THE EFFECT OF CORRUPTION ON ECONOMIC GROWTH IN ASIAN COUNTRIES 5 MEMBERS OF THE ASIA PACIFIC ECONOMIC COOPERATION (APEC)

Ulfah Wulandari[1], Mahrus Lutfi Adi Kurniawan[2], Nurul Azizah Az Zakiyyah[3]

ulfah2000010033@webmail.uad.ac.id[1], mahrus.kurniawan@ep.uad.ac.id[2], nurul.azzakiyyah@ep.uad.ac.id[3]

Universitas Ahmad Dahlan, Indonesia[1,2,3]

Abstract. Corruption is one of the many global issues that are endlessly discussed and debated. Corruption is an issue that has long existed in many countries, both developed and developing countries. Corruption has caused various losses in many sectors, with the effects of corruption being able to make the economy chaotic and influence a country's economic growth. The purpose of this study is to see how the variables of Corruption, Foreign Direct Investment (FDI), Inflation, Trade Openness, and Labor Force Participation affect economic growth in five Asian member countries of the Asia Pacific Economic Cooperation (APEC), which include Indonesia, China, the Philippines, Thailand, and Malaysia, from 2002 to 2021. The method used is panel data regression fixed effect model (FEM). The results show that the corruption perception index positively affects economic growth in 5 Asia Pacific countries. FDI has no effect on economic growth. Inflation has a positive effect on economic growth. Trade Openness has a negative impact on Economic Growth. And Labor Force Participation has a negative effect on Economic Growth.

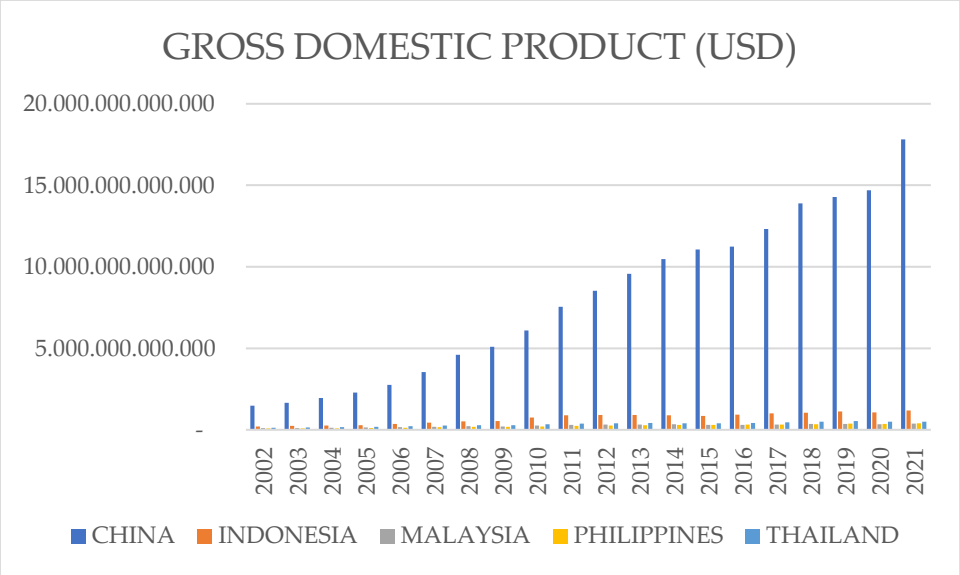
Keywords: Corruption; Economic Growth; APEC.

1 INTRODUCTION

Economic development shows the successful development of a country to measure the prosperity and success of a country, Gross Domestic Product is used as a measure of its economic growth. The higher the economic growth, the richer the economic development, and the higher the economic growth, the richer the country (Khasanah & Yuliawan, 2023). Various policies are pursued to obtain high economic growth rates with low inflation rates. High economic growth means a high standard of living for its citizens. Standard of living refers to the economic well-being of the community. The measure of living standards refers to the value of all goods and services consumed per capita. The most common measure used is national output per capita, as measured by GDP or GNP per capita (Kurniawan & A'yun, 2022). The economy

in a country is said to be good if it experiences changes in the level of economic activity that are higher than those achieved in the previous period. Economic growth is a parameter or measuring tool in analyzing the economy of a country every year by looking at the production activities of goods and services every year. Economic conditions are very important in a country, including APEC which functions as a forum for country cooperation. Asia Pacific Economic Cooperation (APEC) is an economic cooperation conference around the Pacific Ocean that was established in 1989. Because each APEC member
carries out interactions as an economic entity, not as a country, APEC members are referred to as "Economies". Australia, Brunei Darussalam, Canada, Chile, China, Hong Kong-China, Indonesia, Malaysia, South Korea, Mexico, Philippines, New Zealand, Peru, Russia, Papua New Guinea, Japan, Singapore, Thailand, Taiwan, the United States, as well as Vietnam are the 21 current APEC member countries. Cooperation in APEC is non-political, and this is reflected in the membership of Hong Kong-China and Chinese Taipei (Kemlu.go.id, 2022)
For the purpose of this study, five countries were selected as the focus of research, namely Indonesia, China, Malaysia, the Philippines and Thailand, due to the tendency of higher economic growth fluctuations and declines every year in these five countries. While other countries in the ASEAN region experience fluctuations in economic growth, they generally show an increasing trend every year, and this is the basis for selecting these four countries in this study.

Pic 1
Gross Domestic Product 5 Asian APEC Member



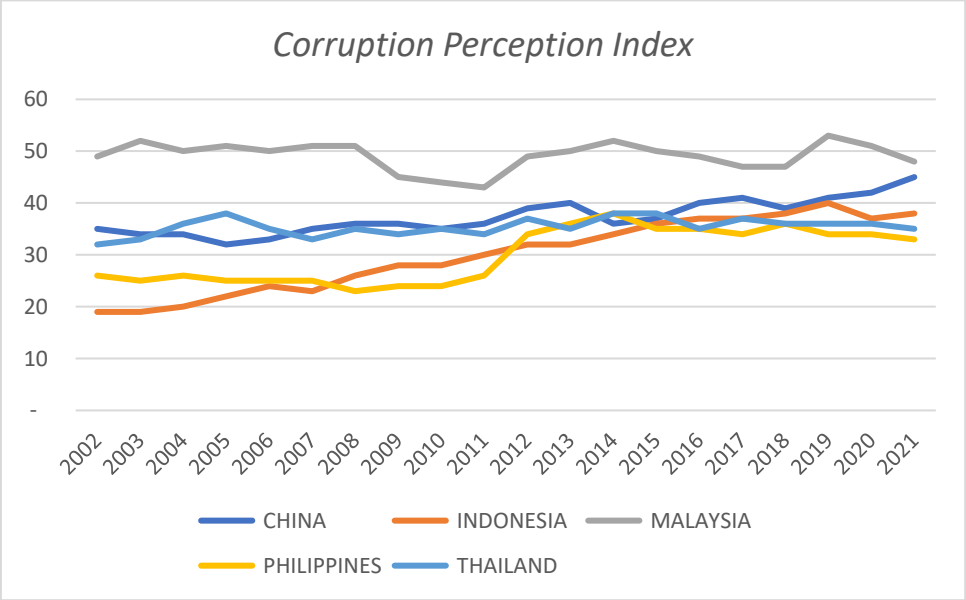
Based on Figure 1, it is known that the growth of Gross Domestic Product (GDP) in 5 Asian APEC member countries from 2002 to 2021 shows fluctuating changes. All countries are known to have experienced an increase in Gross Domestic Product in 2021 except Thailand. China experienced the largest Gross Domestic Product growth in 2021 with a value of 17,820,459,508,852.20 USD. Likewise, Indonesia showed the highest GDP growth in 2021 with a value of 1,186,505,455,736.54 USD. Malaysia has a Gross Domestic Product value in 2021 of 373,832,428,055.45 USD. The Philippines in 2021 has a GDP value of 394,087,359,844.0. Meanwhile, Thailand was detected to have the highest GDP value in 2019 with a value of 543,976,691,793.89 USD.

Economic development in every country, whether developing or developed, faces the impact of corruption on the economy. Many countries have begun to consider the impact of corruption on their economies and have established agencies or departments to prevent and control corruption. International organizations are also building anti-corruption bodies to raise awareness of the dangers of corruption for economic growth (A. F. Lutfi & Diartho, 2020).

In the past 20 years, Asian APEC economies have made substantial progress in per capita income levels. In contrast, a recent report on the corruption perception index (CPI) covering 177 countries shows that five Asian APEC economies still have scores below 50, with a rating scale ranging from 0 (highly corrupt) to 100 (highly free from corruption). This clearly raises the question of whether Asian countries, especially the five APEC members, have low corruption perception index (CPI) scores (Fiqry & Sasana, 2019).

Pic 2

Corruption Perception Index 5 Asian APEC Member



One way to measure the level of corruption in a country is through the use of the Corruption Perception Index. The fact that five Asian APEC economies have a low corruption perception index shows that the degree of corruption is increasing in these countries every year. If there are no policies to deal with corruption, this will become a problem. By hindering investment and economic growth, severe corruption will have a major impact on economic conditions.

The influence of Foreign Direct Investment plays an important role in economic growth in a country. Foreign Direct Investment is considered more effective in stimulating economic development. Development projects are supported largely by foreign capital, mainly in the form of external debt. However, conventionally, foreign capital should also be considered as a source of additional funds. According to (Ilegbinosa et al., 2015) The economic prosperity of a country relies heavily on investment to overcome various problems, crises, and economic challenges. This is because investment in certain economic sectors has the potential to quickly change the dynamics of the economic challenges faced by the nation. Investments, both private and public, create jobs, increase per capita income, minimize poverty levels, improve living standards, as well as increase GDP, among many other benefits (Shopia & Sulasmiyati, 2018) Saleem & Shabbir (2020) identified that FDI and trade openness could increase economic growth. The movement of FDI (% GDP) is in line with the movement of economic growth (Kurniawan & A'yun, 2022).

In addition, one of the economic issues that is the focus of attention of economists is the problem of inflation. Inflation is considered a macroeconomic indicator used to assess the economic stability of a country. Changes in this macroeconomic indicator can have an impact on overall economic growth. Inflation arises due to an increase in the amount of money in circulation, a concept that the classics explain which suggests that there is a correlation between the amount of money in circulation and the price level. If the quantity of goods is constant but the amount of money in circulation doubles, the price of goods will double as a result. When the degree of inflation is high, the central bank can increase interest rates to ease inflation. An increase in interest rates will make borrowing costs higher, so people will tend to reduce their demand for loans, which in turn will reduce the amount of borrowing. This is one of the components that can affect the Inflation rate (Ambarwati et al., 2021). Classical economist David Ricardo developed the theory that exports are the "engine of growth" in international trade (Kurniawan & A'yun, 2022).

Various policies were implemented to achieve a high level of economic growth with a low level of inflation. High economic growth means a high standard of living for its citizens. Standard of living refers to the economic well-being of society. The standard of living measure refers to the value of all goods and services consumed per capita. The most commonly used measure is national output per capita, which is measured by GDP or GNP per capita (Kurniawan & Prawoto, 2014).

Next, trade openness is a component that affects the economy. In the Ricardian model, Smith stated that when a country has special skills that can be derived from its labor productivity, trade

openness can result in an increase in per capita income. This is referred to as a comparative labor productivity advantage. The World Bank states that money trade openness, represented by trade data (at 1% of GDP), is the amount of goods and services imported and imported in money calculated as a share of GDP. For developing countries, exports help drive their economies and the flow of foreign exchange earnings. Developing countries use exports to boost their economic growth. Although goods made abroad and purchased domestically are called imports (Meilaniwati & Tannia, 2021).

Neoclassical economic growth theory means that economic growth is also related to the development of various factors of production such as capital, labor, and technology. Economic growth in the labor productivity factor is supported by the degree of labor force participation, which is a measure of the population's participation in the labor force, which is able to provide a clear description of how active the working-age population is in reality. employment When the size of the labor force increases, economic growth increases as well. The active participation of all communities adds to regional economic growth as reflected in the labor force participation rate (Shari & Abubakar, 2022).

According to the background that has been presented, it is necessary to know the effect produced by corruption, foreign investment, inflation, trade openness and labor on economic growth. Several studies that have been conducted have concluded that these variables have an effect on economic growth. Some researchers only focus on the determinants of economic growth in developed or developing countries. In the world's fastest growing economies, there is little research on the impact of corruption and macroeconomics on economic growth. Therefore, this study aims to examine the effect of Corruption, Foreign Investment, Inflation, Trade Openness along with Labor on Economic growth in 5 Asian APEC member economies. This study aims to further examine the impact of high corruption in 5 Asian APEC member economies on economic growth, which has always increased in the last 20 years.

2 RESEARCH METHOD

The type of data used in this research is secondary data in the form of panel data, which is a combination of time series data and cross section data. Panel data can be interpreted as cross-section data that is repeatedly observed on the same individual. The data used in this study comes from statistical data published by the World Bank through the World Development Indicators.

Table 1
Data and Data Sources

Data	Variable	Unit	Data Sources
Economic Growth	GDP	Current USD	World Bank
Corruption Perception Index	CPI	Index (0 – 100)	Transparency International
Foreign Investment	FDI	Percent	World Bank

Data	Variable	Unit	Data Sources
Inflation	INF	Percent	World Bank
Trade Openness	TO	Percent	World Bank
Labor Force Participation	LABFOR	Percent (of the total population aged 16 - 64 years)	World Bank

POPULATION AND SAMPLE

The time period taken in this study involves the range of 2002 to 2021. This year is used because the Gross Domestic Product level in the 5 Asian APEC member countries for this period of time has always increased but the corruption perception index remains below the index number range of 50. The focus of this research is centered on five APEC member countries, namely China, Indonesia, Malaysia, the Philippines, and Thailand.

DATA ANALYSIS METHOD

The analytical approach applied in this study is to use the static data panel regression method, using Microsoft Excel and Stata as a tool for processing data. The equation in the framework of this research model can be expressed as follows:

$$LGDP_{it} = \alpha_0 + \beta_1 CPI_{it} + \beta_2 FDI_{it} + \beta_3 INFCP_{it} + \beta_4 TO_{it} + \beta_5 LABFOR_{it} + \varepsilon_{it}$$

Dimana:

LGDP = log Gross Domestic Product (Current USD)
CPI = Corruption Perception Index (Index)
FDI = Foreign Direct Investment (%)
INFCP = Inflaton Consumer Price (%)
TO = Trade Openness (%)
LABFOR = Labor force participation (Percent of total population aged 16 - 64 years)
i = Number of Countries
t = Time Period 2002 – 2021
ε_{it} = *error term*
α_0 = intercept
$\beta_1 \ldots \beta_6$ = Independent variable coefficient

3 RESULT AND DISCUSSION

There are three tests to select the panel data estimation technique, namely (1) Chow test, (2) Hausman test and (3) Lagrange Multiplier test.

Chow Test Results

The Chow test is used to determine whether the *common effect model* or *fixed effect model* is the most appropriate to use.

Table 2
Chow Test

Cross Section F	Prob > F
75.21	0.0000

H0 : CEM model is better to use
HA : FEM model is better to use

The Chow Test results show that the F probability value of 0.0000 is smaller than 0.05. so H0 is rejected and HA is accepted. Then the appropriate model from these results is the *fixed effect model*.

Hausman Test Results

Hasuman test is a test used to compare the best model between *fixed effect model* or *Random effect model*.

Table 3
Hausman Test

Chi2(5)	Prob > chi2
205.77	0.0000

H0 : REM model is better to use
HA : FEM model is better to use

Based on table 3, the Hausman test results show a significance value of 0.0000 where this value is smaller than the significance level (0.05). so it can be concluded that the Fixed Effect Model is better than the Random Effect Model used in this study.

Lagrange Multiplier Test Results

The Lagrange Multiplier test is used to compare the best model between the Common Effect Model or the Random Effect Model.

Table 4
Lagrange Multiplier Test

Chibar2(01)	Prob > chibar2
0.00	1.0000

H0 : CEM model is better to use
HA : REM model is better to use

The Hausman Test results show that the Breusch - Pagan probability value is 1.0000> 0.05. these results indicate that the *Common Effect Model* is better than the *Random Effect Model.*

Table 5
Panel Data Regression Test with Economic Growth as Dependent Variable

Variable	CEM	FEM	REM
CPI	0.1043874	0.0711318	0.1043874
	(9.58)***	(8.67)***	(9.58)***
FDI	0.0241633	0.0021799	0.0241633
	(0.42)	(0.07)	(0.42)
INFCP	0.0495443	0.0363392	0.0495443
	(1.66)	(0.041)**	(1.66)
TO	-0.0250289	-0.0204635	-0.0250289
	(-15.61)***	(-9.19)***	(-15.61)***
LABFOR	0.0993148	-0.1038095	0.0993148
	(9.15)***	(-5.60)***	(9.15)***
_Cons	18.34306	33.49492	18.34306
	(19.85)***	(22.69)***	(19.85)***
Chow	0.0000		
Hausman	0.0000		
Lagrange Multiplier	1.0000		

Notes : *** < 0.01; ** < 0.02; * < 0.05

Based on the results of the model significance test, it can be concluded that the best method used in the study is the *Fixed Effect Model* method. This is because the *Fixed Effect Model* was selected twice, namely in the Chow Test and the Hausman Test. Meanwhile, the *Common Effect Model* was only selected once in the Lagrange Multiplier test.

Panel Data Regression Test Results

Table 6

Panel Data Regression Test Fixed Effect Model

Variable	Coefficient	t-statistic	Prob.
CPI	0.0711318	8.67	0.000
FDI	0.0021799	0.07	0.944
INFCP	0.0363392	2.07	0.041
TO	-0.0204635	-9.19	0.000
LABFOR	-0.1038095	-5.60	0.000
_Cons	33.49492	22.69	0.000
R-squared	0.7421		
F-statistic	51.79		
Prob(F-Statistic)	0.0000		

The F test is used to test the independent variables as a whole and together whether the independent variables significantly affect the dependent variable. the estimation results obtained using a confidence level of 95 percent ($\propto = 0.05$), degree of freedom of numerator (dfn) = 5 (k-1 = 6-1) and degree of freedom of denominator (dfd) = 94 (n-k = 100-6), the F table value of 2.31 was obtained. 31. from the estimation results, the F-count value is 51.79 with a probability

of 0.0000 with an F-table of 2.31 < 51.79, it can be said that the independent variables (corruption perception index, foreign investment, inflation, trade openness and labor force participation) together have an effect on the dependent variable (economic growth).

The t-test is used to determine the independent variable individually on the dependent variable, assuming other independent variables are constant. Furthermore, the t-count is compared with the t-table or by looking at the probability value. With a confidence level of 95 percent ($\propto$=0.05) and a degree of freedom (df) value = 94 (n-k = 100-6), the t-table value of 1.98 is obtained. Based on the estimation results, the corruption perception index variable has a significant positive effect on economic growth because the t-count> t-table value is 8.67 > 1. 98, the foreign investment variable has no significant effect on economic growth, the inflation variable has a significant positive effect on economic growth because the t-count> t-table value is 2.07 > 1.98, the trade openness variable has a significant negative effect on economic growth because the t-count> t-table value is 9.19 > 1.98, and the labor force participation variable has a significant negative effect on economic growth because the t-count> t-table value is 5.60 > 1.98.

The coefficient of determination is used to determine how much the dependent variable can be explained by the independent variable. The R-squared value is 0 to 1, where if the R-squared value is closer to 1, the independent variable can explain the dependent variable well. The coefficient of determination in this model is 0.7421, which means that the corruption perception index variable, foreign investment, inflation, trade openness and labor force participation are able to explain the economic growth variable by 74.21%. while the remaining 25.79% is explained by other variables not included in the model.

EXPLANATION

Based on table 6, the panel data regression equation is obtained as follows:

LGDP = 33.49492 + 0.0711318 CPI + 0.0021799 FDI + 0.0363392 INFCP – 0.0204635 TO - 0.1038095 LABFOR

From the regression equation above, it can be concluded that the constant coefficient value is 33.49492, which means that if all the independent variables contained in the research model are zero, the GDP growth rate will still be 33.49492.

Corruption Perception Index to Economic Growth

The corruption perception index has a positive and significant effect on economic growth with a probability value of 0.000 < 0.05 and a coefficient value of 0.0711318. which means that every increase in the corruption perception index by 1 will increase economic growth by 0.07%. This is in line with the initial hypothesis which explains that the corruption perception index has a positive effect on economic growth and is in line with research conducted by Ichvani & sasana in their case study in 5 ASEAN countries which shows that corruption is a serious obstacle to economic growth because corruption is able to inhibit investment activities and FDI inflows. Corruption has a negative impact on economic growth because corruption is a form of government failure and can create further government failure. So it can be said that corruption is not the grease of the wheels but the sand of the wheels in the economy (Fiqry & Sasana, 2019)

Foreign Direct Investment to Economic Growth

The foreign investment variable is known to have no significant effect on economic growth with a probability value of 0.944> 0.05. thus it can be concluded that foreign investment still has an influence on economic growth. This is not in line with research conducted by Shopia & Sulasmiyati with case studies of Indonesia, Malaysia and Thailand which concluded that foreign investment has a significant effect on economic growth.

Inflation to Economic Growth

Inflation has a positive and significant effect on economic growth with a probability value of 0.041 <0.05 and a coefficient value of 0. 0363392. This shows that any increase in inflation by 1 will increase economic growth by 0.03%. In line with research conducted by Kartika & Pasaribu (2023) with a case study of Indonesia which shows that the inflation variable has a positive and significant effect on economic growth. According to Septiatin et al (2016) mild inflation below 10% can encourage economic growth. This happens because inflation is able to encourage entrepreneurs to increase production. The price increase that occurs will result in entrepreneurs increasing their production. If production increases, raw materials, operational costs and selling prices will also increase. The increase in production allows the company to require more labor and demands an increase in wages. This increase in wages will ultimately increase GDP per capita because it reflects the welfare of the people (Dwi Kartika & Pasaribu, 2013).

Trade Openness to Economic Growth

Trade openness has a negative and significant effect on economic growth with a probability value of 0.000 <0.05 and a coefficient value of -0.024635. this shows that every increase in trade openness by 1 will reduce economic growth by 0.03%. research conducted by Ichvani & sasana in their case study in 5 ASEAN countries showed that trade openness has a negative and significant effect on economic growth. these results are not in accordance with the initial hypothesis which states that trade openness has a positive effect on economic growth. The negative relationship between trade openness and economic growth can be caused by exchange rate depreciation, larger import volume and negative trade balance position. According to Kim (2011), trade openness has a negative effect on economic growth in most developing countries. The negative relationship between trade openness and economic growth can occur because developing countries are still not well prepared to face global competition (Fiqry & Sasana, 2019).

Labor Force Participation Index to Economic Growth

Labor force participation has a negative and significant impact on economic growth with a probability value of 0.000 <0.05 and a coefficient value of -0.1038095. which means that every increase in labor force participation by 1 will reduce economic growth by 0.10%. This makes it clear that the working-age population has the ability to increase economic growth. This is in line with research conducted by Shari & Abubakar in a case study of 5 provinces in Indonesia which provides results that the level of labor force participation has a negative influence on economic growth.

3 CONCLUSION AND RECOMMENDATION

The results of the panel data regression method analysis show that the corruption perception index has a positive and significant effect on economic growth in 5 Asia Pacific Economic Cooperation (APEC) member countries. These results indicate that the impact caused by corruption does not directly affect the economy but rather leads to inefficiencies in the production process and misallocation of resources. This happens because corruption can reduce institutional quality and create leaks in resource financing. When the Corruption Perception Index increases, it shows how strong the country is against corruption.

Empirical results on other variables show that only Foreign Direct Investment does not have a significant effect on economic growth in 5 Asia Pacific Economic Cooperation (APEC) member countries. While other variables such as Inflation have a positive and significant effect on economic growth. This means that in the short term stable inflation conditions will be followed by productivity and economic stability and ultimately able to increase economic growth. And the variables of trade openness and labor force participation rate have a negative and significant effect on economic growth in 5 Asia Pacific Economic Cooperation (APEC) member countries.

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