have technological strengths or special know-how, which may not create the positive spillover effects of FDI on economic growth (Blomstrom & Kokko, 2003). Therefore, FDI only creates the significant spillover effects on economic growth in the host country if foreign investors really have technological strengths or special know-how.

In reality, the impact of FDI on economic growth depends significantly on the absorptive capacity as well as the conditions of the host country (Borensztein et al., 1998; Durham, 2004). This means that favorable domestic conditions can improve the host country's absorptive capacity of FDI; thereby, the spillover effects of FDI will be highly effective. In other words, the absorptive capacity of the host country will improve the positive impact of FDI on economic growth. One of the reasons that has been used by previous studies to explain this is that FDI not only provides capital, but also helps the host country gain access to advanced technology. Therefore, if the host country does not guarantee the conditions to absorb FDI effectively, it is difficult to stimulate economic growth. To clarify this point of view, a number of studies have attempted to identify favorable conditions that play a role in stimulating the spillover effects of FDI on economic growth. Accordingly, financial development in the host country is one of the important conditions to improve the spillover effects of FDI on economic growth (Alfaro et al., 2004; Durham, 2004; Ibhaqui, 2019). Indeed, financial development is an essential support resource for the private sector, contributing to improving the efficiency of FDI attraction and use in the host country, thereby promoting economic growth in the host country. In addition to financial development, economic growth in the host country depends on a number of other factors. For example, population growth, especially the increase in good quality human resources, will be a necessary condition for the process of technology transfer in the host country to be highly effective, thereby promoting economic growth (Adegbite & Ayadi, 2010; Borensztein et al., 1998; Ibhagui, 2019). Furthermore, the domestic macroeconomy is also a factor that foreign investors are interested in (Adegbite & Ayadi, 2010; Ibhagui, 2019). This is because the stability of the domestic macroeconomy shows a favorable investment environment as well as the ability to bring high efficiency to investors, thereby increasing the benefits for the host country. In addition, government policies also have a significant impact on economic growth (Hayakawa et al., 2013). Indeed, government policies can have a positive impact on economic growth through promoting domestic consumption, facilitating and stimulating private sector investment (Grossman, 1990; Ram, 1986).

Overall, the impact of FDI on economic growth is an interesting research topic and has been mentioned in many empirical studies in different countries. In particular, many studies have concluded that the impact of FDI on economic growth depends significantly on the absorption level as well as the conditions of the host country. It can be seen that one of the important conditions to improve the absorptive capacity as well as the spillover effects of FDI on economic growth is the level of financial development in the host country. In addition, economic growth depends on a number of other factors such as: population growth, macroeconomy, and government policies.

2.2. The role of financial development in the impact of foreign direct investment on economic growth

Financial development focuses mainly on the improvement in the size of the banking sector and the stock market in comparison with the economy (Bencivenga & Smith, 1998; Greenwood & Jovanovic, 1990). Therefore, financial development is usually determined through the ratio of domestic credit to private sector (Choi & Park, 2017; Fisman & Love, 2003; Lim, 2018; Osei & Kim, 2020) and market capitalization (Choi & Park, 2017; Fisman & Love, 2003).

Financial development can promote economic growth through financing investment and production (Schumpeter, 1911). Moreover, financial development also plays an important role in stimulating the spillover effects of FDI on economic growth. Indeed, the improvement in the financial development of the host country shows that this country is improving their ability to provide high-quality financial services at a low cost, which will help foreign investors save time and costs when accessing and using these financial services (Pradhan et al., 2014). Thanks to the financial development of the host country, FDI enterprises can access a necessary amount of capital to expand production and business (Desbordes & Wei, 2017); accordingly, these enterprises can maintain and develop projects that they may have abandoned due to lack of capital (Giovanni, 2005). In addition, financial development also helps FDI enterprises improve investment efficiency, monitor investments, and even improve investment efficiency through the improvement in risk management capacity for these enterprises (Bertocco, 2008).

Overall, financial development can make the process of technology spillover to domestic enterprises more efficient (Hermes & Lensink, 2003). In other words, the impact of FDI on economic growth depends significantly on the level of financial development of the host country (Osei & Kim, 2020). This implies that the host country with the good level of financial development will be an important prerequisite for FDI to have a positive impact on economic growth (Alfaro et al., 2004; Azman-Saini et al., 2010; Borensztein et al., 1998; Xu, 2000). This claim has been found in several empirical studies. For example, Alfaro et al. (2004) suggested that the development of the financial market in the host country has an important contribution to stimulating the impact of FDI on economic growth, and this result is found based on the analysis of the data sample including both OECD countries and non-OECD countries.

Meanwhile, some views argue that the impact of FDI on economic growth becomes significant when financial development exceeds the minimum threshold. From this viewpoint, Azman-Saini et al. (2010) concluded that the positive impact of FDI on economic growth in 91 countries was only found after domestic credit exceeded the threshold of 49.7%.

In contrast, some views state that the impact of FDI on economic growth becomes insignificant when the host country promotes financial development on a large scale but inefficiently. This means that the financial sector only needs to develop on a small scale but with high efficiency, which can stimulate the positive impact of FDI on economic growth. The studies of Ibhagui (2019), Osei and Kim (2020) share the same view. Accordingly, Ibhagui (2019) shows that the response of economic growth to the increase in FDI in 45 countries of the Sub-Saharan African region depends on important economic catalysts, especially the level of financial development in the host country. This study has confirmed that the threshold value of domestic credit is 14.58%. Specifically, if

domestic credit is below this threshold value, the impact of FDI on economic growth is positive. However, the impact of FDI on economic growth turns negative and insignificant when domestic credit exceeds the threshold value of 14.58%. Sharing the same view, Osei and Kim (2020) reveal that the impact of FDI on economic growth in 62 middle-income and high-income countries becomes insignificant when domestic credit exceeds the threshold value of 95.6%. This implies that credit expansion can lead to credit bubbles or financial depression, destabilizing and hindering economic growth.

In summary, the impact of FDI on economic growth can depend significantly on the level of financial development in the host country. However, there are still many conflicting views in determining the level of financial development to maximize the spillover effects of FDI on economic growth. Indeed, Azman-Saini et al. (2010) asserted that the positive impact of FDI on economic growth was only found after domestic credit exceeded the threshold of 49.7%. From a different viewpoint, Ibhagui (2019) advocates that the positive impact of FDI on economic growth only exists when domestic credit is below the threshold value of 14.58%. Meanwhile, Osei and Kim (2020) conclude that the positive impact of FDI on economic growth becomes significant when domestic credit is below the threshold value of 95.6%. In addition, the existing literature faces a major limitation when it only focuses on defining financial development through domestic credit, but has not paid much attention to financial development through the size of the stock market. Therefore, the creation of empirical evidence to determine the role of financial development in the impact of FDI on economic growth is a research topic with many gaps to be explored. Furthermore, this research topic will become more interesting if financial development is comprehensively defined through the development of the banking sector and the stock market.

2.3. Hypothesis development

In this study, the author focuses on determining the role of financial development in the impact of FDI on economic growth in ASEAN-6 countries. Based on the ideas of Azman-Saini et al. (2010), Ibhagui (2019), and Osei and Kim (2020), there may be a threshold value of financial development, and before and after this threshold value, the impact of FDI on economic growth may vary. Moreover, statistically, the research model can have more than one threshold value of financial development (Hansen, 1999; Wang, 2015). Financial development is measured by the author through domestic credit and market capitalization. Thus, the author proposes the following research hypotheses:

Hypothesis H_{1a} : One or more threshold values for domestic credit exist. Accordingly, the impact of FDI on economic growth may change when domestic credit exceeds these thresholds.

Hypothesis H_{1b} : One or more threshold values for market capitalization exist. Accordingly, the impact of FDI on economic growth may change when market capitalization exceeds these thresholds.

Not only stopping at estimating the threshold values of financial development, the author also considers the change in the level of impact of FDI on economic growth when financial development exceeds the threshold value that has been determined. The fact shows that financial development plays an important role in stimulating the spillover effects of FDI on economic growth. In other words, financial development contributes to stimulating the positive impact of FDI on economic growth, which is consistent with the previous statements of Azman-Saini et al. (2010), Ibhagui (2019), and Osei and Kim (2020). In ASEAN-6 countries, the level of financial development is still limited in comparison with developed countries in the world, especially in comparison with development in ASEAN-6 countries will play an important role in supporting as well as enhancing the spillover effects of FDI on economic growth. In other words,

the improvement in the level of financial development in ASEAN-6 countries will stimulate the positive impact of FDI on economic growth, and this impact may become more significant when financial development exceeds a certain threshold value. Therefore, the author proposes the following research hypotheses:

Hypothesis H_{2a} : Before the threshold value of domestic credit, FDI has a positive impact on economic growth.

Hypothesis H_{3a} : The impact of FDI on economic growth may increase when domestic credit exceeds defined threshold values.

Hypothesis H_{2b} : Before the threshold value of market capitalization, FDI has a positive impact on economic growth.

Hypothesis H_{3b} : The impact of FDI on economic growth may increase when market capitalization exceeds defined threshold values.

3. Estimation method and data

3.1. Estimation method

According to Azman-Saini et al. (2010), Ibhagui (2019), and Osei and Kim (2020), there may be a threshold value (λ) of financial development, where the impact of FDI on economic growth may change when financial development exceeds this threshold. Based on this, the author builds a research model on the impact of FDI on economic growth as follows:

$$\mathsf{EG}_{\mathsf{i}\mathsf{t}} = \alpha + \beta_1 \mathsf{FDI}_{\mathsf{i}\mathsf{t}} \mathsf{I}(\mathsf{FD}_{\mathsf{i}\mathsf{t}} \le \lambda) + \beta_2 \mathsf{FDI}_{\mathsf{i}\mathsf{t}} \mathsf{I}(\mathsf{FD}_{\mathsf{i}\mathsf{t}} > \lambda) + \delta \mathsf{CV}_{\mathsf{i}\mathsf{t}} + \varepsilon_{\mathsf{i}\mathsf{t}}$$
(1)

In model (1), EG is economic growth, measured through the natural logarithm of GDP per capita, which is consistent with the previous views of Ibhagui (2019), Osei and Kim (2020).

FDI is measured through the net inflows of foreign direct investment (% of GDP), which are investment flows that bring direct and lasting benefits for the host country. This measure has been used in most of the previous studies, such as: Alfaro et al. (2004), Ibhagui (2019), and Osei and Kim (2020).

Financial development (FD) is determined through domestic credit (FD_1) and market capitalization (FD_2). Accordingly, FD_1 is domestic credit to private sector (% of GDP), FD_2 is market capitalization of listed domestic companies (% of GDP). By using this measure, the author expects FD to be considered more comprehensively in comparison with previous studies. Indeed, FD_1 has been used in most of the previous studies, such as: Alfaro et al. (2004), Ibhagui (2019), and Osei and Kim (2020). However, almost no studies have examined the role of FD_2 when analyzing the impact of FDI on economic growth. Meanwhile, FD_1 and FD_2 are two important components representing financial development in each country (Bencivenga & Smith, 1998; Choi & Park, 2017; Fisman & Love, 2003; Greenwood & Jovanovic, 1990).

The important component in model (1) is the threshold value λ of financial development; this threshold value can be determined corresponding with two indicators representing financial development, namely credit domestic market (λ_a) and market capitalization (λ_b). I(.) is an indicator function of financial development.

CV is a set of control variables used in the research model, including: government expenditure (GE), population growth (PG), and inflation (INF). Accordingly, GE is general government final consumption expenditure (% of GDP); this variable is included in the research model based on the endogenous

growth theory, and has been used in the studies of Alfaro et al. (2004), Ibhagui (2019), and Osei and Kim (2020). PG is population growth (annual %); the appearance of this variable in the research model is consistent with the neoclassical growth theory, and is also consistent with the previous statements of Alfaro et al. (2004), Ibhagui (2019). Finally, INF is consumer prices (annual %); this variable was found in the studies of Ibhagui (2019), Osei and Kim (2020).

Model (1) assumes that there is only one threshold value (λ) of financial development, which is consistent with the views of Azman-Saini et al. (2010), Ibhagui (2019), and Osei and Kim (2020). Statistically, however, the research model can have more than one threshold value of financial development (Hansen, 1999; Wang, 2015). If there are two threshold values (λ_1 và λ_2) of financial development, model (1) will have the following form:

$$\mathsf{EG}_{it} = \alpha + \beta_1 \mathsf{FDI}_{it} I(\mathsf{FD}_{it} \le \lambda_1) + \beta_2 \mathsf{FDI}_{it} I(\lambda_1 < \mathsf{FD}_{it} \le \lambda_2) + \beta_3 \mathsf{FDI}_{it} I(\mathsf{FD}_{it} > \lambda_2) + \delta \mathsf{CV}_{it} + \varepsilon_{it}$$
(2)

Where λ_1 and λ_2 are two threshold values of financial development. These two threshold values can be determined corresponding with two indicators representing financial development, namely domestic credit (λ_{1a} and λ_{2a}) and market capitalization (λ_{1b} và λ_{2b}). Other variables are similar to those in model (1).

Overall, if there are j thresholds, model (1) will have the following form:

$$EG_{it} = \alpha + \beta_1 FDI_{it}I(FD_{it} \le \lambda_1) + \sum_{j=1}^{j=2} \beta_j FDI_{it}I(\lambda_{j-1} \langle FD_{it} \le \lambda_j) + \beta_{j+1} FDI_{it}I(FD_{it} \rangle \lambda_j) + \delta CV_{it} + \epsilon_{it}$$
(3)

Where λ_j indicates the threshold values of financial development. These threshold values can be determined corresponding with two indicators representing financial development, namely domestic credit (λ_{ia}) and market capitalization (λ_{ib}). Other variables are similar to those in models (1) and (2).

Regarding the estimation method, the author uses threshold effects to estimate the threshold value of financial development. This estimation method was proposed by Hansen (1999), then developed by Wang (2015). Basically, this estimation method is implemented based on fixed effect threshold regression for strongly balanced panel data. Therefore, threshold effects have the advantage in determining the threshold value of financial development. However, this estimation method faces limitations when analyzing the impact of FDI on economic growth in the regions before and after the threshold value λ , especially the limitation in controlling potential endogeneity issues in the research model. To overcome this limitation, the author uses the system GMM approach proposed by Arellano and Bond (1991) when analyzing the impact of FDI on economic growth in the regions before and after the threshold value λ . Through this approach, the author can overcome violated regression hypotheses and control the potential endogeneity in the research model (Doytch & Uctum, 2011).

3.2. Data

In this study, the author uses the data of ASEAN-6 countries in the period 2002–2019. This sample includes: Indonesia, Malaysia, Thailand, Singapore, the Philippines, and Vietnam. These countries have impressive economic growth compared to the rest of the region. Moreover, these countries have many similar characteristics, especially similarities in economic growth as well as in macroeconomic situation (Pham et al., 2020). By collecting the data of the countries with many similar characteristics, the author believes that the estimation results can be reliable and consistent with the countries in the sample. In addition, this approach also overcomes limitations when the data are inadequate to estimate the research model according to the data sample of each country. Specifically, the data sample was collected in the period 2002–2019, which is the period before, during and after the financial crisis; therefore, the estimation results will be comprehensive and may be appropriate for different situations of the economy. The data of the variables in the research model were collected by the author from the source of the World Bank.

4. Empirical analysis

The preliminary statistical results of the data sample are presented in Table 1.

Table 1 shows that the mean of EG is 8.45 (corresponding with \$11,011.86). In particular, Singapore's EG reached the highest value in 2018 (11.10, corresponding with 66,188.78 USD), and the lowest value belonged to Vietnam in 2002 (6.06, corresponding with 430.05 USD). The mean of FDI is 5.83%; Indonesia was the country with the lowest value (-0.25%) in 2003, and the highest value (28.60%) belonged to Singapore in 2017. Regarding FD_1, the average value is 85.76%; the lowest value (27.25%) belonged to Indonesia in 2010, the highest value (149.37%) belonged to Thailand in 2015. The mean of FD_2 is 91.81%; accordingly, the lowest value (0.41%) belonged to Vietnam in 2002, and the highest value (297.98%) belonged to Singapore in 2007.

Table 2 below shows the results of correlation analysis:

The results of correlation analysis show that INF is negatively correlated with EG. However, the remaining variables in the research model are positively correlated with EG (Table 2).

Next, the author uses threshold effects to estimate the threshold value λ of financial development, and this result is presented in Table 3.

Table 3 shows that there is a threshold value λ of financial development, corresponding with two indicators representing financial development, which are FD_1 ($\lambda_a = 85.64\%$) and FD_2 ($\lambda_b = 21.95\%$). This means that the hypotheses H_{1a} and H_{1b} are accepted. In the case of more than one threshold value of financial development, the estimation results show no statistical significance, which means that models (2) and (3) are not suitable.

Overall, the impact of FDI on economic growth is consistent with model (1). Based on this, the author tests the impact of FDI on economic growth in the regions before and after the threshold values λ_a and λ_b .

The test results show that the mean of VIF has a rather low value; thus, multicollinearity is not a serious issue in the research model. However, the research model suffers from endogeneity, heteroscedasticity and autocorrelation between errors (Table 4). Therefore, the author estimates the research model through the system GMM approach to overcome these defects in the model.

The research model is estimated through the cases where the impact of FD_1 on economic growth and the impact of FD_2 on economic growth are statistically significant. Furthermore, the Arellano-Bond and Sargan tests are appropriate. These results are detailed in Table 5.

Regarding the estimation results in the case of the impact of FD_1 on economic growth, economic growth is significantly positively impacted by FDI. Accordingly, with FD_1 \leq 85.64%,

Table 1. The description of the data sample					
Variable	Mean	Std. Dev.	Min	Max	
EG	8.45	1.25	6.06	11.10	
FDI	5.83	7.10	-0.25	28.60	
FD_1	85.76	40.87	27.25	149.37	
FD_2	91.81	69.86	0.41	297.98	
GE	10.50	3.02	5.47	17.12	
PG	1.32	0.78	-1.47	5.32	
INF	3.89	3.66	-0.90	23.12	

Table 2. The results of correlation analysis							
Variable	EG	FDI	FD_1	FD_1	GE	PG	INF
EG	1.00						
FDI	0.73*** (0.00)	1.00					
FD_1	0.50*** (0.00)	0.33*** (0.00)	1.00				
FD_2	0.92*** (0.00)	0.74*** (0.00)	0.45*** (0.00)	1.00			
GE	0.36*** (0.00)	-0.16* (0.09)	0.47*** (0.00)	0.31*** (0.00)	1.00		
PG	0.20** (0.04)	0.13 (0.18)	-0.27*** (0.00)	0.34*** (0.00)	-0.21** (0.03)	1.00	
INF	-0.50*** (0.00)	-0.21** (0.03)	-0.38*** (0.00)	-0.50*** (0.00)	-0.54*** (0.00)	0.04 (0.71)	1.00

Note: ***significant at 1%, **significant at 5%, and *significant at 10%.

Table 3. The threshold effect test						
Model	$FD_1 \Rightarrow EG$		FD_2 ⇒ EG			
Threshold (λ)	First threshold	Second threshold	First threshold	Second threshold		
	85.64 [84.11, 89.22]	65.36 [36.42, 82.87]	21.95 [19.36, 23.28]	105.67 [104.74, 109.67]		
Prob	0.07*	0.23	0.03**	0.17		

Note: **significant at 5% and *significant at 10%.

FDI has a positive impact (0.06) on economic growth. However, when FD_1 exceeds the threshold value of 85.64%, the positive impact of FDI on economic growth increases significantly, reaching a value of 0.11. Therefore, the hypotheses H_{2a} and H_{3a} are accepted. This shows that the improved FD_1 will have an important role in stimulating the spillover effects of FDI on economic growth, and this role increases significantly when FD_1 exceeds the threshold value of 85.64%.

Regarding the estimation results in the case of the impact of FD_2 on economic growth, in the regions before and after the threshold value of 21.95% of FD_2, FDI has a positive impact on economic growth. Specifically, in the region before the threshold value of 21.95%, FDI has a positive impact (0.12) on economic growth. This impact increases slightly (0.13) when FD_2 exceeds the threshold value of 21.95%. Overall, FD_2 has an important role in stimulating the positive impact of FDI on economic growth, and this role increases slightly when FD_2 exceeds the threshold value of 21.95%. Accordingly, the hypotheses H_{2b} and H_{3b} are accepted.

Table 4. The test results of the research model				
	FD_1 ⇒ EG	FD_2 ⇒ EG		
Autocorrelation test	335.64*** (0.00)	317.86*** (0.00)		
Heteroscedasticity test	37.95*** (0.00)	65.06*** (0.00)		
Tests of endogeneity	179.16*** (0.00)	19.65*** (0.00)		
Multicollinearity test	Mean VIF = 1.40	Mean VIF = 1.55		

Note: ***significant at 1%.

Table 5. The estimation results of the research model					
Variable		FD_1 ⇒ EG	FD_2 ⇒ EG		
Foreign direct investment (FDI)	In the case of domestic credit (FD_1) \leq 85.64%	0.06*** (0.00)			
	In the case of domestic credit (FD_1) > 85.64%	0.11*** (0.00)			
	In the case of market capitalization (FD_2) ≤ 21.95%		0.12*** (0.01)		
	In the case of market capitalization (FD_2) > 21.95%		0.13*** (0.00)		
Government expenditure (GE)		0.11* (0.09)	0.16*** (0.00)		
Population growth (PG)		0.42*** (0.00)	0.47*** (0.00)		
Inflation (INF)		-0.20*** (0.00)	-0.07*** (0.00)		
_cons		6.98*** (0.00)	5.79*** (0.00)		
Significance level		441.18*** (0.00)	1065.96*** (0.00)		
Arellano-Bond test	AR(1)	-3.58*** (0.00)	-2.43** (0.02)		
	AR(2)	-1.09 (0.28)	-1.18 (0.24)		
Sargan test		2.48 (0.65)	75.05 (0.16)		

Note: ***significant at 1%, **significant at 5%, and *significant at 10%.

By concluding that the positive impact of FDI on economic growth depends significantly on the level of financial development in the host country, this study has provided important empirical evidence to support the previous views of Alfaro et al. (2004), Azman-Saini et al. (2010), Ibhagui (2019), and Osei and Kim (2020). This finding once again confirms the relevance of some previous theories, especially the endogenous growth theory. However, this study found the positive impact of FDI on economic growth in all of the regions before and after the threshold value of financial development. This result was also found in the case of financial development identified through FD 1 and FD 2, which is an interesting aspect of this study in comparison with previous studies. Moreover, the positive impact of FDI on economic growth increases significantly when financial development exceeds the defined threshold values. In other words, the spillover effects of FDI on economic growth will be maximally stimulated when FD_1 and FD_2 exceed the threshold values of λ_a and λ_b , respectively. In particular, the level of the impact of FDI on economic growth increases considerably (from 0.06 to 0.11) when FD_1 exceeds the threshold value λ_a , much higher than the level of the impact of FDI on economic growth (from 0.12 to 0.13) when FD_2 exceeds the threshold value $\lambda_{\rm h}$. Therefore, the improvement in the level of financial development through the banking sector can crucially stimulate the spillover effects of FDI on economic growth, which is consistent with the previous statement of Azman-Saini et al. (2010). In other words, the banking sector still plays an important role in the supply of capital and financial services, thereby remarkably stimulating the spillover effects of FDI on economic growth in ASEAN-6 countries. In terms of the financial development through the stock market, the research results have confirmed the role of this factor in stimulating the spillover effects of FDI on economic growth in ASEAN-6 countries. This is a new finding of the study compared to previous studies. Although the improvement in the financial development through the stock market does not enhance the impact of FDI on economic growth strikingly, it is an important medium and long-term capital supply channel, especially for FDI enterprises, thereby promoting economic growth. Overall, the banking sector and the stock market are playing an important role in supplying capital for the private sector, as well as improving the technology absorptive capacity of ASEAN countries, which is an crucial platform for economic growth stimulation in these countries. Nevertheless, in regard to the stimulation of the spillover effects of FDI on economic growth, the increase in financial development through the banking sector proves to be greater than that through the stock market, which reflects the characteristics of ASEAN-6 countries, where the banking sector still plays a key role in supplying capital to the economy while the stock markets in most of these countries are relatively nascent.

Regarding the control variables, the estimation results show that economic growth is significantly impacted by government expenditure, population growth and inflation; these results are found in both cases of the impact of FD_1 on economic growth and the impact of FD_2 on economic growth.

The estimation results reaffirm the appropriateness of the endogenous growth theory through finding the positive impact of government expenditure on economic growth. This is also consistent with the results of previous studies by Alfaro et al. (2004), Ibhagui (2019), and Osei and Kim (2020). Accordingly, government expenditure can boost economic growth by stimulating consumption and enhancing private sector investment. In particular, government expenditure, if used effectively, will contribute to increasing the quality of public services, which will create favorable conditions for improving the efficiency of private sector investment. Therefore, government expenditure is one of the factors that have a significant impact on economic growth in ASEAN-6 countries.

Regarding the control variable of population growth, the estimation results show that this variable has a positive impact on economic growth. This indicates that population growth, especially the increase in high-quality human resources, will create favorable conditions for technology transfer and absorption in the host country, thereby increasing the efficiency of FDI as well as stimulating economic growth in this country. This result is consistent with the neoclassical growth theory as well as the previous statements of Alfaro et al. (2004), Ibhagui (2019).

Regarding the control variable of inflation, this paper finds the negative impact of inflation on economic growth. Accordingly, the instability as well as the difficulties of the economy will create many difficulties in the process of attracting FDI, and can simultaneously limit the spillover effects of FDI on economic growth in ASEAN-6 countries. This is consistent with the previous views of Ibhagui (2019), Osei and Kim (2020).

5. Conclusions and policy implications

In this study, the author focuses on examining the role of financial development in the impact of FDI on economic growth in ASEAN-6 countries. Accordingly, financial development is measured through the development of the banking sector and the stock market. By using a combination of threshold effects and the system GMM approach, the study shows the important role of financial development in the spillover effects of FDI on economic growth. In particular, this study found the threshold values of domestic credit and market capitalization to be 85.64% and 21.95%, respectively. Accordingly, the positive impact of FDI on economic growth becomes stronger when financial development exceeds the defined threshold value; this result is found in the case where financial development is determined through domestic credit and market capitalization. It can be seen that this is an interesting finding as well as a great success of this study.

In addition, this study also finds the significant impact of government expenditure, population growth and inflation on economic growth. This shows that government policies and population growth will be an important foundation to promote economic growth. However, the obstacles in the economy can create many difficulties in attracting FDI, which can limit the spillover effects of FDI, and simultaneously hinder economic growth in ASEAN-6 countries.

Based on the findings of this study, ASEAN-6 countries should have appropriate policies to maximize the impact of FDI on economic growth. In particular, the improvement in domestic conditions as well as the increase in the absorptive capacity to FDI become extremely necessary in order to promote economic growth. To do this, ASEAN-6 countries need to focus more on improving the level of financial development. The level of financial development needs to be improved comprehensively in both the banking sector and the stock market, aiming to maintain and promote domestic credit beyond the threshold value of 85.64%, and market capitalization beyond the threshold value of 21.95%. At the same time, ASEAN-6 countries need to ensure financial development in a comprehensive way in terms of both scale and efficiency. As a result, the spillover effects of FDI can stimulate economic growth in a maximal and sustainable way.

Additionally, ASEAN-6 countries also need to have appropriate policies to create a favorable investment environment, thereby increasing the capacity to attract FDI as well as enhancing the efficiency of private sector investment. Attracting FDI should be focused on the sectors that need high technology and the host country's sectors of strength. Moreover, ASEAN-6 countries also need policies to provide preferential treatment and protect the benefits of foreign investors.

Simultaneously, the improvement in the quality of human resources is also a very important issue for ASEAN-6 countries. If the quality of human resources is improved, technology transfer as well as technology absorptive capacity in these countries will become more effective, which will be an important driving force to promote economic growth.

This study has achieved certain successes, especially with many interesting findings in comparison with previous studies. However, this study uses the data sample of ASEAN-6 countries, which has certain limitations in representing all the countries in this region. This limitation is acceptable in order to create a data sample with similarities between countries so that the obtained estimation results will be more reliable.

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References

- Adegbite, E. O., & Ayadi, F. S. (2010). The role of foreign direct investment in economic development: A study of Nigeria. World Journal of Entrepreneurship, Management and Sustainable Development, 6(1/2), 133–147. https://doi.org/10.1108/ 20425961201000011
- Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy Modeling*, 26(5), 627–639. https://doi.org/10. 1016/j.jpolmod.2004.04.011
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: The role of local financial markets. *Journal of International Economics*,

64(1), 89–112. https://doi.org/10.1016/S0022-1996(03)00081-3

- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58(2), 277–297. https://doi.org/10.2307/ 2297968
- Ayanwale, A. B. (2007). FDI and economic growth: Evidence from Nigeria. AERC Research Paper 165, The African Economic Research Consortium, Nairobi, Kenya. https://aercafrica.org/wp-content/uploads/ 2018/07/RP 165.pdf
- Azman-Saini, W. N. W., Law, S. H., & Ahmad, A. H. (2010). FDI and economic growth: New evidence on the role of financial markets. *Economics Letters*, 107(2), 211–213. https://doi.org/10.1016/j.econlet.2010.01.027
- Bencivenga, V. R., & Smith, B. D. (1998). Economic development and Financial depth in a model with costly financial intermediation. *Research in Economics*, 52 (4), 363–386. https://doi.org/10.1006/reec.1998.0176
- Bertocco, G. (2008). Finance and development: Is Schumpeter's analysis still relevant. *Journal of Banking and Finance*, 32(6), 1161–1175. https://doi. org/10.1016/j.jbankfin.2007.10.010
- Blomstrom, M., & Kokko, A. (2003). The economics of foreign direct investment incentives. Working Paper 9489, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/papers/w9489
- Blomstrom, M., Lipsey, R. E., & Zejan, M. (1992). What explains developing country growth? Working Paper 4132, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/system/files/ working_papers/w4132/w4132.pdf
- Bluedorn, J., Duttagupta, R., Guajardo, J., & Topalova, P. (2013). Capital flows are fickle: Anytime, anywhere.

IMF Working Paper WP/13/183, International Monetary Fund. https://www.imf.org/external/pubs/ ft/wp/2013/wp13183.pdf

- Borensztein, E., Gregorio, D. J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1), 115–135. https://doi.org/10.1016/S0022-1996(97)00033-0
- Caves, R. E. (1996). Multinational Enterprise and Economic Analysis (2nd ed.). Cambridge University Press.
- Choi, C., & Park, K. (2017). Financial system and housing price. Emerging Markets Finance and Trade, 54(2), 328–335. https://doi.org/10.1080/1540496X.2017.1344832
- Desbordes, R., & Wei, S. J. (2017). The effects of financial development on foreign direct investment. Journal of Development Economics, 127, 153–168. https://doi. org/10.1016/j.jdeveco.2017.02.008
- Diaconu, L. (2014). The foreign direct investments in South East Asia in the context of the 1997 and 2007 crises. *Procedia - Social and Behavioural Sciences*, 109, 160–164. https://doi.org/10.1016/j.sbspro.2013.12.437
- Doytch, N., & Uctum, M. (2011). Does the worldwide shift of FDI from manufacturing to services accelerate economic growth? A GMM estimation study. *Journal of International Money and Finance*, 30(3), 410–427. https://doi.org/10.1016/j.jimonfin.2011.01.001
- Durham, J. B. (2004). Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth. *European Economic Review*, 48(2), 285–306. https://doi.org/10. 1016/S0014-2921(02)00264-7
- Fisman, R., & Love, I. (2003). Trade credit, financial intermediary development, and industry growth. The Journal of Finance, 58(1), 353–374. https://doi.org/10. 1111/1540-6261.00527
- Giovanni, J. D. (2005). What drives capital flows? The case of cross-border M&A activity and financial deepening. *Journal of Financial Economics*, 65(1), 127–149. https://doi.org/10.1016/j.jinteco.2003.11.007
- Gorg, H., & Greenaway, D. (2004). Much ado about nothing? Do domestic firms really benefit from foreign direct investment? World Bank Research Observer, 19(2), 171–197. https://doi.org/10.1093/ wbro/lkh019
- Greenwood, J., & Jovanovic, B. (1990). Financial development, growth, and the distribution of income. Journal of Political Economy, 98(5), 1076–1107. https://doi. org/10.1086/261720
- Gregorio, D. J. (2005). The role of foreign direct investment and natural resources in economic development. In G. E. m. (Ed.), Multinationals and foreign investment in economic development. international economic association series (pp. 179–197). Palgrave Macmillan . https://doi. org/10.1057/9780230522954 9
- Grossman, P. J. (1990). Government and growth: Cross-sectional evidence. *Public Choice*, 65(3), 217–227. https://doi.org/10.1007/BF00204946
- Gui-Diby, S. L. (2014). Impact of foreign direct Investments on economic growth in Africa: Evidence from three decades of panel data Analyses. *Research in Economics*, 68(3), 248–256. https://doi.org/10. 1016/j.rie.2014.04.003
- Hansen, B. E. (1999). Threshold effects in non-dynamic panels: Estimation, testing, and inference. Journal of Econometrics, 93(2), 345–368. https://doi.org/10. 1016/S0304-4076(99)00025-1
- Hanson, G. H. (2001). Should countries promote foreign direct investment? G-24, Discussion Paper No. 9, United Nations Conference on Trade and Development (UNCTAD), United Nations Publication, Palais des

Nations, Switzerland. https://unctad.org/system/files/ official-document/pogdsmdpbg24d9.en.pdf

- Hayakawa, K., Kimura, F., & Lee, H. H. (2013). How does country risk matter for foreign direct investment? The Developing Economies, 51(1), 60–78. https://doi.org/ 10.1111/deve.12002
- Hermes, N., & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *Journal of Development Studies*, 40(1), 142–163. https://doi.org/10.1080/00220380412331293707
- Herzer, D., Klasen, S., & Nowak-Lehmann, F. D. (2008). In search of FDI-led growth in developing countries: The way forward. *Economic Modelling*, 25(5), 793–810. https://doi.org/10.1016/j.econmod.2007.11.005
- Ibhagui, O. (2019). How does foreign direct investment affect growth in sub-Saharan Africa? New evidence from threshold analysis. *Journal of Economic Studies*, 47(1), 149–181. https://doi.org/10.1108/JES-06-2018-0198
- IMF (1993). Balance of payments: conceptual framework. https://www.imf.org/external/np/sta/bop/BOPman.pdf
- Kong, Q., Guo, R., Wang, Y., Sui, X., & Zhou, S. (2020). Home-country environment and firms' outward foreign direct investment decision: Evidence from Chinese firms. *Economic Modelling*, 85, 390–399. https://doi.org/10.1016/j.econmod.2019.11.014
- Lim, T. (2018). Growth, financial development, and housing booms. Economic Modelling, 69, 91–102. https:// doi.org/10.1016/j.econmod.2017.09.008
- Makiela, K., & Ouattara, B. (2018). Foreign direct investment and economic growth: Exploring the transmission channels. *Economic Modelling*, 72, 296–305. https://doi.org/10.1016/j.econmod.2018.02.007
- Miao, M., Borojo, D. G., Yushi, J., Desalegn, T. A., & McMillan, D. (2021). The impacts of Chinese FDI on domestic investment and economic growth for Africa. *Cogent Business & Management*, 8(1), 1886472. https:// doi.org/10.1080/23311975.2021.1886472
- Nair-Reichert, U., & Weinhold, D. (2001). Causality tests for cross-country panels: A new look at FDI and economic growth in developing countries. Oxford Bulletin of Economics and Statistics, 63(2), 153–171. https://doi.org/10.1111/1468-0084.00214
- Noorzoy, M. S. (1979). Flows of Direct Investment and their effects on Investment in Canada. *Economic Letters*, 2(3), 257–261. https://doi.org/10.1016/0165-1765(79)90032-6
- Osei, M. J., & Kim, J. (2020). Foreign direct investment and economic growth: Is more financial development better? *Economic Modelling*, *93*, 154–161. https://doi. org/10.1016/j.econmod.2020.07.009
- Pham, B. T., Sala, H., & Silva, J. I. (2020). Growth and real business cycles in Vietnam and the Asean-5. Does the trend shock matter? *Economic Systems*, 44(1), 100730. https://doi.org/10.1016/j.ecosys.2019.100730
- Pradhan, R. P., Arvin, M. B., Hall, J. H., & Bahmani, S. (2014). Causal nexus between economic growth, banking sector development, stock market development, and other macroeconomic variables: The case of ASEAN countries. *Review of Financial Economics*, 23(4), 155–173. https://doi.org/10.1016/j.rfe.2014.07.002
- Ram, R. (1986). Government size and economic growth: A new framework and some evidence from cross section and time-series data. *The American Economic Review*, 76 (1), 191–203. https://www.jstor.org/stable/1804136
- Romer, P. M. (1990). Endogenous technological change. Journal of Political Economy, 98(5, Part 2), 71–102. https://doi.org/10.1086/261725
- Schumpeter, J. A. (1911). The Theory of Economic Development. Harvard University Press.

Solow, R. M. (1956). A contribution to the theory of economic growth. The Quarterly Journal of Economics, 70 (1), 65–94. https://doi.org/10.2307/1884513

- Sumner, A. (2005). Is foreign direct investment good for the poor? A review and stocktake. Development in Practice, 15(3–4), 269–285. https://doi.org/10.1080/ 09614520500076183
- Wang, Q. (2015). Fixed-effect panel threshold model using Stata. The Stata Journal, 15(1), 121–134. https://doi.org/10.1177/1536867X1501500108Wong, K. N., & Tang, T. C. (2011). Foreign direct investment

and employment in manufacturing and services sectors:

Fresh empirical evidence from Singapore. Journal of Economic Studies, 38(3), 313–330. https://doi.org/10. 1108/01443581111152427

- Xu, B. (2000). Multinational enterprises, technology diffusion, and host country productivity growth. Journal of Development Economics, 62(2), 477–493. https://doi. org/10.1016/S0304-3878(00)00093-6
- Yavas, B. F., & Malladi, R. K. (2020). Foreign direct investment and financial markets influences: Results from the United States. North American Journal of Economics and Finance, 53, 101182. https://doi.org/10.1016/j.najef. 2020.101182



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