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**MASTER OF ASEAN STUDIES**

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**THE EFFECT OF FOREIGN DIRECT INVESTMENT (FDI)  
TO THE ECONOMIC GROWTH OF ASEAN MEMBER STATES**

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18 November 2022

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18 November 2022

## Acceptance Page

This paper prepared by **APRIL MICAH FERNANDEZ ESTERON** with the title: “**The Effect of Foreign Direct Investment (FDI) to the Economic Growth of ASEAN Member States**” is hereby accepted by the Faculty of Management and Development Studies, U.P. Open University, in partial fulfillment of the requirements for the Master of ASEAN Studies.

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## Biographical Sketch

April Micah Fernandez Esteron was born on the 4th of April 1998 in Cavite City. She is the first child of Honorato and Jasmin Esteron. She has only one sibling, namely, Joice Jonah Fernandez Esteron.

She finished her primary education at The International School for Children in Tanza, Cavite, where she was awarded as the pioneer batch in the school.

She passed the entrance exam in Cavite National Science High School (CNSHS), which is known as the Regional Science High School in Region IV-A. She finished her secondary education in CNSHS, where she completed her research paper in the field of Mathematics entitled “Dodecahedron-Icosahedron as Dual Pair”.

In 2014, she passed the University of the Philippines College Admissions Test and took Bachelor of Science in Mathematics. She became a scholar of the Armed Forces of the Philippines Education Benefit System Office. However, after a year and a half, she shifted to Bachelor of Science in Agricultural Economics Major in Farm Management and Production Economics.

During her undergraduate years, she became part of an academic organization, UP Society of Management and Economics Students or UP SMES, where she served as the Secretary and later on, the President. She also became part of an international organization, AIESEC where she served as the Outgoing Exchange Operations Officer, Business Development Officer, and Incoming Exchange Operations Officer. Under AIESEC, she went on a global volunteer exchange in Kielce, Poland in 2016 and in Ho Chi Minh, Vietnam in 2017. At the age of 19, she had already visited nine



countries in Europe and in Asia, namely: France, Spain, Netherlands, Poland, Austria, Hungary, Japan, Thailand, and Vietnam.

As the daughter of the former Admin Assistant to the Defence Attaché in Thailand, she participated in several diplomatic activities, such as the celebration of the 118<sup>th</sup> Philippine Independence Day in Bangkok, Thailand. She was part of the Filipina models who showcased Filipino creations and filigrees on the runway.

For a year and a month, she worked in the Department of Trade and Industry or DTI under Foreign Trade Service Corps as the Regional Coordinator for ASEAN++, wherein she directly worked with Commercial Attachés from Philippine Embassies all over the world. She also organized Presidential Visits of President Rodrigo Duterte in China, Japan, Korea, and Russia. She also worked in Procter & Gamble or P&G as a Junior Associate in the Finance & Accounting Department under P&G International Operations, specializing in freight audit payments from international markets. Currently, she is working in Accenture Technologies in the Philippines for almost a year as an Application Development Senior Analyst or a Coupa Functional Consultant. She has several Coupa certifications, namely: Platform, Contract Lifecycle Management, Analytics, Sourcing, Risk Assess, and Supplier Information Management. Outside her projects, she is also leading the initiative Coupa Cloud Sprint Sales, which brings significant contributions to the operations of Accenture in terms of training.

## **Acknowledgment**

I am beyond grateful for the people who were with me on this journey. They were the people who taught me that this journey in life is worth fighting for. I would not be able to finish my thesis without their help.

First and foremost, I would like to thank God for giving me countless blessings. He has provided me the knowledge and resources to make it this far in my studies. He is always the reason why I can achieve all things that I have right now.

I would like to thank my fiancé, Christian Paulo Martinez Rey, for supporting me in every endeavor. He was my support during the hard times and my strength during the happy times. He was my number 1 supporter, and he always believed that I could surpass any challenge, whether it may be at work or at school.

I also want to sincerely thank my parents, my mother and father, for always being there since I was born. They provided all the needs that shaped me into where I am right now. I also learned all the good working ethics from my mom, which significantly contributed to my school and work. I also want to thank my sister, Jj, who was with me in every tear and laughter from childhood until today. I am also grateful to my tita Doreng for all her sacrifices in taking very good care of me.

Last but not least, I am beyond grateful to my college classmate, a UP Visayas Economics professor, Brian Ponce, who contributed a lot in conceptualizing this thesis and most specifically, in evaluating the data and analyses.

## **Dedication**

This thesis is dedicated to my fiancé, Christian Paulo Martinez Rey, my strength and inspiration that keeps me going in every challenge in life.

I am also dedicating this to our future babies to serve as their inspiration.

## **Abstract**

This study analyzed the effect of foreign direct investment on the economic growth of 10 ASEAN member states from 1999-2021. Specifically, it determined if the foreign direct investment inflows of ASEAN member states have a significant positive or negative relationship to their economic growth, as represented by their gross domestic product per capita. It analyzed which economies in the ASEAN region benefit more from having increased foreign investments to identify if there are patterns of results presented by the ASEAN member states with disparate levels of foreign investments and development. Recommendations were drawn from the results from the secondary data acquired from World Bank and the statistical analysis through multiple regression analysis.

Using multiple regression analysis from the 1999-2021 data, it was concluded that foreign direct investment significantly and positively impacts the gross domestic product of ASEAN member states. This implies that the increase in foreign direct investment will result in an increase in their economic growth as well. The ASEAN member states were divided into high and low foreign direct investments, wherein Indonesia, Malaysia, Singapore, Thailand, and Vietnam belong to those with high investments, while Brunei, Cambodia, Lao, Myanmar, and the Philippines belong to those with low investments. In analyzing which economies benefit more from having increased foreign investments, ASEAN member countries were grouped into high and low foreign direct investments. Through multiple regression analysis, it was concluded that as both countries with high and low foreign direct investments increase, their economic growth also increases. However, ASEAN member states with high foreign direct investments increase more than those with low investments. Specifically, as

economic growth increases, countries with high foreign direct investment increase by 3.5507 units, but in countries with low foreign direct investment, it only increases by 0.0002. This implies that countries with high foreign direct investment improve more than those with low foreign direct investment.

ASEAN member states with high and low foreign direct investment were qualitatively analyzed in terms of their foreign direct investment strategies, infrastructure, and geography. It was concluded that countries with high foreign investment have fixed and better strategies with reduced tariffs and barriers to trade, compared to those with low investments that are full of bureaucracy and corruption that impede foreign investment. In terms of infrastructure, ASEAN countries with high foreign investment tend to have advanced infrastructure that makes it efficient for foreign businesses to thrive. Lastly, in terms of geography, ASEAN member states with high foreign investment have efficient connectivity to several countries worldwide. In policymaking, foreign direct investment is an essential factor for ASEAN member states to consider in improving their economic growth in the future. As a deciding body, ASEAN could implement regional and national-specific policies that would promote both intra and extra-ASEAN investments.

Keywords: ASEAN, Foreign Direct Investment, Economic Growth, Gross Domestic Product

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# **Chapter I**

## **INTRODUCTION**

### **Background of the Study**

Foreign direct investment is when an economy forms a long-term relationship with another economy by directly investing in its enterprises. The relationship between an investor and an enterprise is expressed through capital transactions and other transactions that do not arrive at any settlement. A direct investor may be referred to as an individual or group of individuals, a public or private enterprise, or a government that possesses a direct investment that operates in a country different from its own. On another note, a direct investment enterprise may be categorized as a subsidiary, associate, or branch in which the direct investor possesses 10% or more of its regular shares or voting power (Duce, 2003). For a foreign entity to be considered a direct investor, voting stocks may be acquired, or joint ventures may be initiated.

In 2020, the foreign direct investment inflow to the ASEAN region was recorded at USD 137.3 billion, which decreased by 25% from 2019. The USA has been the largest source of the region's investment inflow at USD 22.8 billion, comprising 25% of the total (The ASEAN Secretariat, 2021). ASEAN member states are known as one of the economies known for foreign direct investments globally, as this has been one of the priorities and initiatives of the ASEAN economic integration. Through the ASEAN Economic Community Blueprint 2025, the region aims to enhance its financial attractiveness and open its economy to obtain higher foreign direct investments. This goal was further strengthened by the ASEAN Comprehensive Investment Agreement (ACIA) to implement policies to liberalize and facilitate foreign investments. One of the

policy implementations of ACIA is to expand the scope of the most-favored-nation throughout the ASEAN member states (ASEAN Secretariat, n.d.). Noting that there are agreements and policy implementations for foreign direct investments within the ASEAN member states, there is a huge disparity of inflows within the economies, with Singapore having the highest at USD 114.2 billion and Brunei having the lowest at USD 0.4 billion. In this regard, the study will analyze the net foreign direct investment inflows of ASEAN member states. From an ASEAN perspective, this aims to recommend policies from member states that result in positive economic growth. These national policies will then be translated into regional policies that ASEAN may adopt to induce economic development through foreign direct investments.

### **Brunei: Challenges to Business Climate**

Within the ASEAN region, Brunei is known as having the least foreign direct investment. Like Singapore, its public policies and legal framework ensure economic openness, allowing 100% foreign ownership and equality of corporate income tax rate for local and foreign businesses (U.S. Embassy Commercial Section, 2020). Despite the government initiatives and its edge as an oil-producing country, the small size of the domestic market poses a threat to foreign direct investment because it is vulnerable to fluctuations in oil prices. The country does not have a Special Economic Zone, which should implement regulations attracting foreign direct investment. Comparably to Singapore as the 2nd in the World Bank's 2020 Doing Business report, Brunei ranked 66th of 190 countries where it still needs to improve its bureaucratic processes for businesses to thrive (Groupe Credit du Nord, 2021).

### **Cambodia: Initiatives in Promoting FDI**

Foreign direct investment has been a substantial factor in Cambodia's economic growth. When the country established a free market economy, the government also boosted initiatives for increasing foreign direct investment. The country's conducive business environment and low reliable labor market serve as its competitive edge to attract foreign businesses. In 1997, investments were approved by the Council for the Development of Cambodia (CDC), which increased to 67% from 22% in 1996. These industries mainly comprise cement production, garment, and electricity generation, wherein the bulk of these projects were joint ventures by South Korea, the United States, Hong Kong, and Canada. It implemented favorable incentives for foreign businesses through the CDC to augment the country's draw to foreign direct investment. Some of these include the repatriation of tax-free profits, exemption of eight years in corporate profit tax, and total exemption of import duties on selected industries. In addition, Cambodia continues to uphold its conducive environment for businesses by ratifying policies that resolve disputes with other countries. It also continues to improve its institutional upbringing by strengthening government agencies that spearhead the organization and operations of foreign direct investments. This includes the CDC, which supports high-tech industries that promote in-demand jobs in the country, such as tourism, infrastructure, and transportation (Sreng, 2001).

### **Indonesia: Institutional Focus on FDI**

Indonesia is known as one of the top destinations in ASEAN for foreign investment in which most researchers hypothesize that it promotes the country's efficiency to facilitate economic growth. President Soeharto began the liberal economy

in 1967, mainly focusing on attracting foreign direct investments to expedite the country's economic recovery. In 2010, it was also seen that foreign direct investment positively impacted productivity and employment, further increasing the country's exports. It was discerned that a significant percentage of what foreign companies are producing is being exported, which highly contributed to Indonesia's economic growth. Apart from this, foreign companies have also paid higher wages than the local countries, which empowered the economy's purchasing power (Setiawan, 2002).

### **Lao PDR: Shift Towards Market Mechanism**

In 1986, Lao PDR shifted to a market mechanism to open its market to other countries for foreign direct investments. Initiatives may have boosted the investment inflows; however, there is still a lack of incentives and protection for foreign businesses in the country. Even though there are improvements to be made in government policies, studies show that increasing foreign investments in the manufacturing sector will also increase its economic growth. Noting that Lao PDR opened its borders to other countries, which promoted trade liberalization, its economic growth also increased, even though costs were incurred during the process (Phommahaxay, 2013). The period 1993-2015 facilitated trade between Lao PDR and other countries, where new technologies and knowledge were adopted, and the exchange of goods were promoted. Through these changes, it was inferred that improvements within the country were made to attract foreign investments, such as human capital and infrastructure. As such, a 28% improvement in Lao PDR's production was observed throughout the period as trade openness persisted (Kang & Nantharath, 2019).

### **Malaysia: Advantages to Local Economy**

In Malaysia, foreign direct investment is perceived as one of the most critical contributors to economic growth as businesses create job opportunities for the country. Technology transfer also facilitates the growth of Malaysia as foreign investments would bring improvements and advancements to existing technology. Noting that one of the problems that hinder the country's economic growth is the lack of budget for investments, technology transfer through foreign investments greatly helps Malaysia to establish its production of goods and services that would result in improved efficiency in the manufacturing of goods and training of human capital. Studies support that foreign direct investment induces a positive and significant effect on economic growth; however, it is essential to note that it also poses a threat to domestic production as it may cause a monopoly on foreign businesses. The government must implement policies to prevent this and outweigh the benefits. For example, a joint venture between local and foreign businesses would be helpful for both to empower each other without neglecting Malaysian businesses (Lin, Man, & Mun, 2008).

### **Myanmar: Institutional Barriers**

In 1998, the country shifted to a market-oriented system as it reformed its economic policies and opened its market to foreign direct investments. The government saw it as a potential for Myanmar to improve its economic growth by increasing job opportunities, creating an improved workforce, and striving for a conducive business environment. In 2012, a Foreign Investment Law was ratified to favor the presence of foreign businesses. This allows them to 100% own their businesses in Myanmar or have a joint venture with local businesses. In addition, the

country also took part in the ASEAN Economic Community in lowering import duties and removing barriers to trade. For the government, opening its market and reforming policies to attract foreign investors will provide the opportunity to create jobs in the country and improve business operations through knowledge and skill transfer. While working on its economy, the government must also pay attention to the barriers, as Myanmar still has a number of improvements to fully declare that its environment would be conducive to foreign businesses. Among these barriers are political instability, lack of institutional capacity, information dissemination of government policies to foreign investors, poor infrastructure, and shortage of skilled human capital (Thein & Win, 2015).

### **Philippines: Improvement to FDI Linkages**

In 1991, the Philippines opened its economy to foreign direct investments through the Foreign Investment Act. Government agencies such as the Board of Investments and the Philippine Economic Zone Authority released foreign investment incentives to create an environment that would attract businesses. However, it is crucial to address whether foreign direct investments induce spillovers or positively affect the domestic market. According to the study of Aldaba & Aldaba (2010), the linkage between foreign and local businesses should be strengthened to produce a positive and significant spillover. Local businesses should be able to be at par with foreign businesses by providing avenues for training and upskilling to human capital, improvement of technology, support and funding to small and medium enterprises, and development of infrastructure and logistics.

## **Singapore: An Open Investment Regime**

Singapore is known as the country having the highest foreign direct investment within the region, noting that its trade-dependent economy focuses on in-demand sectors such as manufacturing, finance, wholesale and retail trade. The country is the smallest in the region in terms of population and area; however, it is a global business hub attractive to foreign investors. In terms of economic openness, Singapore's public policies and legal framework allow investors for 100% foreign ownership with no foreign exchange controls on its local companies. Its partnership with 80 countries through the double tax agreements gave way for the country to be known as having the lowest corporate tax rates in the ASEAN region. Singapore ranked 2nd in the World Bank's 2020 Doing Business report because it has a desirable business climate for foreign and local businesses. Companies in the United States tagged Singapore as one of the least corrupt and most developed infrastructures among the ASEAN member states and the world. Moreover, its government highly boosts its foreign direct investments by building a research and development center that focuses on innovating businesses through research grants, tax incentives, and partnerships with local agencies (Tipton, 2020).

The business environment of Singapore makes the country conducive to investors as Singapore has a number of multilingual workforces that are globally competitive and skilled. It ranked 2nd in the 2019 IMD World Competitiveness Yearbook, implying that it has one of the most productive workforces that many foreign investors can benefit from. In line with its immigration policies, the country also provides visa schemes for entrepreneurs and professionals with business purposes (Hawksford, n.d.). For the long term, Singapore has been dependent on foreign labor, which provides training opportunities to upskill further and develop its workforce. The

country maintains its quality labor by ensuring that foreign workers have a valid work pass, qualified skills, and a minimum salary (Tipton, 2020).

### **Thailand: Destination of Foreign Businesses**

Thailand's improvement in economic development has greatly been due to foreign direct investments and its participation in global value chains. In 2021, foreign investments shared 50% of the country's total gross domestic product. The government continues to strategize on how the country could heighten its attraction to foreign inflows. As a result, the country has significantly decreased its poverty rate from 60% in the 1990s to 7% in 2021. Up to date, it can be observed that foreign businesses in Thailand fuel its economy as a high number of quality goods are enjoyed by the Thai market. This prompted the increase in tourism as the country is known as the top destination in the ASEAN region. Furthermore, foreign business has also facilitated impeccable knowledge transfer as it centers and prioritizes research and development to improve its operations. Even though the country has attracted a significant number of foreign investments, disparities within local businesses need to be addressed. Small and medium enterprises constitute only half of the foreign firms' productivity, even lower outside Bangkok. Policies should be formulated for these local businesses to compete with foreign businesses to maximize economic growth (Chaivaivid & Kono, 2021).

### **Vietnam: Correlation of FDI to Economic Growth**

Vietnam is one of the fastest-growing economies in ASEAN and one of the top destinations where foreign businesses can invest. The country has been a popular hub of foreign inflows in construction, mining, manufacturing, and communication,

among others. The foreign direct investment share of the total gross domestic product in Vietnam has increased from 2% in 1992 to 19% in 2011. According to the study by Quoc & Thi (2018), the increase in foreign direct investment in 1990-1997 and 2000-2007 has also depicted a rise in economic growth. Accordingly, the decrease in foreign direct investment in 1997-1998 and 2008-2009 has also depicted a reduction in economic growth. To sustain the positive correlation between foreign direct investment and economic growth, investments should be made in the long run, and implementation should be integrated into the local economy.

### **Foreign Direct Investment and Economic Growth**

In developing economies, foreign direct investment is a salient factor that induces positive economic growth (Makki & Somwaru, 2004). Developing countries can heighten their technological capabilities through foreign investments from developed countries as it facilitates knowledge transfer from one economy to another. In addition to that, it also improves a country's economy through increased domestic investment and improved human capital. Foreign direct investment may positively affect economic growth; however, this impact differs across countries as they differ in several factors, such as infrastructure, trade policies, level of human capital, and macroeconomic stability (Makki & Somwaru, 2004). Manifesting the effect of foreign direct investment on a country's economic growth is essential. It may help a government decide on how it should formulate its plans and policies in terms of investments and other factors if it wants to heighten its economic growth. If a study has proven that foreign direct investment is positively affecting economic growth, then initiatives on how to attract foreign investors and improve a country's business climate will be instigated. Foreign direct investment may be a major indicator of a country's

performance; however, it is not the sole indicator. Foreign investments may fuel growth; however, other countries may possess a different strategy to focus on their domestic capacity to empower their resources. This study will consider that other ASEAN member states may be well-off with domestic investments or local initiatives.

In assessing economic growth, the gross domestic product will be used as the measure. In 2010, the total gross domestic product of all ASEAN member states was USD 3 trillion, which is known as the fifth largest economy in the world (The ASEAN Secretariat, 2021). In this study, the gross domestic product will be the independent variable and foreign direct investment will be the dependent variable. The gross domestic product includes investment, wherein this can be foreign investment or domestic investment. This study will consider that even though foreign investment is part of the gross domestic product, some countries do not favor the increase in foreign investment but have a high rate of economic growth. Among the ASEAN member states, Brunei has the least foreign direct investment, but the country is projected to grow by 3.7% in 2022 and is currently doing well in terms of its output despite the pandemic (Centre for Strategic and Policy Studies, n.d.).

### **Statement of the Problem**

In ASEAN, foreign direct investment is perceived as a crucial factor that affects a country's economic growth. The prerequisites of becoming an attractive economy for foreign investments improve the country. As seen from developed ASEAN member states like Singapore, it must have an environment conducive to businesses, an organized institution to implement incentives and policies, improved infrastructure and transportation, and skilled human capital. In addition, a huge number of foreign inflows emanates from new knowledge transfer, which positively influences the productivity of

a country and upskill its human labor. These determinants elucidate upfront and apparent grounds for how a country or a region heightens its economic growth.

However, it is also important to note that not all cases result in a significant increase in economic growth through foreign direct investments. This study will utilize gross domestic product per capita as the determinant for economic growth. In a country's gross domestic product, foreign direct investment is only a portion and constitutes other factors such as domestic investments. Noting that foreign direct investment may coincide with these factors, an increase may not always equate to a significant increase in gross domestic product. Moreover, this would suggest how and why the effect of foreign direct investment differs among ASEAN member states having disparate levels of foreign direct investment, culture, geography, and human labor. Each member state has a different strategy in how it crafts its local policies to enhance economic growth, and this study will explicate the role of foreign direct investment for each.

### **Objectives of the Study**

In general, the study aims to analyze the effect of foreign direct investment on the economic growth of ASEAN member states.

Specifically, it aims to:

1. explicate if the foreign direct investment inflows of ASEAN member states have a significant positive or negative relationship to their economic growth, as represented by their gross domestic product per capita;
2. analyze which economies benefit more from having increased foreign investments to identify if there are patterns of results presented by ASEAN member states with disparate levels of foreign investments and development;

and

3. draw foreign investment policy recommendations that would translate national policies to regional ASEAN policies.

### **Scope and Limitations**

The study is limited to analyzing the impact of foreign direct investment as a significant factor in a country's increase or decrease in economic growth. The focus of the study will be on foreign direct investment, given that scholarly articles have investigated their positive relationship, which this study will further investigate. In measuring economic growth, gross domestic product is used as it indicates how an economy is performing through the country's total value of all goods and services produced in a year.

In accounting for the control variables linked to the foreign direct investment that directly affects the gross domestic product, the study is limited to broad money, domestic credit to private sector by banks, domestic capital reserves including gold, and inflation.

The statistical method of this study is limited to analyzing the effects of foreign direct investment on economic growth in the year 1999-2021. This study will not examine its short-term and long-term impact on the country's economic growth.

### **Significance of the Study**

Determining whether foreign direct investment inflows of ASEAN member states have a significant positive or negative relationship to their economic growth can help local and regional policymakers improve their existing policies. If foreign inflows have a significant positive relationship with economic growth, the local policy makes

would be able to identify their focus on whether to add incentives or policies to attract foreign direct investment. ASEAN may also intervene by promoting a region-wide program or policy through the ASEAN Free Trade Area or other initiatives to induce inflows within the member state. If the study resulted in a significant negative relationship, local policymakers or ASEAN may analyze how to improve foreign direct investment inflows if there are areas where it could translate this to a positive impact.

Analyzing the effect of foreign direct investment on economic growth at an ASEAN-wide level would aid researchers in comparing the results of member states having high and low foreign direct investments, where the impact may differ for every economy. Every ASEAN member state is distinct from another, and this result may establish connections and patterns on how ASEAN's regional policies and organizations should approach the member states as a group.

## **Chapter II**

### **REVIEW OF RELATED LITERATURE**

#### **A Case Study in Indonesia**

In assessing the relationship between economic growth and foreign direct investment in Indonesia, a model was specified through an equation. In the study of Setiawan (2000), foreign direct investment served as the dependent variable and the independent variables were the following: gross domestic product, government expenditure in transportation, foreign debt, inflation rate, domestic saving rate, exchange rate, labor force, real trade balance, government policies (liberal policy and restrictive policy), and foreign direct investment in the previous years. In this equation, economic growth is represented by gross domestic product. Time series data from 1971-2000 was used, and some of them were nominal data. These data were then transformed into real data through the GDP deflator, wherein 1995 was the base year.

Through the ordinary least squares (OLS) estimation method, it was concluded that gross domestic product, domestic saving rate, foreign debt, and foreign direct investment in the previous years had a positive relationship with foreign direct investment. On the other hand, government expenditure in transportation, inflation rate, exchange rate, labor force, real trade balance, and government policies (liberal and restrictive policy) has a negative relationship with foreign direct investment. In this study, results show that foreign direct investment is positively and significantly related to economic growth, such that an increase of one unit in foreign direct investment leads to an increase in the gross domestic product by 0.0056 units. Other explanatory dependent variables lead to the explanation of the relationship between foreign direct investment and economic growth. Moreover, it reduces omitted bias since other

factors are included, which also contribute to the study.

### **FDI and Economic Growth in the Short and Long Run**

The study by Dinh, Vo, Vo, & Nguyen (2019) entitled Foreign Direct Investment and Economic Growth in the Short Run and Long Run: Empirical Evidence from Developing Countries examined the short and long-run impact of foreign direct investment on economic growth in 30 developing countries. Foreign direct investment has been an identified component that affects the countries' growth, noting that it promotes technology and knowledge transfer that induces a country's economic growth. Since then, developing countries have been aiming to increase investment due to its positive impact on the economies' growth through globalization, financial stability, and improvement of social welfare. In ASEAN countries, foreign direct investment is increased through government initiatives that enable a country's business climate to progress. This has been efficient in Singapore as the local government continues to improve its attractiveness to foreign investments. On the other hand, Brunei has been continuously working on this as the country lacks ease of doing business for foreign investments. ASEAN has been working on initiatives for globalization and economic integration, such as the ASEAN Economic Community and foreign direct investment has been a key factor in its success.

Through Vector Error Correction Model and Fully Modified Least Squares Estimation, it was concluded that foreign direct investment negatively affects economic growth in the short run but positively affects it in the long run. The study also used multiple regression, but further tools were used to analyze its short-run and long-run effects. Other factors affecting economic growth were also considered, such as domestic credit for the private sector, money supply, human capital, and total domestic

investment, affecting economic growth positively in the long run. Noting this conclusion, policies and government initiatives should center on attracting investments to maximize their impact on the country's economy. To maximize the positive effect of foreign direct investment, especially in human capital, highly skilled labor should drive the usage of new technology. In terms of money supply, the government should implement monetary policies that are flexible enough.

### **Economic Growth and FDI in Asia**

In the study of Mutascu & Tiwari (2011) entitled Economic Growth and FDI in ASIA: A Panel-Data Approach, it has been concluded that exports induce a positive impact on the economic growth of 23 Asian countries. In addition, capital and human labor would also heighten the effect as it opens opportunities for technology transfer that attract foreign investments. Capital would open more opportunities and resources to fund the establishment of technology, and human labor would be the catalyst for its successful implementation. Capital and human labor would also pave the way for infrastructures to develop and serve as the factor to attract foreign investments. Apart from technology, capital, and human labor, other factors would also increase a country's attractiveness to foreign investments, such as financial development, trade openness, and public investment.

### **Money Supply in FDI and Economic Growth**

In the study of Hina & Ullah (2019), time series data from 1995-2017 in the context of Pakistan was obtained from the World Bank. Economic growth is the independent variable, and foreign direct investment is the dependent variable. In this journal, the money supply was analyzed to determine whether it strengthens or

weakens the relationship between foreign direct investment and economic growth. It was concluded through regression analysis that money supply strengthens the relationship between foreign direct investment and economic growth. This means that if the country increased its money supply, it would result in an increase in economic growth that would further the foreign direct investment inflows of the country.

### **Financial Development in FDI and Economic Growth**

In the context of ASEAN-6, which are countries Indonesia, Malaysia, Philippines, Singapore, and Thailand, financial development was examined to determine whether it positively or negatively affects the relationship between foreign direct investment and economic growth. In the study of Nguyen (2022), financial development is defined as those involving the stock market and the banking sector. Financial development is set to have a threshold, and it was observed whether the effect of foreign direct investment on economic growth will improve or not if the threshold is increased. Financial development includes domestic credit and market capitalization, in which the positive effect of foreign direct investment on economic growth improves when the threshold of financial development increases. Apart from this, inflation negatively affects economic growth, such that the unstable market condition poses a threat and challenges in improving foreign direct investment inflows.

### **Capital Reserves and FDI**

The study of Qian & Steiner (2012) explicated the theoretical model showing the effect of the level of capital reserves on the ratio of productivity enhancement incentive and foreign direct investment. Reserves play an imperative role to support and induce a country's financial health since they stabilize the exchange rate and

prevent losses brought upon by crisis. This concludes that higher reserves would bring a significant positive effect to the ratio of productivity enhancement incentive and foreign direct investment, such that a more stabilized economic status would induce higher productivity enhancement and attract more foreign businesses.

### **Levels of FDI within ASEAN**

In the study of Jeong, Lee & Pek (2018), the factors influencing the ASEAN FDI were analyzed. In doing so, the researchers first grouped the ASEAN countries into a high-income group comprising Malaysia, Singapore, and Thailand and a low-income group comprising Cambodia, Lao, and Myanmar. It was seen that the group with high values offers a better business climate, which further implies that the better the business climate, the higher the foreign direct investment inflow is.

### **Multiple Regression in Economic Growth and FDI**

The study of Gudaro et al. (2012) discussed the impact of foreign direct investment on economic growth in Pakistan. The researchers utilized data from World Bank from 1981-2010. Gross domestic product was used as a measure of economic growth, the dependent variable in the equation. Independent variables were expressed as foreign direct investment and inflation through the consumer price index. In establishing the impact, the statistical analysis used was multiple regression. It was then concluded that foreign direct investment positively affects the gross domestic product, which explains that an increase in foreign direct investment by one unit will increase the gross domestic product by 0.39 units. On the other hand, inflation has a negative impact on the gross domestic product, wherein a decrease in foreign direct investment by one unit will decrease the gross domestic product by 1.13 units.

Through multiple regression, these relationships were found to be significant.

Hence, in the case of Pakistan, foreign investments fuel the country's economy such that opportunities and benefits for foreign businesses must be incorporated into local policies to heighten economic growth.

### **Exogenous-growth Theory or Neo-classical Growth Model**

The study of Mahembe & Odhiambo (2014) analyzed the theoretical relationship between foreign direct investment and economic growth. As a primary catalyst for economic growth, foreign direct investment improves technological growth and knowledge transfer among countries. The exogenous-growth theory proposes that economic growth is fueled by external factors of production, such as capital and labor. This theory is supported by the Cobb-Douglas production function driven by domestic input, foreign input, labor input, and rate of technological development. These production factors include trade as foreign input through technological transfer plays a huge contribution. Through this, it was concluded that foreign direct investment increases a country's capital stock and improves its technology, which would also increase investment and further enhance economic growth. This supports the exogenous-growth theory or neo-classical growth model that foreign direct investment positively affects economic growth through these factors.

## **Chapter III**

### **METHODOLOGY**

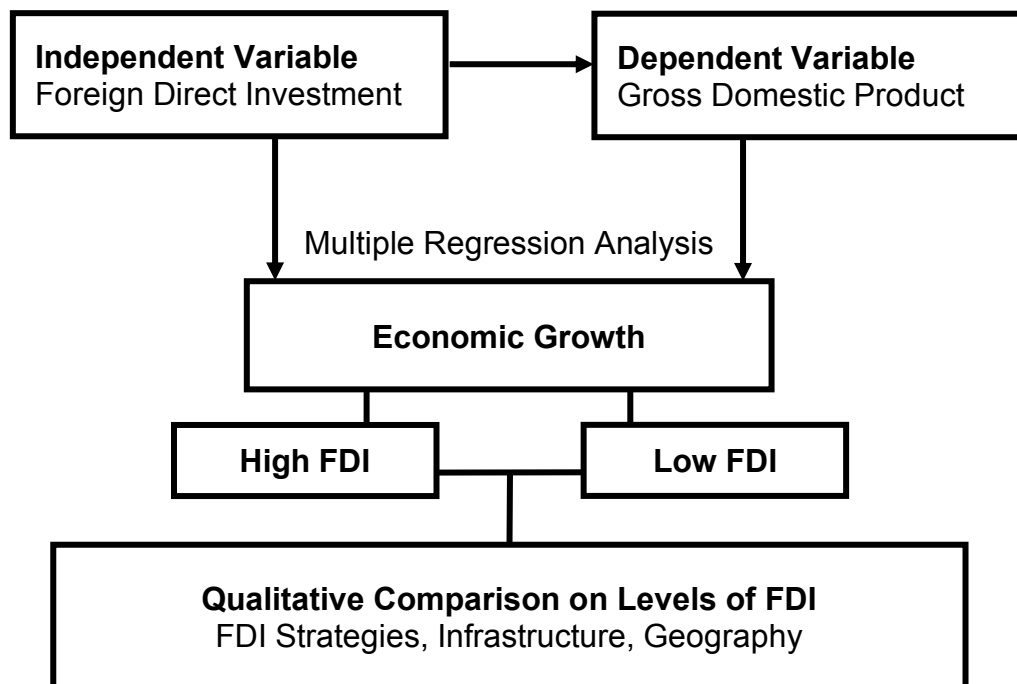
#### **Conceptual Framework**

This study analyzes the impact of foreign direct investment inflows on economic growth. Specifically, it aims to explicate if the inflow poses a positive or negative effect on the gross domestic product per capita of the ASEAN member states.

In Figure 1, independent and dependent variables of ASEAN member states were used. The conceptual framework shows that the independent variable, foreign direct investment, directly affects the dependent variable representing the economic growth, gross domestic product. Through studies, it has been concluded that foreign direct investment positively affects the gross domestic product. Noting that gross domestic product is a direct representation of economic growth, this implies that a higher foreign direct investment would lead to higher economic growth if properly utilized.

Further, the study will analyze which economies benefit more from having increased foreign investments to identify if there are patterns of results presented by ASEAN member states with disparate levels of foreign investments and development. In Figure 1, economic growth is associated with ASEAN countries with high and low foreign direct investments, and qualitative comparison of their levels of foreign direct investments will be analyzed depending on their Foreign Direct Investment Strategies, Infrastructure, and Geography.

Figure 1. Conceptual framework illustrating the effect of foreign direct investment on economic growth.



## Research Design

### Selection of the Study Area and Respondents

The study aims to collect data from 10 ASEAN member states. Noting the huge discrepancies among their net foreign direct investment inflows, all member states were included in the study to better capture and analyze the trend within the ASEAN region. This will enrich the study as all counties, regardless of their situation, will be captured and taken into consideration. The study aimed to acquire time-series data from World Bank with a minimum of 22 years from 1999-2021. Noting data availability for all ASEAN member states, the identified starting year of the study is 1999, as this is the earliest data recorded for the independent and dependent variables.

### Ethical Consideration

Noting that the research will dwell on secondary data, there is no risk and

vulnerability as no informed consent form is needed since no interviews will transpire. The data is open source and does not need permission from any organization or entity because it is accessible to all. An assessment of ethical considerations has been done. In terms of data management, data will be downloaded from World Bank, an open source, and it will be stored in the researcher's personal laptop, which will be protected by a password that can only be accessed by the researcher. The analysis of the data will then be accessible to the researcher as well as the adviser. The data will be stored for three years, and this will be discarded by deleting it in the researcher's personal laptop.

### **Types of Data and Methods of Data Collection**

This study mainly utilizes secondary data wherein time-series data will be obtained, encompassing 10 ASEAN member states. The major data that the study aims to obtain are gross domestic product per capita (constant 2010 USD), foreign direct investment inflows to domestic businesses (constant 2010 USD), broad money (constant 2010 USD), domestic credit (constant 2010 USD), domestic capital reserve (constant 2010 USD), and inflation (%). Gross domestic product per capita indicates a country's economic growth. Foreign direct investment inflows to domestic businesses will then gauge these countries' foreign direct investment inflows. Broad money measures the amount that circulates within the economy, including assets that can easily be converted to cash. Domestic credit to the private sector by banks refers to the financial resources handed out to the private sector, such as loans, trade credits, non-equity securities, and other accounts receivable. Domestic capital reserves include gold, which measures the equities of a country that could be used to easily convert into cash that would be used in the future to offset capital losses. Lastly,

inflation is identified as the rate of price increase at a given time. These control variables, broad money, domestic credit, domestic capital reserve, and inflation, may significantly correlate to GDP per capita.

**Table 1**

*Variable definitions exhibiting the description and conceptual effects of select macroeconomic variables on economic growth*

| Variable                    | Symbol         | Description                                       | Measurement |
|-----------------------------|----------------|---------------------------------------------------|-------------|
| <b>Dependent Variable</b>   |                |                                                   |             |
| Gross Domestic Product      | GDP (+)        | GDP per capita                                    | USD         |
| <b>Independent Variable</b> |                |                                                   |             |
| Foreign Direct Investment   | FDI (+)        | FDI net inflows<br>(Balance of payments)          | USD         |
| Broad Money                 | BMONEY<br>(+)  | Sum of currency outside<br>banks                  | USD         |
| Domestic Credit             | DCREDIT<br>(+) | Net domestic credit to<br>private sector by banks | USD         |
| Domestic Capital Reserve    | DCRES<br>(+)   | Domestic capital reserves<br>including gold       | USD         |
| Inflation                   | INF (-)        | Inflation, GDP deflator                           | %           |

## **Hypotheses of the Study**

Addressing the objectives of the study, the following hypotheses were formulated:

1. The foreign direct investment inflows of ASEAN member states have a significant positive relationship with their economic growth, as represented by their gross domestic product per capita.
2. All ASEAN economies benefit more from having increased foreign investments even though they have disparate levels of foreign investments and development; and
3. In terms of foreign investment policies with respect to national and regional ASEAN policies, ASEAN countries would heighten their economic growth if benefits and incentives for foreign businesses will be developed and integrated into local businesses.

## **Research Procedures**

### **Multiple Regression Analysis**

This study aimed to explicate the impact of foreign direct investment on the economic growth of the ASEAN member states. To identify this, it is important to identify if foreign direct investment poses a significant positive or negative effect through the equation below.

$$Y = f(FDI)$$

To identify the impact, multiple regression through Ordinary Least Squares (OLS) regression with robust standard errors was used, along with the control variables. In order to verify and arrive at the best-fitted model, four functional forms: 1) simple linear form; 2) logarithmic-linear form; 3) linear-logarithmic form; and 4)

logarithmic-logarithmic form; were tested, and the criteria were set. The multiple regression analysis model is expressed as follows:

$$Y = f(FDI, BMONEY, DCREDIT, DCRES, INF, COUNTRY)$$

### Simple Linear Form

$$Y = \alpha_0 + \alpha_1 FDI_{i,t} + \alpha_2 BMONEY_{i,t} + \alpha_3 DCREDIT_{i,t} + \alpha_4 DCRES_{i,t} + \alpha_5 INF_{i,t} + \mu_{i,t}$$

### Logarithmic-Linear Form

$$\ln Y = \alpha_0 + \alpha_1 FDI_{i,t} + \alpha_2 BMONEY_{i,t} + \alpha_3 DCREDIT_{i,t} + \alpha_4 DCRES_{i,t} + \alpha_5 INF_{i,t} + \mu_{i,t}$$

### Linear-Logarithmic Form

$$Y = \alpha_0 + \alpha_1 \ln FDI_{i,t} + \alpha_2 \ln BMONEY_{i,t} + \alpha_3 \ln DCREDIT_{i,t} + \alpha_4 \ln DCRES_{i,t} + \alpha_5 \ln INF_{i,t} + \mu_{i,t}$$

### Logarithmic-Logarithmic Form

$$\ln Y = \alpha_0 + \alpha_1 \ln FDI_{i,t} + \alpha_2 \ln BMONEY_{i,t} + \alpha_3 \ln DCREDIT_{i,t} + \alpha_4 \ln DCRES_{i,t} + \alpha_5 \ln INF_{i,t} + \mu_{i,t}$$

where:

$i$  = country (10 ASEAN member states)

$t$  = year (1999-2021)

$Y_{i,t}$  = Gross Domestic Product (constant 2010 USD)

$\alpha_0$  = Intercept

FDI = Foreign Direct Investment (constant 2010 USD)

BMONEY = Broad Money (constant 2010 USD)

DCREDIT = Domestic Credit (constant 2010 USD)

DCRES = Domestic Capital Reserve (constant 2010 USD)

INF = Inflation (%)

$\mu_{i,t}$  = error term

$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$  = regression coefficients

Given the four functional forms, the best fit model was analyzed using: 1) lowest Akaike information criterion (AIC); 2) significance of the estimated equation based on the p-value; 3) lowest root MSE; 4) highest adjusted R-squared; 5) consistency of the signs of the variables with economic theory; and 6) most number of significant determinants. The error term would represent the unaccounted variables.

This study also aimed to analyze which economies benefit more from having increased foreign investments to identify if there are patterns of results presented by ASEAN member states with disparate levels of foreign investments and development. In grouping the levels of foreign investments, 10 ASEAN member states will be divided into two groups of high foreign direct investment and low foreign direct investment. To identify the impact between the two groups, two multiple regressions will be run through Ordinary Least Squares (OLS) regression with robust standard errors. Similar to the model above, four functional forms will be tested.

### **Qualitative Analysis**

A qualitative comparison was used to associate the commonality and differences between ASEAN members with high and low foreign direct investment. In determining these, the factors being considered are the countries' foreign direct investment strategies, infrastructure, and geography.

## **Chapter IV**

### **FINDINGS OF THE STUDY**

#### **Multiple Regression (Impact of FDI)**

Multiple regression analysis was used in order to explicate if the foreign direct investment inflows of ASEAN member states have a significant positive or negative relationship to their economic growth, as represented by their gross domestic product per capita. The four functional forms: 1) simple linear form; 2) logarithmic-linear form; 3) linear-logarithmic form; and 4) logarithmic-logarithmic form were used, and the best fit model was obtained from the criteria: 1) lowest Akaike Information Criterion (AIC); 2) significance of the estimated equation based on the p-value; 3) lowest Root Mean Squared Error (MSE); 4) highest adjusted R-squared; 5) consistency of the signs of the variables with economic theory; and 6) most number of significant determinants. When all those criteria are met, the best fit functional form was used in identifying the factors that may explicate the relationship between foreign direct investment and gross domestic product. After the regression, it was found that all the functional forms are found to be significant based on the p-value (Table 2). Based on the criteria that have been set, the linear-logarithmic form was the best fit model.

**Table 2***Multiple regression model specification results*

| Functional Form             | AIC      | P-value   | Root MSE | Adjusted<br>R-squared | Significant<br>variables |
|-----------------------------|----------|-----------|----------|-----------------------|--------------------------|
| Simple Linear               | 618.2735 | 0.0000*** | 1.0620   | 0.1315                | 3                        |
| Logarithmic-Linear          | 630.4229 | 0.0000*** | 1.0937   | 0.4163                | 5                        |
| Linear-Logarithmic          | 615.5183 | 0.0000*** | 1.0550   | 0.5070                | 5                        |
| Logarithmic-<br>Logarithmic | 549.4363 | 0.0000*** | 0.8994   | 0.6053                | 4                        |

\*\*\* Significant at 1% probability level

### 1. Akaike Information Criterion

In a model specification, the lower AIC value is identified as the better-fit model.

In Table 2, the Linear-Logarithmic form has the second smallest AIC at 615.5183.

### 2. P-value

The significance of the estimated equation is based on the p-value such that the p-value that is less than 0.05 is identified as significant. In Table 2, all forms have a p-value of 0.0000, which is  $p < 0.05$ . Thus, the null hypothesis will be rejected at  $\alpha=0.01$ , indicating a significance at 99% confidence.

### 3. Root Mean Squared Error

Root MSE measures the error of a model such that the lower root MSE value is desired. In Table 2, the second lowest root MSE is the Linear-Logarithmic form at 1.0550.

#### 4. Adjusted R-squared

The adjusted r-squared indicates the goodness of fit of a regression model wherein the higher value implies that the model is a good fit. In Table 2, the Linear-Logarithmic form has the second highest adjusted r-squared at 0.5070.

#### 5. Consistency of the variable signs

In identifying the best fit model, consistency of the signs of the variables with economic theory is one of the most crucial measures. In the Linear-Logarithmic form, five independent variables are consistent with the economic theory as compared to Table 1 and Table 3. These variables are foreign direct investment, broad money, domestic capital reserve, and inflation.

**Table 3**

Results of multiple regression analysis with Linear-Logarithmic model showing the different variables affecting gross domestic product

| Variable                  | Coefficient | Standard Error | P-Value |
|---------------------------|-------------|----------------|---------|
| Intercept                 | -9.5322***  | 1.0487         | 0.000   |
| Foreign Direct Investment | 0.0003***   | 0.0001         | 0.009   |
| Broad Money               | 3.5161***   | 0.2880         | 0.000   |
| Domestic Credit           | -3.2382***  | 0.2563         | 0.000   |
| Domestic Capital Reserve  | 0.3554***   | 0.0614         | 0.000   |
| Inflation                 | -0.0011***  | 0.0003         | 0.000   |

Dependent Variable: Linear-Logarithmic form of gross domestic product

\*\*\* Significant at 1% probability level

#### 6. Most number of significant determinants

The model exhibiting the most number of significant determinants also indicates the best model. In Table 2, the Linear-Logarithmic form has the highest number of significant determinants at five independent variables.

### **Impact of Foreign Direct Investment to Economic Growth**

The relationship between foreign direct investment and economic growth has been widely discussed as it theoretically suggests that a positive relationship exists. This study dwells on the in-depth relationship between these two factors in the ASEAN region, as the member states have disparate levels of foreign investments given that they have their own focus and strategies.

Through multiple regression analysis, results from this study show that in the 1999-2021 data, foreign direct investment significantly and positively impacts the gross domestic product of ASEAN member states. This implies that as ASEAN member states increase their foreign direct investment, economic growth will increase as well. With this, it can be concluded that foreign direct investment is an essential factor for ASEAN member states to consider in improving their economic growth in the future.

### **Multiple Regression (Levels of FDI)**

ASEAN members were grouped into high and low foreign direct investment according to their foreign direct investment inflow at constant 2010 USD prices. The two groups have disparate values of inflow as those countries with high foreign direct investment are a lot higher than those with low investments.

**Table 4***Levels of foreign direct investment inflows of ASEAN countries*

| High foreign direct investment | Low foreign direct investment |
|--------------------------------|-------------------------------|
| Indonesia                      | Brunei                        |
| Malaysia                       | Cambodia                      |
| Singapore                      | Lao                           |
| Thailand                       | Myanmar                       |
| Vietnam                        | Philippines                   |

Multiple regression analysis was used in order to know which economies benefit more from having increased foreign investments to identify if there are patterns of results presented by ASEAN member states with disparate levels of foreign investments and development. Through the two groups in Table 4, two multiple regression analysis was made and similar to the previous analysis, four functional forms: 1) simple linear form; 2) logarithmic-linear form; 3) linear-logarithmic form; and 4) logarithmic-logarithmic form were used for each analysis and the best fit model was obtained from the criteria: 1) lowest Akaike Information Criterion (AIC); 2) significance of the estimated equation based on the p-value; 3) lowest Root Mean Squared Error (MSE); 4) highest adjusted R-squared; 5) consistency of the signs of the variables with economic theory; and 6) most number of significant determinants. When all those criteria are met, the best fit functional form was used in identifying the factors that may explicate the relationship between foreign direct investment and gross domestic product. After the regression, it was found that all the functional forms are found to be significant based on the p-value (Table 5). Based on the criteria that have been set, the simple linear form was the best fit model.

**Table 5***Multiple regression model specification results for High FDI*

| Functional Form             | AIC      | P-value   | Root MSE | Adjusted<br>R-squared | Significant<br>variables |
|-----------------------------|----------|-----------|----------|-----------------------|--------------------------|
| Simple Linear               | 145.4563 | 0.0000*** | 0.4591   | 0.9222                | 3                        |
| Logarithmic-Linear          | 195.8720 | 0.0000*** | 0.5786   | 0.7741                | 3                        |
| Linear-Logarithmic          | 316.7086 | 0.0000*** | 1.0071   | 0.6256                | 3                        |
| Logarithmic-<br>Logarithmic | 185.9981 | 0.0000*** | 0.5530   | 0.7936                | 4                        |

\*\*\* Significant at 1% probability level

### 1. Akaike Information Criterion

In a model specification, the lower AIC value is identified as the better-fit model.

In Table 5, the Simple Linear form has the smallest AIC at 145.4563.

### 2. P-value

The significance of the estimated equation is based on the p-value such that the p-value that is less than 0.05 is identified as significant. In Table 5, all forms have a p-value of 0.0000, which is  $p < 0.05$ . Thus, the null hypothesis will be rejected at  $\alpha=0.01$ , indicating a significance at 99% confidence.

### 3. Root Mean Squared Error

Root MSE measures the error of a model such that the lower root MSE value is desired. In Table 5, the lowest root MSE is the Simple Linear form at 0.4591.

#### 4. Adjusted R-squared

The adjusted r-squared indicates the goodness of fit of a regression model wherein the higher value implies that the model is a good fit. In Table 5, the Simple Linear form has the highest adjusted r-squared at 0.9222.

#### 5. Consistency of the variable signs

In identifying the best fit model, consistency of the signs of the variables with economic theory is one of the most crucial measures. In the Simple Linear form, four independent variables are consistent with the economic theory as compared to Table 1 and Table 5. These variables are foreign direct investment, domestic capital reserve, and inflation.

**Table 6**

Results of multiple regression analysis with Simple Linear model showing the different variables affecting gross domestic product

| Variable                  | Coefficient | Standard Error | P-Value |
|---------------------------|-------------|----------------|---------|
| Intercept                 | 0.4727***   | 0.1103         | 0.000   |
| Foreign Direct Investment | 3.5507***   | 4.8008         | 0.000   |
| Broad Money               | -4.1808*    | 2.1208         | 0.052   |
| Domestic Credit           | -1.8308     | 1.8308         | 0.318   |
| Domestic Capital Reserve  | 1.8207***   | 2.1308         | 0.000   |
| Inflation                 | -0.0199**   | 0.0094         | 0.038   |

Dependent Variable: Simple Linear form of gross domestic product

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level

#### 6. Most number of significant determinants

The model exhibiting the most number of significant determinants also indicates the best model. In Table 5, the Simple Linear form has the second highest number of significant determinants at three independent variables.

**Table 7**

*Multiple regression model specification results for Low FDI*

| Functional Form         | AIC      | P-value   | Root MSE | Adjusted R-squared | Significant variables |
|-------------------------|----------|-----------|----------|--------------------|-----------------------|
| Simple Linear           | 321.0217 | 0.0000*** | 1.2084   | 0.1362             | 3                     |
| Logarithmic-Linear      | 350.0395 | 0.0000*** | 1.4012   | 0.1284             | 3                     |
| Linear-Logarithmic      | 218.6159 | 0.0000*** | 0.7166   | 0.6961             | 3                     |
| Logarithmic-Logarithmic | 280.0935 | 0.0000*** | 0.9807   | 0.5731             | 4                     |

\*\*\* Significant at 1% probability level

#### 1. Akaike Information Criterion

In a model specification, the lower AIC value is identified as the better-fit model. In Table 7, the Linear-Logarithmic form has the smallest AIC at 218.6159.

#### 2. P-value

The significance of the estimated equation is based on the p-value such that the p-value that is less than 0.05 is identified as significant. In Table 7, all forms have

a p-value of 0.0000, which is  $p < 0.05$ . Thus, the null hypothesis will be rejected at  $\alpha=0.01$ , indicating a significance at 99% confidence.

### 3. Root Mean Squared Error

Root MSE measures the error of a model such that the lower root MSE value is desired. In Table 7, the lowest root MSE is the Linear-Logarithmic form at 0.7166.

### 4. Adjusted R-squared

The adjusted r-squared indicates the goodness of fit of a regression model wherein the higher value implies that the model is a good fit. In Table 7, the Linear-Logarithmic form has the highest adjusted r-squared at 0.6961.

### 5. Consistency of the variable signs

In identifying the best fit model, consistency of the signs of the variables with economic theory is one of the most crucial measures. In the Linear-Logarithmic form, three independent variables are consistent with the economic theory as compared to Table 1 and Table 6. These variables are foreign direct investment, broad money, and inflation.

**Table 8**

Results of multiple regression analysis with Linear-Logarithmic model showing the different variables affecting gross domestic product

| Variable                  | Coefficient | Standard Error | P-Value |
|---------------------------|-------------|----------------|---------|
| Intercept                 | -4.8129***  | 0.8413         | 0.000   |
| Foreign Direct Investment | 0.0002      | 0.0003         | 0.004   |
| Broad Money               | 2.9921***   | 0.2653         | 0.000   |
| Domestic Credit           | -2.6833***  | 0.2402         | 0.000   |
| Domestic Capital Reserve  | -0.0292     | 0.0414         | 0.482   |
| Inflation                 | -0.0010***  | 0.0003         | 0.001   |

Dependent Variable: Linear-Logarithmic form of gross domestic product

\*\*\* Significant at 1% probability level

#### 6. Most number of significant determinants

The model exhibiting the most number of significant determinants also indicates the best model. In Table 7, the Linear-Logarithmic form has high number of significant determinants at three independent variables.

#### Impact of ASEAN Members with High and Low Foreign Direct Investment

In analyzing which economies benefit more from having increased foreign investments, ASEAN member countries were grouped into high and low foreign direct investments. Through multiple regression analysis, it was concluded that as both countries with high and low foreign direct investments increase, their economic growth increases as well. However, ASEAN member states with high foreign direct investments increase more than those with low investments. Specifically, as economic

growth increases, countries with high foreign direct investment increase by 3.5507 units, but in countries with low foreign direct investment, it only increases by 0.0002. This implies that countries with high foreign direct investment improve more than those with low foreign direct investment. In particular with the exogenous-growth theory or neo-classical growth model, the presented results agree with the theory such that foreign direct investment positively affects economic growth.

As aligned by the related literature, the result was in sync with that of Indonesia and Pakistan, such that an increase in foreign direct investment will result in an increase in economic growth. The result was also supported by the panel-data research in 23 Asian countries that exports also further the economic growth of a country.

## **Foreign Direct Investment Strategies**

### **High Foreign Direct Investment**

Among the ASEAN member states with high foreign direct investment, Indonesia, Malaysia, Singapore, Thailand, and Vietnam all have strong regulatory policies that support trade openness, and these policies make it smooth for foreign companies, corporations, and individuals to do business in the country. Indonesia has been coordinating with several countries to reduce its restrictions to trade. In 2018, the country signed a Free Trade Agreement with the European Free Trade Association (EFTA) to provide EFTA countries access to the Indonesian market in terms of goods and services, intellectual property, and government resources. This agreement enabled the country to attract its need for investments in high-tech machinery and equipment. Investments in the country were liberalized as they were prioritized almost

equally by the citizens, and opportunities for them were abundant (ASEAN Briefing, 2019).

In Malaysia, there are minimal restrictions to foreign direct investments such that foreign investors may own 100% of their equity. This highly encourages investors to continue and increase their investment in the country as they are fully entitled to their projects. In addition to this, the government has carried out tax incentives for foreign businesses, such as the Pioneer Status and the Investment Tax Allowance. In Pioneer Status, businesses are exempted from the tax for a couple of five years, while the Investment Tax Allowance provides up to 60% allowance to the company's capital (Nubli & Sivanantham, 2022).

Singapore has been one of the most open economies to foreign investments within the ASEAN region. The country continues to improve its trade openness such that it has signed six new foreign trade agreements since 2008 and has been limiting its tariff lines to six lines only. In addition to this, Singapore implements a system wherein traders can easily submit their import documentation and permits on a website where they can get approval for 10 minutes (World Trade Organization, n.d.).

Over the years, Thailand has greatly improved when it comes to its investment promotion policies that helped to attract foreign investors. The country focused on minimizing its reduction in tariffs such that in 1991, the 35% tariff decreased to 9.3% in 2019 (Jongwanich & Kohpaiboon, 2022). In 2021, Thailand's Board of Investment continues to extend its assistance to foreign investors through incentives and privileges. Previously, the country took up to 29 days for an individual to start a business, but this was recently shortened to only 6 days (U.S. Department of State, 2021).

Similar to the previous ASEAN member states, Vietnam is undoubtedly a country where foreign investments thrive. In 2022, Decision 667, a national strategy, was approved to promote and increase foreign investments in the country. In this strategy, the government aims to improve the infrastructure, human capital, and economic status of Vietnam. This is seen to increase foreign businesses and persuade them to do business in the country, as this strategy will improve the economic climate of the country (Nguyen, 2022).

#### Low Foreign Direct Investment

ASEAN countries with low foreign direct investment such as Brunei, Cambodia, Lao, Myanmar, and the Philippines face their own challenges as to why their foreign inflows lag behind the rest of the ASEAN member states. In the context of Brunei, the country has opened its doors for foreign investment; however, it faces challenges due to its small market size. The country tried to promote and work through its petrochemical industry, but instead, it faced a loss of USD 150 million. In addition to this, Brunei still faces problems with regard to its bureaucratic processes for business permits and approvals (Asia Society, 2022).

Similar to Brunei, Cambodia also faces bureaucratic processes as a challenge in its promotion of foreign investments. Foreign businesses have released their feedback that they have experienced corruption through tax evasion. Several Cambodian businesses and foreign rivals have taken advantage that the government has poor enforcement when it comes to foreign investments (U.S. Department of State, 2020).

## **Infrastructure**

### **High Foreign Direct Investment**

The infrastructure in Singapore is one of the world's most advanced, which makes it attractive for foreign companies to establish their business in the country. Singapore is known as where infrastructure opportunities thrive as there are several sponsors coming from the private and public sectors. In 2021, the country was ranked first in the Infrastructure Index. It was known as the hub where banks and insurers prosper due to the advanced infrastructure and sound economic environment. In addition to that, the country has been striving for sustainability through green finance, which attracts foreign businesses (CMS Legal, n.d).

Thailand has preeminent infrastructure in terms of water, rail, road, and airways that empower the businesses within the country. This development is the main factor that empowers trade and investment opportunities in Thailand (Thailand Board of Investment, 2022). Similarly, the infrastructure and connectivity in Malaysia have also improved as one of the world-class standards within ASEAN. Expressways, highways, and bridges serve as Malaysia's greatest support in facilitating economic development within the country. The railway services, seaports, and air cargo facilities have been a lot useful for foreign investors to consider Malaysia (Malaysian Investment Development Authority, n.d.).

### **Low Foreign Direct Investment**

Cambodia is suffering from poor economic progress due to its infrastructure gap. In the country, improvement in sanitation, roads, and water needs to be handled properly, as these factors are the basic necessities that attract foreign investors.

Without stability in these basic infrastructures, foreign businesses won't be able to thrive (The World Bank, 2019).

Lao is also a country in ASEAN wherein there is a great demand for improvement in infrastructure. There is a need for telecommunications, education, road, and transport to be developed as these are also the main factors that enable foreign businesses to be established. Making these known, the government has already thought of ways how to stabilize and improve the quality of roads. Poverty within the country also hinders the instigation of business processes as bureaucracy applies (Serrato, n.d.).

Similar to Lao, Myanmar also faces problems when it comes to transport connectivity. In order to facilitate successful trade and investment activities, the country should be able to sustain efficient transportation. This would also ensure the proper establishment of supply chain networks and would enable companies to be incorporated in global value chains (Organisation for Economic Cooperation and Development, n.d.).

## **Geography**

### **High Foreign Direct Investment**

In terms of geography, Singapore is the second most connected country to all parts of the world. It is located on the world's strategic major trading route where aviation and trade transpire. Specifically, Singapore has been identified as a member state which is within a six-hour radius of any Southeast Asian country. This has been a huge factor in how Singapore has attracted foreign investments, which was further supported by several trade facilitation schemes (Singapore Economic Development Board, n.d.).

Similar to Singapore, Thailand is also strategically connected with other ASEAN member states such that it is known as the investors' gateway to Asia. Apart from being the centerpiece within ASEAN, the country also has easy access to other countries such as China, India, and the Greater Mekong region. Malaysia is also located where global trade routes are well-connected and where their seaports are easy access to the world (InvestAsian, 2022).

#### Low Foreign Direct Investment

Similar to the ASEAN countries with high foreign direct investment, the Philippines is also strategically located where it can be accessible to the world. However, the country sits in the Pacific Ring of Fire, which makes it prone to natural hazards. Compared to the ASEAN countries with low foreign direct investment, Malaysia, Brunei, and Singapore are not situated within the Pacific Ring of Fire.

According to the United Nations Conference on Trade and Development (2022), Brunei Darussalam, Cambodia, and Myanmar belong to the world's top 50 countries, which are least connected to the world. This implies that foreign businesses need to pay higher transportation costs to be able to ship goods within these countries. In the same report, Singapore and Malaysia, the ASEAN countries with high foreign direct investment, belong to the world's top 10, which are the most connected to the world and are easily accessible to all foreign investors.

## **Chapter V**

### **RECOMMENDATIONS OF THE STUDY**

#### **Contribution to ASEANOLOGY**

The study strengthens and supports the exogenous-growth theory or the neo-classical growth model, such that implementing policies and strategies to attract foreign direct investments is a positive tool for ASEAN agreements and economic integration. In pursuit of improving and increasing the economic growth within ASEAN member states, regional and national policies to heighten and attract foreign direct investments must be put into place. Having the exact goals to achieve economic growth, ASEAN Economic Integration (AEC) is the primary platform to support attracting foreign investments through ASEAN Free Trade Area, which eliminates tariffs and eases the countries' ability to trade within and outside the region. In 2020, intra-ASEAN foreign direct investments increased by 3.5% from USD 22 billion to USD 22.8 (The ASEAN Secretariat, 2021). This shows that through AEC policies that benefit intra-ASEAN cooperation, it also has the capacity to increase the foreign investments coming from countries outside ASEAN. AEC should not only strengthen its policies within the member states and the region, but it also should strengthen its cooperation with other regions and member states such as the ASEAN Australia New Zealand Free Trade Area, ASEAN-Japan Comprehensive Economic Partnership, ASEAN-Republic of Korea Free Trade Area, among others.

#### **Regional Policies**

Known as the main contributor and lead in establishing an open investment within the ASEAN region, the ASEAN Comprehensive Investment Agreement (ACIA)

should strengthen its regional policies to increase its foreign direct investment inflows. Apart from attracting foreign countries outside ASEAN, ACIA could also devise plans and programs to induce inter-ASEAN trade among its members. Most of the ASEAN member states with high foreign direct investment, such as Indonesia, Malaysia, Singapore, and Thailand have already reduced their import duties among other member states on 99.65% of their tariff (Invest in ASEAN, n.d.).

In improving regional policies, the geography of the ASEAN members should coincide with each other such that each of the member states should have efficient connectivity with each other despite the disadvantages of some countries when it comes to geographic location.

### **National Policies**

Apart from strengthening regional policies, ASEAN member states should individually establish their own policies to attract foreign investments. However, in order to attract investments, some countries still need to improve their internal state. For example, developing countries like the Philippines, Cambodia, Lao, and Myanmar should improve their infrastructure and transportation in order to gain their competitive advantage over other countries that may be considered for investing. Infrastructure should also be developed since it is one of the main considerations and fuel for foreign companies to thrive. In order for their operations to be efficient, basic transportation and connectivity within the country, such as roads, railroads, and seaports should increase in number and in efficiency.

In strengthening the national policies to bring positive economic growth, ASEAN member states with low foreign direct investment should further strengthen their

foreign direct investment strategies by eliminating bureaucracy and corruption to ease foreign companies and individuals to establish their businesses in ASEAN.

Apart from foreign direct investment, policies concerning other control variables in this study, such as broad money, domestic credit, domestic capital reserve, and inflation should also be implemented to increase and improve economic growth.

### **Financial Development**

In improving economic growth, it is important to consider a country's financial status. Attaining financial stability and development in the ASEAN region facilitates growth and increase in broad money, domestic credit, and domestic capital reserve. Noting that these factors have a significant positive relationship to economic growth, these should also be catered by ASEAN policies. Improving broad money or money supply will increase the amount of money that is circulating within the ASEAN member states (Chow et al., 2007). Broad money can be associated with inflation, and both of them can be controlled by policymakers and the central bank to induce positive economic growth. Monetary targeting should be performed by the central bank to control inflation, although this depends on the predictability and stability of money demand. Should the money demand be predictable and stable, monetary and fiscal authorities may imply that if the current money growth is above the ideal, there will be less pressure on the increase in prices, and they would be able to know whether they should tighten monetary conditions. Otherwise, monetary and fiscal authorities would be open to considering other factors that may control inflation apart from broad money. An alternative would be to determine an exchange rate target to enable central banks to be able to respond to the shocks in the domestic economy (Dekle, 1997).

The study of the ASEAN Secretariat (2013) recommended expanding domestic credit into a regional credit universe in order to improve cross-border transactions that would allow lenders to create capital and investment decisions from a wider regional perspective. Lenders should be able to freely access lending to individuals, companies, and corporations within the ASEAN region. As such, foreign investors would be more attracted to domestic credit and would open up new investment opportunities for funding and sustainability.

In increasing ASEAN's domestic reserves, policymakers should focus on establishing the primary markets for the private regional monetary unit. There should have a free movement of capital between regional monetary units and domestic currencies through the elimination of tax differential and synchronization of tax and accounting systems (Chow et al., 2007).

### **Recommendation for Future Study**

The study recommends comparing foreign direct investment and domestic investment to know whether the latter competes with foreign direct investment. Policymakers often scrutinize that efforts should be directed to improve either foreign direct investment or domestic investment as these factors are perceived to contradict each other. According to Forneris & Fruman (2016), these factors complement each other, and the economy needs foreign direct investment and domestic investment to enhance growth. In the context of ASEAN, this should be analyzed to maximize methods and initiatives in improving economic growth within the region and within the member states.

The effect of foreign direct investment on economic growth in the short term and long term may also be analyzed, noting that the study only analyzed its effect in the current years, 1999-2021.

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## APPENDIX A

### Results of Multiple Regression

Table 1

#### Simple Linear Regression

| Variable                  | Coefficient    | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|----------------|----------------|---------|---------|----------|-------------------------|
|                           |                |                |         | 0.0000  | 618.2735 | 0.1315                  |
| Intercept                 | 0.5973***      | 0.00000005     | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0000007***   | 0.00000003     | 0.000   |         |          |                         |
| Broad Money               | 0.00000009***  | 0.00000003     | 0.003   |         |          |                         |
| Domestic Credit           | -0.00000009*** | 0.00000002     | 0.001   |         |          |                         |
| Domestic Capital Reserve  | -0.00000002    | 0.006918       | 0.144   |         |          |                         |
| Inflation                 | -0.009842      | 0.148113       | 0.156   |         |          |                         |

\*\*\* Significant at 1% probability level

Table 2

#### Logarithmic-Linear Regression

| Variable                  | Coefficient   | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|---------------|----------------|---------|---------|----------|-------------------------|
|                           |               |                |         | 0.0000  | 630.4229 | 0.4163                  |
| Intercept                 | -1.480815***  | 0.16099        | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0000002***  | 0.00000004     | 0.000   |         |          |                         |
| Broad Money               | 0.00000004**  | 0.00000002     | 0.047   |         |          |                         |
| Domestic Credit           | -0.00000005** | 0.00000002     | 0.012   |         |          |                         |
| Domestic Capital Reserve  | 0.00000008*** | 0.00000002     | 0.000   |         |          |                         |
| Inflation                 | -0.0164231**  | 0.00784        | 0.038   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

Table 3

## Linear-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.0000  | 615.5183 | 0.5070                  |
| Intercept                 | -9.5322***  | 1.0487         | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0003**    | 0.0001         | 0.009   |         |          |                         |
| Broad Money               | 3.5161***   | 0.2880         | 0.000   |         |          |                         |
| Domestic Credit           | -3.2382***  | 0.2563         | 0.000   |         |          |                         |
| Domestic Capital Reserve  | 0.3554***   | 0.0614         | 0.000   |         |          |                         |
| Inflation                 | -0.0011***  | 0.0003         | 0.000   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

Table 4

## Logarithmic-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.000   | 549.4363 | 0.6053                  |
| Intercept                 | -13.1418*** | 0.8944         | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0002      | 0.0002         | 0.222   |         |          |                         |
| Broad Money               | 3.3424***   | 0.2802         | 0.000   |         |          |                         |
| Domestic Credit           | -3.0775***  | 0.2477         | 0.000   |         |          |                         |
| Domestic Capital Reserve  | 0.4816***   | 0.0530         | 0.000   |         |          |                         |
| Inflation                 | -0.0010***  | 0.0002         | 0.000   |         |          |                         |

\*\*\* Significant at 1% probability level

## APPENDIX B

### Results of Multiple Regression for High FDI

Table 1

#### Simple Linear Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.0000  | 145.4563 | 0.9222                  |
| Intercept                 | 0.4727***   | 0.1103         | 0.000   |         |          |                         |
| Foreign Direct Investment | 3.5507***   | 4.8008         | 0.000   |         |          |                         |
| Broad Money               | -4.1808*    | 2.1208         | 0.052   |         |          |                         |
| Domestic Credit           | -1.8308     | 1.8308         | 0.318   |         |          |                         |
| Domestic Capital Reserve  | 1.8207***   | 2.1308         | 0.000   |         |          |                         |
| Inflation                 | -0.0199**   | 0.0094         | 0.038   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level

Table 2

#### Logarithmic-Linear Regression

| Variable                  | Coefficient  | Standard Error | p-value | F-value | AIC     | Adjusted R <sup>2</sup> |
|---------------------------|--------------|----------------|---------|---------|---------|-------------------------|
|                           |              |                |         | 0.0000  | 195.872 | 0.7741                  |
| Intercept                 | -1.428751*** | .2114373       | 0.000   |         |         |                         |
| Foreign Direct Investment | 0.00000008*  | 0.00000005     | 0.073   |         |         |                         |
| Broad Money               | 0.000000003  | 0.00000002     | 0.893   |         |         |                         |
| Domestic Credit           | -0.00000002  | 0.00000002     | 0.276   |         |         |                         |
| Domestic Capital Reserve  | 0.0000001*** | 0.00000002     | 0.000   |         |         |                         |
| Inflation                 | -0.0321526** | 0.012368       | 0.011   |         |         |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level

Table 3

## Linear-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.0000  | 316.7086 | 0.6256                  |
| Intercept                 | -3.9363*    | 2.2951         | 0.089   |         |          |                         |
| Foreign Direct Investment | 0.0007***   | 0.0002         | 0.001   |         |          |                         |
| Broad Money               | -0.2197     | 1.4052         | 0.876   |         |          |                         |
| Domestic Credit Domestic  | -1.3485     | 1.0020         | 0.181   |         |          |                         |
| Capital Reserve           | 1.9932***   | 0.3897         | 0.000   |         |          |                         |
| Inflation                 | -0.0007***  | 0.0004         | 0.048   |         |          |                         |

\*\*\* Significant at 1% probability level

\* Significant at 10% probability level

Table 4

## Logarithmic-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.000   | 185.9981 | 0.7936                  |
| Intercept                 | -11.8413*** | 1.39496        | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0009***   | 0.0001         | 0.000   |         |          |                         |
| Broad Money               | 0.3700      | 0.6250         | 0.555   |         |          |                         |
| Domestic Credit Domestic  | -1.0498**   | 0.4442         | 0.020   |         |          |                         |
| Capital Reserve           | 1.4309***   | 0.1718         | 0.000   |         |          |                         |
| Inflation                 | -0.0005***  | 0.0001         | 0.000   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

## APPENDIX C

### Results of Multiple Regression for Low FDI

Table 1

#### Simple Linear Regression

| Variable                    | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|-----------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                             |             |                |         | 0.0003  | 321.0217 | 0.1362                  |
| Intercept                   | 1.2802***   | .2074882       | 0.000   |         |          |                         |
| Foreign Direct Investment   | 0.000002*** | 0.0000008      | 0.002   |         |          |                         |
| Broad Money Domestic Credit | 0.0000002** | 0.0000001      | 0.024   |         |          |                         |
| Domestic Capital Reserve    | 0.0000002** | 0.0000001      | 0.020   |         |          |                         |
| Inflation                   | -0.0000001* | 0.00000006     | 0.062   |         |          |                         |
|                             | -0.0133**   | 0.006388       | 0.040   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level

Table 2

#### Logarithmic-Linear Regression

| Variable                    | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|-----------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                             |             |                |         | 0.0000  | 350.0395 | 0.1284                  |
| Intercept                   | 1.129068*** | 0.2478         | 0.000   |         |          |                         |
| Foreign Direct Investment   | 0.000003**  | 0.0000009      | 0.006   |         |          |                         |
| Broad Money Domestic Credit | 0.0000003*  | 0.0000001      | 0.014   |         |          |                         |
| Domestic Capital Reserve    | -0.0000003* | 0.0000001      | 0.011   |         |          |                         |
| Inflation                   | -           |                |         |         |          |                         |
|                             | 0.00000002  | 0.00000007     | 0.785   |         |          |                         |
|                             | -0.0177*    | 0.0084         | 0.037   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level

Table 3

## Linear-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.0000  | 218.6159 | 0.6961                  |
| Intercept                 | -4.8129***  | 0.8413         | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0002      | 0.0003         | 0.004   |         |          |                         |
| Broad Money               | 2.9921***   | 0.2653         | 0.000   |         |          |                         |
| Domestic Credit Domestic  | -2.6833***  | 0.2402         | 0.000   |         |          |                         |
| Capital Reserve           | -0.0292     | 0.0414         | 0.482   |         |          |                         |
| Inflation                 | -0.0010***  | 0.0003         | 0.001   |         |          |                         |

\*\*\* Significant at 1% probability level

Table 4

## Logarithmic-Logarithmic Regression

| Variable                  | Coefficient | Standard Error | p-value | F-value | AIC      | Adjusted R <sup>2</sup> |
|---------------------------|-------------|----------------|---------|---------|----------|-------------------------|
|                           |             |                |         | 0.0000  | 280.0935 | 0.5731                  |
| Intercept                 | -9.3951***  | 1.0843         | 0.000   |         |          |                         |
| Foreign Direct Investment | 0.0006*     | 0.0003         | 0.062   |         |          |                         |
| Broad Money               | 3.1778***   | 0.2904         | 0.000   |         |          |                         |
| Domestic Credit Domestic  | -2.8872***  | 0.2646         | 0.000   |         |          |                         |
| Capital Reserve           | 0.1571**    | 0.0701         | 0.027   |         |          |                         |
| Inflation                 | -0.0012***  | 0.0003         | 0.001   |         |          |                         |

\*\*\* Significant at 1% probability level

\*\* Significant at 5% probability level

\* Significant at 10% probability level