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DETERMINANT OF ECONOMIC GROWTH IN ASEAN COUNTRIES 2015-2022

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Abstract: The aim of this research is to see the influence of macroeconomic variables on the GDP of ASEAN countries. This research uses data for the past 7 years from 2015-2022 and uses market analysis to discuss labor force levels and income levels in ASEAN countries. Using a two-stage least squares simultaneous equation model. The data taken is Gross Domestic Product, Labor Force and Exchange Rates. Based on the test results, it shows that the variables that have an influence on GDP are the Labor Force, Inflation, while the Exchange Rate has no influence on GDP.

Keywords: Gross Domestic Product1, Inflation2, Labor Force3 and Exchange Rates4.

A. Introduction

Currently, the ASEAN economy has become the center of global attention in the last few decades and is also inseparable from the economic crisis that occurred in the international market. The government and central bank of a country that makes monetary policy must take wise decisions to keep the value of money stable and emphasize economic conditions in the event of pressure from outside ASEAN countries.

Table 1
Average Gross domestic product of ASEAN Countries for the period 2015-2022 (Billion $)

Country	GDP
Indonesia	1,390,104,196,734
Thailand	580.078.705.916
Vietnamese	447.160.579.741
Malaysia	469,620,377,686
Brunei Darussalam	15,040,292,652
Myanmar	63,560,178,362
Singapore	467.460.748.395
Philippines	425.660.256.673
Laos	17,941,585,451
Cambodia	30,710,508,468

Economic growth can be interpreted as an increase in economic activity in a country in increasing the production of goods and services, resulting in an increase in national income in a certain period. With economic growth, there is an increase in the production of goods and services which will contribute income to production factors, so that the welfare of a country increases. Economic growth is necessary for a country, because when the economy grows, the number of goods and services produced by production factors increases, thereby creating jobs. Absorption of labor will reduce unemployment and people will have the income to buy various kinds of goods and services to meet their needs (Cerdasco, 2021).

Macroeconomics focuses on the behavior and performance of the economy as a whole, including economic growth, inflation, unemployment, and fiscal and monetary policy. Through macroeconomic analysis, the government and the private sector can identify problems occurring in the economy and design policies to overcome them. The influence of the macro economy can also be seen from the current state of the economy, whether it is stable or not. In this case, it refers to conditions where economic variables, especially commodity prices and income levels, are still considered reasonable. Economic stability can be seen from job opportunities, stability in prices of goods in general, to people's income. It can also be seen that there are differences and changes in people's income levels in the economies of ASEAN countries which are found in the open economies of ASEAN countries. Based on central bank data from ASEAN countries for 2015-2022.

According to the Central Statistics Agency, Gross Domestic Product is an index that determines the economic condition of a country during a certain period. At current prices or at a fixed price. According to Sadono, GDP is the total volume of production in the form of the value of products and services produced by a country using resources owned by foreign and domestic citizens. Table 1.1 shows that there are very small or large differences in the GDP of the 10 ASEAN countries, where Indonesia's GDP for 2015-2022 is obtained from the total value added by all business units or the total value of final products and services produced by all economic business units. Indonesia's average GDP in 2015-2022 is 1,390,104,196,734 which is equivalent to two countries below Indonesia's GDP in 2015-2022. Indonesia's high GDP can be attributed to several factors. One of the consumption factors is the purchasing power of the people and the largest population in Indonesia. Factors that cause GDP to change include investment, net exports, government spending and household consumption. So it is necessary to look for other variables that can have an impact on GDP, such as the labor force, inflation and exchange rate.

Macroeconomic factors can influence GDP because changes in macro factors can influence changes in GDP. According to the International Labor Organization, the labor force is the activity of people who work alone or in small groups to find, obtain, or carry out work that they are expected to do with or without compensation. . Therefore, it is concluded that every citizen tries to maximize income to maximize life. The labor force is used to determine the future of a country, because it influences the growth or decline of GDP.

According to Mankiw (2006), inflation is a problem that every country always faces. According to Keyness, inflation is a general increase in prices in the market and can be caused by excessive increases in aggregate demand. Inflation plays a role in the welfare of the people of a country. The government is expected to have the right policies so that it can control inflation, with high inflation having a negative impact on the economic growth of ASEAN countries and low inflation also affecting the economic growth of ASEAN countries.

According to Aristotle, exchange value is defined as the ability to exchange one good for another on the market. The exchange rate in money management is explained as the exchange rate of a currency for another currency. However, exchange rates cannot affect GDP.

B. Materials and Methods

Gross domestic product

According to the Central Statistics Agency, Gross Domestic Product is an index that determines the economic condition of a country during a certain period. At the current price or at a fixed price. According to Sadono, GDP is the total volume of production in the form of the monetary value of a country's products and services produced by the production components of that country and other countries. Items included in a country's GDP include any economic activity that occurs within the country's borders, whether generated by domestic residents (domestic income) or operating foreigners (foreign income). GDP at current prices measures GDP measures total value all goods and services produced in one year at current prices. This is the total value of all goods and services produced in one year at prices valid for one year without ignoring price fluctuations (inflation) as well as GDP with fixed assets used to measure the entire amount spent in one year on products and services produced at constant prices, which means ignoring price fluctuations or inflation from year to year

Labor Force

A group of people who are able to work and are of working age, namely aged 15 to 64 years and consisting of people who are finding work, people who have temporary jobs, people who are not working and people who are unemployed are called the workforce. Labor is one of the drivers of economic growth, which tries to achieve a stable level of growth. Labor is one of the drivers of economic growth, which tries to achieve a stable growth rate (Tambunan, 2007). Types of workforce, namely labor force and non-labor force. The labor force is the population of working age who are currently working, who have jobs but are not working, or who are looking for work. The labor force consists of two groups, namely employed and unemployed.

The total workforce in ASEAN countries is led by Indonesia, which reached 134,381,721 people as of 2021. This is due to the large population of Indonesia and of course the ASEAN community is dominated by Indonesian residents. Followed by Vietnam with a workforce as of 2021 of 55,034,919 people. Next followed by the Philippines, Thailand, Malaysia, and the least, namely Singapore with 3,418,165 people. However, if the high number of labor forces is not accompanied by extensive employment opportunities, it will cause unemployment. So that the entire workforce is expected to be able to be absorbed into an industry so that unemployment does not occur and labor productivity increases (ASEAN Statistics, 2022).

Inflation

According to (Ardiansyah, 2017), although we rarely experience it, inflation is an event general economic situation. want it to happen. Keyness saw inflation as a result of demand exceeding supply in the economy. Keynesianism proposes that inflation can be overcome through fixed fiscal and monetary policies. The second way to look at inflation is a general decline in the purchasing power of a currency compared to the general value of goods and services. The economic growth of ASEAN countries is negatively influenced by high inflation and positively influenced by low inflation.

The call money rate and inflation have a significant influence on investment levels. An increase in the call money rate and inflation tend to reduce investors' interest in investing, which in turn can affect the country's economic growth. Planning and implementing financial policies that can increase investment-friendly interest rates and control inflation in order to stimulate economic growth. In this context, it is important to create a stable investment climate and reduce uncertainty for investors. (Mujahid et al., 2019)

Exchange rate

According to Aristotle, exchange value is defined as the ability to exchange one good for another on the market. The exchange rate in financial management is defined as the exchange rate of a currency against a currency with more funds. Fixed exchange rate systems and floating exchange rate systems are the two main categories of currency exchange rate systems. (floating exchange rate). Based on the amount of foreign exchange reserves and the level of central bank intervention required to maintain exchange rate stability, the division is made. Therefore, large foreign currency reserves are needed for a fixed exchange rate regime because the currency value is at a price determined by the central bank, while the floating exchange rate does not require intervention from the central bank because what influences the exchange rate is determined by market mechanisms.

Previous Studies

According to (Buana et al., 2019) in their research they claim that positive labor influence on labor and GDP on a large scale is the main factor that contributes to economic growth. According to (Sari et al., 2016) states that workers have a role in boosting economic expansion. This is in accordance with the hypothesis that the expansion of the workforce in terms of population has an impact on economic growth as well (Todaro, 2003). According to (Karlina, 2017) confirms that the impact of inflation on GDP is negative. (Munir, 2021) emphasized that if GDP is not much influenced by the increasing inflation rate, GDP will decrease.

Research Framework

So a description was made as a framework for thinking about "How the Labor Force, Inflation and Exchange Rates Affect Economic Growth of Gross Domestic Product in ASEAN countries as follows:

Growth Gross Domestic Bruto
= f (Labor Force, Inflation, and Exchange Rate)

H1= The labor force has a significant positive effect on gross domestic product.

Inflation greatly affects the stability of a country's economy, especially when inflation is at a high level. High inflation rates can reduce production due to increasing costs and decreasing consumer demand. Heavy inflation often causes a decline in real income and purchasing power, thereby reducing consumption and investment. Research shows that the impact of inflation depends on its severity. Mild inflation can have a positive impact in the short term, for example by encouraging consumption and reducing unemployment. However, high and prolonged inflation tends to have negative effects, such as reduced production and slow economic growth (Burdekin, 2004).

H2= Inflation has a significant negative effect on gross domestic product.

Changes in trade between countries determine the influence of exchange rates on GDP growth. According to Dwi (2014), a country's competitiveness towards its trading partners reflected fromchanges in the actual exchange rate. Based on the inverse relationship, research conducted by (Ayunia,) shows that the exchange rate reduces GDP. Gross domestic product will fall in response to changes in exchange rates.

H3= The exchange rate has no significant negative effect on gross domestic product

Research methods

The research was conducted using a quantitative descriptive approach. Determine the extent to which the independent variable influences the dependent variable for ASEAN countries. The dependent variable is GDP, and the independent variables are Labor Force, Inflation and Exchange Rate

Target/Research Project

The labor force is the main production factor in economic activity. Most goods and services are produced with the help of labor. So the quantity and quality of labor can affect a country's production capacity. The level of labor productivity can influence how efficient a country is in producing goods and services. The income received by the workforce will influence consumption levels and have an impact on increasing GDP. Sample of 10 ASEAN countries used in this research: Brunei Darussalam, Indonesia, Thailand, Vietnam, Malaysia, Myanmar, Singapore, Philippines, Laos and Cambodia. How does the labor force variable influence the GDP of ASEAN countries? The year used is 2015-2022 which is seen from the total of 7 years of the workforce level.

Data, Instruments, and Data Collection Techniques.

The World Bank provided secondary data used in this research. Exchange rate, GDP, employment, inflation and inflation are the variables used in this research.

Data Analysis Techinques.

In this study, cross-sectional data from 10 ASEAN countries used in this research: Brunei Darussalam, Indonesia, Thailand, Vietnam, Malaysia, Myanmar, Singapore, Philippines, Laos, and Cambodia as well as time series data from 2015 to 2022 were used.

Table 2
Data and Data Source

Data	Variable	Unit	Source
Product Gross Domestic	GDP	Billion ($)	World Bank
Inflation	INF	Percent	World Bank
Workfore	LF	Billion (Souls)	World Bank
Exchange rate	E.R	Curreny ($)	Trading Views

Data analysis method

This research uses panel data regression analysis as the analysis method, and data processing uses Excel 2016 and Eviews 10. The following is the research model equation: This research uses time series data for 2015–2022 and cross-section data from the 10 ASEAN countries used in this research : Brunei Darussalam, Indonesia, Thailand, Vietnam, Malaysia, Myanmar, Singapore, Philippines, Laos and Cambodia:

$$Yit = \alpha + \beta 1X1it + \beta 2X2it + \cdots + \beta nXnit + eit$$
$$LGDPit = \alpha + \beta 1\ LLFit + \beta 2\ INFit + \beta 3\ LERit + eit$$

Information:
LGDPit = Gross domestic product
LLFit = Labor force
INFit = Inflation
LErite = Exchange Rate
I = Number of Countries
t = Time period 2015-2022
eit = error term
α1 α3 = Independent variable coefficient

C. Result and Discussion

Table.3. Descriptive Statistical Results

	N	Mean	Max	Min	Std. Dev
GDP	80	25.62	27.90	23.25	1,505
INF	80	3.56	39.27	-1.00	5,083
LF	80	16.34	18.73	12.23	1,791
E.R	80	-2.78	9.71	-10.1	5,976

Based on table 2 above, it can be seen that all the variables tested have observations (N) of 80. The dependent variable (Y), namely Gross Domestic Product (GDP) has an average value of 25.62, a maximum value of 27.90, and a standard deviation 1,505. The independent variable, namely the inflation variable, has an average value of 3.56, and a maximum value of 39.27, while the standard deviation is 5.083. The labor force variable has an average value of 16.34, and a maximum value of 18.73, while the standard deviation is 1.791. The exchange rate variable has an average value of -2.78, and a maximum of 9.71, while the standard deviation is 5.976.

Model Selection Analysis

When conducting panel data tests, it is necessary to determine the best model, there are three models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Of all the models tested, researchers look for the best regression model to be used in the analysis. So that you can find out which model is the best, you need to first test the Chow Test and the Hausman Test.

Chow Test

By testing the Chi-squared probability value, a Chow test is carried out to find out whether the model used is a Fixed Effect Model or a Common Effect Model. The Common Effect Model (CEM) is the model chosen if the prob value is greater than 0.05 (5%). On the other hand, the Fixed Effect Model (FEM) should be chosen if the prob value is less than 0.05 (5%).

Hausman Test

To determine whether the model in question is a random effects or fixed effects model, one can run the Hausman test and compare the Chi-square probability values. Random Effect Model (REM) should be used if the probability is greater than 0.05 (5%). However, the Fixed Effect Model (REM) should be used if the probability value is less than 0.05, namely 5%.

Table. 4. Chow Test and Hausman Test Results

	Prob.
FEM	
Cross-Section Chi-square	**0.0000**
BRAKE	
Random Cross-Section	**0.0000**

It can be seen from the table above that the best model chosen is the Fixed Effect Model (FEM).

Table 5
Fixed Effect Model (FEM)

	Var	Koef S.E	t-stat	prob
c	-13.01555	3.20466	-4.0614	0.0001
LF	2.318545	0.20210	11.47228	0.0000
INF	-0.00711	0.00149	-4.7802	0.0000
ER	-0.011812	0.161021	0.073357	0.9417

Panel Data Model Estimation Result
Table 6
Fixed Effect Model (FEM)

R-squared	0.998507
Adjusted R- squared	0.998213

PDBit = α + β1 LFit + β2 INFit + β3 NEit + eit

GDP = -13.01555 + -0.00711(INF) – 2.318545 (LF) – 0.011812 (ER) + e

Interpretation

1. Judging from the constant value, the value obtained is -13.01555, meaning that if employment, inflation and the exchange rate are all zero, then there will be a decrease in economic growth of 13.01555.
2. GDP will decrease by 0.00711 if INF increases, according to the inflation variable coefficient value of -0.00711.
3. GDP will increase by 2.318545 if the labor force increases, according to the labor force variable coefficient value of 2.318545.
4. GDP decreases by 0.011812 when the exchange rate rises, according to the coefficient value of the exchange rate variable, namely -0.0011812.

Labor Force Positively Affects GDP

H1 is approved because the Labor Force (LF) variable has a value of the panel data regression test results producing a value of 11.47228 for the labor force variable with a probability value of 0.000 < 0.05 (5%), thus supporting the acceptance of H1. From these findings it is clear that the labor force has a positive influence on GDP. So, the more people have jobs, the more a country's GDP will increase.

Negative Inflation Affects GDP

Based on the results of the panel data regression test in table 4, it shows that the inflation variable has a value of -4.7802 with a probability value of 0.0000 <0.05 (5%), so H1 is accepted. These results show that inflation has a negative influence on GDP. So, the higher the inflation, the more impact it will have on a country's GDP.

Exchange Rates Do Not Affect GDP

Based on the results of the panel data regression test in table 4, it shows that the exchange rate variable does not affect GDP seen from the probability value of 0.94165 > 0.05 (5%), it is concluded that even though the exchange rate experiences continuous changes it does not have an impact on increasing or decreasing a GDP. country.

Coefficient of determination test (R2 test)

The R2 test is a test carried out to see whether the independent variable has an effect on the dependent variable. The Adjusted -R Square Test value shows a value of 0.998123, this can be seen from the Goodness of Fit test findings in this study. This figure shows that the independent factors in this study can cause 99.82% of GDP fluctuations; the rest can be explained by other independent variables not included in the study. Because this figure is nearly perfect, relatively few additional independent factors used in subsequent studies have an impact on GDP. Next, Fstat and Pvalue from Fstat show the global test results. The findings show that there is at least one independent variable that is relevant to GDP, because the Fstat value is 3395.813 with a Pvalue of 0.0000 < 0.05 (alpha 5%) indicating that Ha cannot be rejected.

Discussion

The test results show that the workforce is able to have an influence on GDP. These results are in accordance with research conducted (Sari et al., 2016) which states that the workforce has an influence on GDP. However (Astuti et al., 2017) stated that it had no effect on GDP. If we look at each country, as proven by research findings, labor in ASEAN countries can increase GDP. The reason is because labor is the main production element in the economy. A country's level of production may be directly affected by the size, quality, and productivity of its workforce. Greater potential for producing products and services occurs when there is a surplus of highly productive workers increasing GDP.

The test results show that inflation is able to have a negative influence on GDP, these results are in accordance with research conducted (Karlina, 2017); (Ardiansyah, 2017); (Asnawi & Fitria, 2018) but (Susanto, 2018) states that inflation is able to have a positive influence on GDP. Therefore, inflation has a negative influence, so economic growth decreases, with a continuous increase in prices in the market, it is possible that people will not want to spend their money because of rising prices. However, the impact of inflation on GDP will depend on the extent to which increased demand can offset the effects of inflation.

The test results show that the exchange rate does not affect GDP, but (Pridayanti, 2013); (Septiawan et al., 2016) say that the exchange rate affects the exchange rate negatively. Thus, it is clear that the decline in the exchange rate indicates a deficit in the trade balance of ASEAN countries. This is because imports are greater than exports, thereby benefiting other countries. Companies will most likely increase prices as a result of the impact of increased imports on production costs. However, it can be seen from the tests carried out that the exchange rate does not affect it due to several factors including Vietnam, Laos and Cambodia. The country's Central Bank is still implementing a fixed exchange rate policy so that the exchange rate does not affect GDP.

D. Conclusion

The research aims to look at the influence of the Labor Force, Inflation, Exchange Rates on GDP, the test results using panel data multiple linear regression, show the following results:

1. The Labor Force has a positive influence on Gross Domestic Product.
2. Inflation has a negative influence on Gross Domestic Product.
3. The exchange rate has no influence on Gross Domestic Product.

Based on this, some researchers put forward the following suggestions:

1. For future researchers, it is recommended to take more samples.
2. It is hoped that other additional variables can influence GDP.
3. It is hoped that with this research, the government and central bank can find appropriate policies to increase GDP

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