

Factors Affecting Economic Growth and Its Impact on Unemployment in the ASEAN Member Countries

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Abstract. The economic growth of ASEAN member countries can be seen from the Gross Domestic Product (GDP) aggregately. The high value of the Gross Domestic Product (GDP) of a country is assumed that the economic condition of a country is also good. The low economic growth as seen from the real Gross Domestic Product (GDP) is always associated with rising unemployment. When real Gross Domestic Product (GDP) grows more slowly or falls, the unemployment rate rises. This is in accordance with the American economist named Arthr Okun who stated the proposition of Okun's Law that real Gross Domestic Product (GDP) growth generally increases by a greater percentage than the decrease in unemployment. ASEAN has formed the ASEAN Economic Community (AEC) which is believed to be a solution to reduce unemployment. The purpose of this study is to examine and analyze the effect of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, bank credit, and international tourist both simultaneously and partially on economic growth and its impact on unemployment in ASEAN member countries. The data analysis techniques used in this research is descriptive statistics, stationarity test, regression, and panel data analysis. The research variables used are Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourist which are functioned as independent variables that affect economic growth which is then functioned as the dependent variable, and unemployment which is used as the dependent variable. The results show that: (1) Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourist both simultaneously and partially have a positive and significant impact on economic growth in the ASEAN member countries; (2) economic growth has a significant and negative effect on unemployment; (3) the findings of the first study state that the magnitude of the influence of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourist on economic growth in the ASEAN member countries is 47.25 percent; and (4) the next finding is that the variable of bank credit become the most dominant variable in influencing economic growth in the ASEAN member countries.

Keywords: economic growth; foreign direct investment (FDI); investment in the manufacturing industry sector; borrowing interest rates; bank credit; international tourist; unemployment

1 Introduction

Association of Southeast Asian Nations (ASEAN) is an organization established with the aim of prospering and advancing countries in the Southeast Asia. When the Association of

Southeast Asian Nations (ASEAN) was first formed on August 8, 1967, it only had five members as Founding Fathers, namely Indonesia, Malaysia, Singapore, the Philippines, and Thailand. The document signed by the five members is known as the ASEAN Declaration which contains the establishment of the Association of Nations for state cooperation in the Southeast Asia and the purpose of establishing the ASEAN organization.

Then, Brunei Darussalam joined on January, 7, 1984; Vietnam on July, 28, 1995; Laos and Myanmar on July, 23 1997; and Cambodia on April, 30, 1999. With the joining of five countries except the Founding Fathers, they formed what is now referred to as the ten member countries of the Association of Southeast Asian Nations (ASEAN). Economic growth is a process by which the wealth of a nation increases over time (Encyclopedia Britannica, 2015). The success of a country's development, one of which can be seen based on the rate of economic growth. High economic growth is one indicator of the success of economic development. Economic growth can be seen from the Gross Domestic Product (GDP) of a country aggregately. The high value of the Gross Domestic Product (GDP) of a country is assumed that the economic condition of a country is also good.

Developing countries in the ASEAN region consist of Indonesia, Myanmar, Malaysia, Laos, Cambodia, Thailand, Vietnam, the Philippines, Brunei Darussalam, and Timor Leste. Meanwhile, the only developed country in the ASEAN region is Singapore. Every developing country wants to carry out economic development in all fields and is expected to achieve high economic growth. There are four developing countries that dominate the ASEAN region, namely Indonesia, Malaysia, the Philippines, and Thailand because these four countries follow the export-oriented economic development model as implemented by Singapore as a developed country and become the target of investors who can help economic growth in these countries.

The first determinant of economic growth is Foreign Direct Investment (FDI). Developing countries in the Southeast Asian region in boosting their economy by bringing in Foreign Direct Investment (FDI). These developing countries have low production costs which attract investors to invest their capital. In addition, Foreign Direct Investment (FDI) brings more advanced technology to these developing countries where local companies adopt the technology used by foreign companies through an imitation process and local companies have access to foreign companies' technology through labor mobility. And lastly, developing countries allow developed countries to manage their natural resources in the form of cooperative relationships.

The second determinant of economic growth is investment in the manufacturing industry sector. Among other ASEAN member countries, Indonesia, which has been named the country with the largest economy in the Southeast Asia, continues to increase its Manufacturing Value Added (MVA) for the largest manufacturing production base in the region. Equally important, Indonesia together with other ASEAN countries also agreed to establish an ASEAN free trade, namely the ASEAN Free Trade Area (AFTA). The ASEAN Free Trade Area (AFTA) was officially enforced on January 1, 2003 in ASEAN-6 countries (Indonesia, the Philippines, Thailand, Singapore, Brunei Darussalam, and Malaysia) and ASEAN-4 countries (Vietnam entered into force in 2006; Laos and Myanmar in 2008; and Cambodia in 2010).

The establishment of the ASEAN Free Trade Area (AFTA) confirms the formation of an ASEAN single market whose purpose is to create an integrated market among ASEAN member countries and the target is to increase ASEAN's economic competitiveness as a product based in facing competition in the world market so that production activities are carried out by utilizing the advantages of each member country.

The fourth determinant of economic growth is borrowing interest rate. Bank Indonesia's interest rates are at the highest position, surpassing Thailand, Malaysia and Vietnam in the ASEAN region. Indonesia's borrowing interest rates have long been the highest in ASEAN. This

makes investment decrease which also decreases capital and labor. Decreased capital and labor make production output decrease. Decreased production output makes national income decline and ultimately economic growth is also low. In addition, this happens because the national banking system is not efficient so that Operational Efficiency Ratio (OER) reaches a percentage of more than 50% even though the average Operational Efficiency Ratio (OER) in ASEAN banks does not reach a percentage of 50%.

The third determinant of economic growth is banking credit. In the ASEAN member countries, especially Indonesia, which has a potential for the manufacturing industry sector, banks establish branches in the regions with the aim of providing banking credit services to the public to facilitate their operations, especially in the manufacturing industry sector. Applications for credit have increased from year to year so that this can be said to be advanced which can be seen from the increasing number of the manufacturing industry sector. If the manufacturing industry sector experiences a capital crisis, the manufacturing industry sector can apply for banking credit to cover the insufficient capital.

In encouraging economic growth, the role of banks cannot be missed because banking as an intermediary institution becomes one of the triggers for economic movement in all sectors, including the manufacturing industry sector in the ASEAN member countries. Banking performance in the ASEAN member countries such as Malaysia, Singapore, Thailand and Vietnam are stronger than Indonesia. In Indonesia, the provision of banking credit by the Government through banks or financial institutions is usually not only limited to providing loans in the form of capital, but also management coaching because there are several manufacturing industries sectors that have taken banking credit but are difficult in their operations and even bad credit.

The fifth determinant of economic growth is international tourist (foreign tourists). Southeast Asia carries out a strategy by spurring the tourism sub-sector in increasing economic growth. Increasing the contribution of the tourism sub-sector can be done by increasing the tourism marketing of the ASEAN member countries through The National Tourism Organizations (NTOs). The ASEAN member countries have started to rely on the tourism sub-sector as the leading sub-sector in lifting economic output.

One of the problems faced by ASEAN is unemployment. For ASEAN countries, having a high unemployment rate will encourage economic instability (Maqbool, Mahmood, Sattar, and Bhalli, 2013). ASEAN has agreed to form the ASEAN Economic Community (AEC) which is believed to be a solution to reduce unemployment. After the establishment of the ASEAN Economic Community (AEC), the countries that had a relatively low unemployment rate during 2000 – 2017 were Vietnam; whereas, the Philippines, Malaysia, Singapore, and Thailand have relatively low unemployment rates each year. In Indonesia, the unemployment rate was above economic growth before the global economic crisis and the ASEAN Economic Community (AEC) was formed; however, after the global economic crisis and the ASEAN Economic Community (AEC) was formed, the unemployment rate was below economic growth.

Many factors affect the high and low economic growth. A more in-depth study is needed to find out the factors that influence economic growth. Therefore, this study aims to analyze the effect of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourist and analyze the effect of high and low economic growth on unemployment in the ASEAN member countries.

2 Literature Review

Economic Development

Economic development is defined as the process of transforming a simple and low-income national economy into a modern industrial economy. Although the term is sometimes used as a synonym for economic growth, it is generally used to describe changes in a country's economy that involve both qualitative and quantitative improvements. The objectives of economic development are the creation of jobs and welfare, and the improvement of the quality of life.

According to Wirasmita (2006, p. 6), the success of economic development must be measured; therefore, the tools are needed to measure the success of economic development where the tools include economic growth, Gross Domestic Product (GDP) growth per capita, the Physical Quality of Life Index (PQLI), the Human Development Index (HDI), the fulfillment of basic needs, and the clean economic indicators.

Economic Growth

According to Sukirno (2011:331), economic growth is defined as the development of activities in the economy that increases goods and services produced in society, and people's welfare. Economic growth is one of the most important indicators in analyzing economic progress that occur in a country. Economic growth shows the extent to which economic activity will generate additional income for the community within a certain period because basically economic activity is a process of using production factors to produce output so that this process will in turn result in a flow of remuneration for production factors owned by the community (Basri, 2010).

Bashar and Khan (2007) state that policies can be taken by increasing the openness of international trade to encourage the economic growth. This opinion is reinforced by Chaudhry and Imran (2009) who state that international trade liberalization is often considered as an important tool to increase world economic growth. If a country's trade openness increases, in theory it will increase the country's Gross Domestic Product (GDP).

Economic growth is determined by the actual increase in goods and services produced by an economy. With the economic growth, the income of the people who own the factors of production is also expected to increase. The economy is said to be experiencing growth if all real rewards for the use of factors of production in a given year are greater than in the previous year. In other words, the economy is said to be experiencing growth if the real income of the community in a certain year is greater than the real income of the community in the previous year.

Real national income needs to be calculated to determine the economic growth achieved by a country, namely real Gross National Product (real GNP) or real Gross Domestic Product (real GDP). In calculating real national income in several countries, real national income and its components have been calculated according to fixed prices, namely the prices of goods in effect in the selected base year. This calculation of national income allows economic growth to be directly calculated from available real national income data.

In a situation where a country does not calculate real national income according to fixed prices, to determine economic growth, the calculation must be carried out in two steps, namely:

- a. Calculate real national income by deflation real national income at current prices
- b. Calculating economic growth

Foreign Direct Investment (FDI)

According to Krugman in Sarwedi (2002), Foreign Direct Investment (FDI) is international capital flows where companies from one country establish or expand their companies in other countries. Foreign Direct Investment (FDI) begins when a company from one country invests its long-term capital into a company in another country. In this way, companies in the home country can influence companies in the host country, either partially or completely. The host country for Foreign Direct Investment (FDI) will receive benefits, including technological excites in the form of new varieties of capital inputs that cannot be achieved through financial investment or trade in goods and services.

Foreign Direct Investment (FDI) has a positive impact on a country, including the creation of employment opportunities for local workers, the development of certain skills and competencies for local workers, the establishment of an entrepreneurial spirit in local entrepreneurs which can further increase adequate and decent income, local entrepreneurs are more encouraged to participate together with foreigners in producing higher quality goods and services, and the state can obtain income tax or value-added tax from various business activities so that the quality of life of the entire community can be improved.

Foreign Direct Investment (FDI) has a number of negative effects for the national interest. Negative impacts often arise when the investment agency and permit issuer who are the authority holders do not carry out the functions of supervision and guidance and carry out consistent enforcement; in addition, the existing policies and regulations comprehensively do not regulate technical matters in order to facilitate guidance, supervision, and prosecution.

Manufacturing Industry Sector Investment

The manufacturing industry sector is believed to be a sector that can lead other sectors in an economy towards progress. Industrial products always have a high or more profitable "base of exchange" and create greater added value compared to products from other sectors. This is because the manufacturing industry sector has a very wide variety of products and is able to provide high marginal benefits to its users. Business people prefer to be involved in the manufacturing industry sector because this sector provides a more attractive profit margin. Business people doing business in this sector are more attractive because the handling of their products can be controlled by humans which does not depend on nature such as weather conditions.

Because of the advantages of the manufacturing industry sector as described above, industrialization is considered a "panacea" to overcome the problems of economic development in developing countries. The policies adopted are often forced, in the sense of simply imitating the pattern of development policies in developed countries without paying attention to existing environmental conditions such as problems with the availability of raw materials, availability of technology, labor skills, capital adequacy, and so on.

Very few developing countries are aware that efforts to promote and expand the manufacturing industry sector must be parallel to the development and expansion of other sectors, especially the raw material producing sector, in this case the agricultural sector because these two sectors are very closely related.

One of the sectors classified by the Indonesia Stock Exchange from 9 sectors is the manufacturing industry sector which consists of:

- a. The basic and chemical industry sector consists of the sub-sector of cement; ceramics, porcelain and glass; metal and the like; chemistry; plastics and packaging; animal feed; wood and its processing; pulp and paper; and others

- b. The miscellaneous industry sector consists of the sub-sector of machinery and heavy equipment; automotive and its components; textiles and garments; footwear; cable; electronics; and others
- c. The consumer goods industry sector consists of the sub-sector of food and beverage; cigarette; pharmacy; cosmetics and household goods; household appliances; and others

Borrowing Interest Rate

Borrowing interest rate is the rate at which commercial banks borrow from the Central Bank or the return they pay as interest on customer deposits. Banks make a profit by borrowing at a lower rate and lending the same funds at a higher interest rate. When a customer makes a deposit at a bank, this can be explained as a customer lending funds to the bank. Banks offer lower interest rates for customer deposits than the interest rates at which they lend funds.

Another perspective on borrowing interest rates is commercial banks also borrow from the Central Bank to maintain the minimum reserve requirements set by the Government. The interest rate at which the Federal Reserve lends to banks is higher than it borrows from other banks. Borrowing interest rate determined by the Central Bank decreases so that investment increases which also affects the increase in production factors such as capital and labor. Capital and labor increase making production output increase. This causes the national income to also increase. Increased national income makes economic growth increase.

Banking Credit

Based on Constitution Number 10 of 1998, bank credit is the provision of money or an equivalent claim, based on a loan agreement between the bank and another party which requires the borrower to repay the debt after a certain period of time with interest. For credit provision activities, banks receive remuneration in the form of credit interest. The difference between credit interest received from debtors and deposit interest, interbank loan interest, and demand deposits they pay to depositors can be said to be one of the largest sources of bank income.

According to Sutojo (1995: 49), in the provision of banking credit by the government through banks or financial institutions, this is usually not only limited to providing loans in the form of capital, but also management development. Companies that obtain banking credit will be easy monitored the level of business development with management guidance because there are several companies that have taken credit but are difficult to operate and there are even bad loans, this is because the company's management is not running properly.

International Tourist

The tourism sub-sector, which is part of the service industry, especially the trade, services and investment sectors, has become a dynamic sub-sector and affects other economic segments. One of the tourism sub-sectors that affect other sectors is hotels, restaurants, and tour guides. The tourism sub-sector provides cross-border mobility and creates trained workforces in serving international tourists (foreign tourists).

According to the Central Statistics Agency, international tourists (foreign tourists) are every visitor who visits a country outside his/her place of residence, driven by one or more needs without the intention of earning income at the place visited and the duration of the visit is not more than 12 (twelve) months. This definition includes two categories of international tourists (foreign tourists), namely:

a. Tourist

A tourist is every visitor as defined by a international tourists (foreign tourists), who stays at least 24 hours, but not more than 12 months in the place visited, for vacation/recreation, sports, business, attending meetings, studies, and visits for health reasons

b. Traveler (Excursionist)

A traveler (excursionist) is every visitor according to the definition of a international tourists (foreign tourists), who stays less than 24 hours at the place visited, including cruise passengers; cruise passengers is every visitor, who arrives in a country by ship or train where they do not stay overnight, accommodated with those available in that country

The condition of the tourism sub-sector is quite high, one of which can be seen from the number of international tourists (foreign tourists) arrivals. The number of international tourists (foreign tourists) arrivals is used as a measure of the magnitude of the contribution of the tourism sub-sector to a country. Tourism activities carried out by international tourists (foreign tourists) are coming to consume tourism commodities in tourist destination countries. On the national balance sheet, the expenditure of international tourists (foreign tourists) is seen as an invisible export of the economy of the destination country. This expenditure can be considered as a stimulus for consumption obtained from visiting international tourists (foreign tourists) (Eugenio-Martin et.al, 2004).

Unemployment

In general, unemployment is an individual who is included in the calculation of the labor force but does not have a job and is still actively trying to get a job (Nanga, 2001). Unemployment must be considered a problem that must be faced by all countries, both developed and developing countries. Unemployment can be said to be an indicator commonly used to analyze the health of a country's economy.

Research Hypothesis

To answer theoretically, it is assumed that Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourists will increase economic growth. The increase in economic growth will also have implications for a decrease in the unemployment rate. The formulation of the research hypotheses are as follows: 1). There is a simultaneous and partial positive influence of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, and international tourists on economic growth; and 2). There is a negative effect of economic growth on unemployment.

2 Research Methods

The research sample period is based on time series data taken from The World Bank (<https://data.worldbank.org/indicator>), in this case, the annual data from 1996 to 2020. In addition, the cross-section data consists of eight ASEAN member countries like Indonesia, Malaysia, Singapore, Vietnam, Brunei Darussalam, the Philippines, and Myanmar. The variables used in this study are depicted in Table 1 where only two independent variables were transformed into a natural logarithm form:

Table 1. Variables Used in This Study

No	Notation	Description of the Variables	Derivation of Variables
1	Y	Economic Growth	Derived from the economic growth of the ASEAN member countries
2	X ₁	Foreign Direct Investment (FDI)	Derived from foreign direct investment, net inflows to the ASEAN member countries
3	X ₂	Manufacturing Industry Sector Investment (Investment in the Manufacturing Sector)	Derived from investment in the manufacturing industry sector of the ASEAN member countries
4	X ₃	Borrowing Interest Rate	Derived from borrowing interest rates related to bank credit of the ASEAN member countries
5	X ₄	Banking Credit	Derived from credit provided by banks (financial sector) (% of GDP) to the ASEAN member countries
6	X ₅	International Tourist (Foreign Tourist)	Derived from international tourism receipts (% of total exports) of the ASEAN member countries
7	Z	Unemployment	Unemployment, total (% of total labor force) (modeled ILO estimate)

The first data analysis technique is descriptive statistics, which is carried out to obtain a description of the variables studied regarding the mean, standard deviation, and range containing the minimum and maximum values. Second, to ensure an unbiased estimator, the stationarity status needs to be investigated for each variable. Stationarity test was carried out through the Panel Unit Root Test using the Levin, Lin, & Chu (LLC) Test which tested general stationarity.

Hypothesis:

H₀ : data is not stationary

H_a : data is stationary

The basis for decision making is:

- If the probability of Levin, Lin, Chu > 0.05, then H₀ is accepted and H_a is rejected which indicates the data is not stationary
- If the probability of Levin, Lin, Chu < 0.05, then H₀ is rejected and H_a is accepted which indicates the data is stationary

Third, in answering the research objectives, two models were formed where the first model was formulated to determine the effect of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, banking credit, borrowing interest rates, and international tourists on economic growth and the second model was used to determine the effect of economic growth on the unemployment rate.

The equations for the two models are:

$$Y = \beta_0 + \beta_1 \cdot \text{Log}X_1 + \beta_2 \cdot \text{Log}X_2 + \beta_3 \cdot X_3 + \beta_4 \cdot X_4 + \beta_5 X_5 + \varepsilon \quad (1)$$

$$Z = \beta_0 + \beta_6 Y + \varepsilon \quad (2)$$

The decision to select the model in panel data regression whether to use the Fixed Effect Model (FEM), Common Effect Model (CEM), or Random Effect Model (REM) can be determined statistically, namely the Chow Test and Hausman Test. The following describes the two tests:

a. Chow Test (*Metode Common Effect Model Vs Fixed Effect Model*)

This test is used to select one of the models in panel data regression, namely the Fixed Effect Model (FEM) and the Common Effect Model (CEM).

The provisions for the Chow Test are as follows:

- If the probability value (p-value) of Cross-section F and Cross-section Chi-square is greater than 0.05, so the regression model chosen is the Common Effect Model (CEM), and does not need to be continued with the Hausman Test
- If the probability value (p-value) of Cross-section F and Cross-section Chi-square is less than 0.05, so the regression model chosen is the Fixed Effect Model (FEM), and continued with the Hausman Test

b. Hausman Test (*Metode Fixed Effect Model vs Random Effect Model*)

The result of the test using the Hausman test is to find out which model should be chosen, whether the Fixed Effect Model (FEM) or the Random Effect Model (REM).

The provisions for the Hausman Test are as follows:

- If the probability value of a random cross-section is greater than 0.05, so the selected regression model is the Random Effect Model
- If the probability value of a random cross-section is less than 0.05, so the selected regression model is the Fixed Effect Model

After passing the Chow Test and Hausman Test, panel data analysis used the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) (Gujarati, 2013 and Wing, 2016).

3 Results and Discussion

The results of the descriptive statistics of the independent variable and the dependent variable from 1996 to 2020 can be seen in Table 2 below:

Table 2. The Result of Descriptive Statistics from 1996 to 2020

	LOGMANU						
	EG?	LOGFDI?	CRDT?	?	TOURS?	INTR?	PENGG?
Mean	3.653366	78.28441	4.398240	8.111726	7.103740	3.610382	3.653366
Median	3.806957	90.34107	4.599338	6.260000	6.280206	3.530000	3.806957
Maximum	5.080769	166.5037	5.343413	18.94500	20.09458	9.320000	5.080769
Minimum	1.000000	19.34193	1.000000	3.290000	-1.026000	0.210000	1.000000

Based on table 2 above, the independent variables and dependent variables have the following average (mean), median, maximum, and minimum values:

- a. Economic growth (Y) in the ASEAN member countries has an average (mean) of 3.65 percent, a median value of 3.81 percent, the highest value (maximum) of 5.08 percent, and the lowest value (minimum) by 1 percent

- b. Foreign Direct Investment (X_1) of the ASEAN member countries have an average (mean) of US\$ 78.28 million, a median value of US\$ 90.34 million, the highest (maximum) value of US\$ 166.50 million, and the lowest value (minimum) is US\$ 19.34 million
- c. Investment in the manufacturing industry sector (X_2) of the ASEAN member countries have an average (mean) of US\$ 8.11 million, a median value of US\$ 6.26 million, the highest value (maximum) of US\$ 18.95 million, and the lowest (minimum) value of US\$ 3.29 million
- d. Borrowing interest rate (X_3) of the ASEAN member countries has an average (mean) of 3.61 percent, a median value of 3.53 percent, the highest (maximum) value of 9.32 percent, and the lowest (minimum) value of 0.21 percent
- e. Banking credit (X_4) of the ASEAN member countries has an average (mean) of 4.39 percent of Gross Domestic Product (GDP), a median value of 4.599 percent of Gross Domestic Product (GDP), the highest value (maximum) of 5.34 percent of Gross Domestic Product (GDP), and the lowest value (minimum) of 1.00 percent of Gross Domestic Product (GDP)
- f. International tourist (foreign tourist) receipts (X_5) in the ASEAN member countries have an average (mean) of 7.1 percent of total exports, a median value of 6.28 percent of total exports, the highest (maximum) value of 20, 09 percent of total exports, and the lowest (minimum) value of -1.026 percent of total exports
- g. Unemployment (Z) in the ASEAN member countries has an average (mean) of 3.65 percent of the total workforce, the median value of 3.81 percent of the total workforce, the highest (maximum) value of 5,08 percent of the total workforce, and the lowest value (minimum) of 1.00 percent of the total workforce

The results of the stationarity test carried out through the Panel Unit Root Test using the Levin, Lin, & Chu (LLC) Test which tests general / common stationarity at the Level can be seen in Table 3 below:

Table 3. Stationarity Test Results on Common Unit Root Process and Individual Unit Root Process (Group unit root test: Summary) at Level

	t-Statistics	Probability
Levin, Lin & Chu t*	-44.2529	0.0000
Im, Pesaran and Shin W-stat	-44.2251	0.0000
ADF - Fisher Chi-square	737.723	0.0000
PP - Fisher Chi-square	667.240	0.0000

Based on table 3 above, if the Levin, Lin, & Chu (LLC) Test which tests stationarity in common, the probability value is $0.0000 < 0.05$ (probability Levin, Lin, Chu < 0.05), so H_0 is rejected and H_a is accepted which shows stationary data at the Level. The decision to choose the model in panel data regression whether to use the Fixed Effect Model (FEM), Common Effect Model (CEM), or Random Effect Model (REM) by looking at:

Result of Chow Test (*Common Effect Model Vs Fixed Effect Model*)

The results of the Chow Test are used to select one of the models in the panel data regression, namely the Fixed Effect Model (FEM) or the Common Effect Model (CEM).

The results of the Chow Test can be seen in Figure 1 below:

Redundant Fixed Effects Tests

Pool: Untitled

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	16.241703	(7,144)	0.0000
Cross-section Chi-square	91.366381	7	0.0000

Fig.1. The Results of the Chow Test

Based on Figure 1 above, the probability value of Cross-section F is $0.0000 < 0.05$ and Cross-section Chi-square is $0.0000 < 0.05$ (probability value of Cross-section F and Cross-section Chi-square smaller than 0.05) so that the regression model chosen is the Fixed Effect Model (FEM), and followed by the Hausman test.

Result of Hausman Test (*Fixed Effect Model vs Random Effect Model*)

The results of the Hausman Test are used to determine which model should be chosen, whether the Fixed Effect Model (FEM) or the Random Effect Model (REM). The result of Hausman Test can be seen in Figure 2 below:

Correlated Random Effects - Hausman Test

Pool: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.734175	5	0.0386

Fig.2. The Results of the Hausman Test

Based on Figure 2 above, the probability value of a random Cross-section is $0.0386 < 0.05$ (the probability value of a random Cross-section < 0.05) so that the regression model chosen is the Fixed Effect Model (FEM). The results of regression for all models are shown in Table 4 where the first model is formulated to determine the effect of Foreign Direct Investment (FDI), investment in the manufacturing industry, borrowing interest rates, banking credit, and international tourists (foreign tourist) on economic growth and the second model is used to determine the effect of economic growth on the unemployment rate:

Table 4. Regression Results for Model 1 and Model 2

Variable	Model 1-Fixed Effect Model (FEM)	Model 2
C	4.106858	-
LogFDI	0.005755 ***	-
CREDIT	0.035261	-
LogManu	-0.069754***	-
TOURS	-0.013227	-
INTR	-0.110601 ***	-
UNEMPLOYMENT	-	5.671455
EG	-	-0.559783 ***
R Square	0.704311	0.831901
Adjusted R Square	0.679670	-
F-Statistic	28.58315	105.7818
Prob- Stat	0.000000	0.00000

Table 4 shows that the Prob-Stat of model 1 is $0.00000 < 0.05$ and the Prob-Stat of model 2 is $0.0000 < 0.05$ so that all models are significant because the probability value of the F-statistic is less than 0.05.

Discussion on Model 1

The equation of Model 1:

$$Y = \beta_0 + \beta_1 \cdot \text{Log}X_1 + \beta_2 \cdot \text{Log}X_2 + \beta_3 \cdot X_3 + \beta_4 \cdot X_4 + \beta_5 X_5 + \varepsilon$$

$$Y = 4.106858 + 0.005755 \text{Log}X_1 + (-0.069754)X_2 + (-0.110601)X_3 + 0.035261X_4 + (-0.013227)X_5 + \varepsilon$$

The influence of the independent variable on the dependent variable simultaneously on the dependent variable: Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, international tourist (foreign tourist) have a significant effect simultaneously (together) on economic growth in the ASEAN member countries by looking at the Adjusted R Square of $0.679670 > 0.50$.

The effect of each independent variable on the dependent variable:

- Foreign Direct Investment (FDI), in this case LogFDI has a positive and significant effect on economic growth in the ASEAN member countries by looking at the probability of $0.005755 < 0.05$
- Investment in the manufacturing industry sector, in this case LogMANU has a negative and significant effect on economic growth in the ASEAN member countries by looking at the probability of $-0.069754 < 0.10$
- Borrowing interest rates have a negative and significant effect on economic growth in the ASEAN member countries by looking at the probability of $-0.110601 < 0.05$
- Banking credit has a positive and significant effect on economic growth in the ASEAN member countries by looking at the probability of $0.035261 < 0.05$
- international tourist (foreign tourist) have a negative and significant effect on economic growth in the ASEAN member countries by looking at the probability of $-0.013227 < 0.05$

Potential economic growth that is influenced by Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, international tourist (foreign tourist) in the ASEAN member countries:

- 1) Potential economic growth influenced by Foreign Direct Investment (FDI) in the ASEAN member countries
- 2) Developing countries in the Southeast Asian region are Indonesia, Myanmar, Malaysia, Laos, Cambodia, Thailand, Vietnam, the Philippines, Brunei Darussalam, and Timor Leste. One way for developing countries in the Southeast Asia region to boost their economy is to bring in Foreign Direct Investment (FDI). Developing countries in Southeast Asia have low production costs which attract investors to invest their capital. In addition, Foreign Direct Investment (FDI) is said to be a driver of economic growth in every developing country because the presence of Foreign Direct Investment (FDI) brings new capital, technology, and expertise. And finally, Foreign Direct Investment (FDI) in the form of physical capital, expertise, and new technology can bring benefits where developing countries allow developed countries to manage their natural resources in the form of cooperative relationships.
- 3) Potential economic growth influenced by investment in the manufacturing industry sector in the ASEAN member countries
- 4) Among other ASEAN member countries, Indonesia, which has been named the country with the largest economy in the Southeast Asia region, continues to increase its Manufacturing Value Added (MVA) for the largest manufacturing production base in this region. Equally important, Indonesia together with other ASEAN member countries also agreed to establish an ASEAN free trade, namely the ASEAN Free Trade Area (AFTA).
- 5) Potential economic growth influenced by borrowing interest rates in the ASEAN member countries
- 6) In general, borrowing interest rates in the ASEAN countries declined. Borrowing interest rates in Indonesia are at the highest level, surpassing Thailand, Malaysia and Vietnam in the ASEAN region. The decline in borrowing interest rates is an attraction for investors to take credit so business capital increase and increase production volume so that economic growth will increase.
- 7) Potential economic growth influenced by banking credit in the ASEAN member countries
- 8) In general, banking credit in the ASEAN member countries has increased. Increasing banking credit will increase production in the ASEAN member countries so that economic growth will also increase. Banks establish branches in regions with the aim of providing banking credit services to the public to facilitate operations, especially in the manufacturing industry sector. In encouraging economic growth, the role of banks cannot be missed because banking as an intermediary institution is one of the factors that triggers economic movement in all sectors, including the manufacturing industry sector in the ASEAN member countries.
- 9) Potential economic growth influenced by international tourist (foreign tourist) in the ASEAN member countries
- 10) Southeast Asia carries out a strategy by spurring the tourism sub-sector in increasing economic growth. Increasing the contribution of the tourism sub-sector can be done by increasing the tourism marketing of the ASEAN member countries through The National Tourism Organizations (NTOs). ASEAN member countries have started to rely on the tourism sub-sector as the leading sub-sector in lifting economic output. But, the influence of the tourism sector generally is still negative in the ASEAN member countries.

- 11) Potential of the economic growth of the ASEAN member countries can be seen in Table 5 below:

Table 5. Potential of Economic Growth of the ASEAN Member Countries

Country	Intercept	Constant (C)	Potential of Economic Growth
Indonesia	0.977159293467	4.10685794308	5,0841724
Singapura	0.476626631812	4.10685794308	4,58348457
Myanmar	0.394939265231	4.10685794308	4,50179721
Philipina	0.0431292609449	4.10685794308	4,1499872
Vietnam	-0.0111523483389	4.10685794308	4,09570559
Malaysia	-0.363028350045	4.10685794308	3,74382959
Thailand	-0.343881008555	4.10685794308	3,76297693
Brunei Darrusalam	-0.905876485668	4.10685794308	3,20098146

Table 5 shows that the country with the highest potential of economic growth is Indonesia, followed by Singapore, Myanmar, the Philippines, Vietnam, Malaysia, and Thailand. Meanwhile, the country with the lowest potential of economic growth is Brunei Darrusalam.

Discussion on Model 2

The equation of Model 1:

$$Z = \beta_0 + \beta_6 Y + \varepsilon$$

$$Z = 5.671455 + (-0.559783)Y + \varepsilon$$

Economic growth has a negative and significant effect on unemployment in the ASEAN member countries by looking at the probability of $-0.559783 < 0.50$, meaning that if economic growth decreases, unemployment will increase and vice versa.

4 Conclusion

The purpose of this study is to analyze the effect of Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, international tourist (foreign tourist) simultaneously and partially on economic growth in the ASEAN member countries. In addition, we also assess the effect of economic growth on unemployment in the ASEAN member countries. This study finds that Foreign Direct Investment (FDI), investment in the manufacturing industry sector, borrowing interest rates, banking credit, international tourist (foreign tourist) has a significant effect simultaneously on economic growth in the ASEAN member countries.

This study also finds that Foreign Direct Investment (FDI) has a positive and significant effect partially on economic growth in the ASEAN member countries, investment in the manufacturing industry sector has a negative and significant effect partially on economic growth in the ASEAN member countries, borrowing interest rates have a negative and significant effect partially on economic growth in the ASEAN member countries, banking credit have a positive and significant effect partially on economic growth in the ASEAN member countries, and international tourist (foreign tourist) have a negative and significant effect partially on economic growth in the ASEAN member countries.

Meanwhile, economic growth has a negative and significant effect on unemployment, meaning that an increase in economic growth makes unemployment decrease.

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