

ANALYSIS EFFECT OF GOVERNMENT REVENUES ON INDONESIA'S ECONOMIC GROWTH ON 1991-2020

Nuraeni Yunita^{1*}, Lucia Rita Indrawati²

^{1,2}Economics Faculty, Economics of Development Department, Universitas Tidar
E-mail: ¹⁾ nitakpls23@gmail.com, ²⁾ luciaritaindrawati@yahoo.co.id

Abstract

The objective of this study is to investigate the impact that exports, imports, and tax revenues have had on the rate of economic growth in Indonesia between the years 1991 and 2020. This study follows a quantitative approach to research methodology. The data that were used in this analysis were secondary data that were gathered from the Ministry of Finance of the Republic of Indonesia and the World Bank. The data for this study were compiled by using time series data from 1991 all the way up until 2020. The approach of using Ordinary Least Squares with an Error Correction Model as the analytical model that is applied is utilized. According to the findings of this study, both long-term and short-term variables related to exports have an effect that is detrimental to the economic growth of Indonesia. Both long-term and short-term changes in Indonesia's imports have no effect on the country's overall economic growth. Further, the impact of long-term tax revenue on economic growth in Indonesia is negative, while the impact of short-term tax revenue is meaningless to the country's overall development.

Keywords: ECM, Economic Growth, Export, Import, Tax Revenue

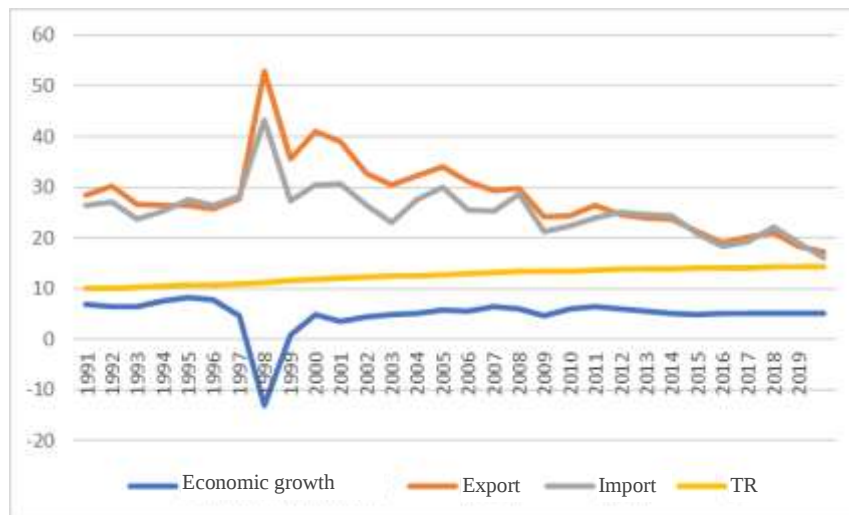
1. INTRODUCTION

In developing countries such as Indonesia, development in general is prioritized in the economic sector, because when the economy experiences significant growth this will certainly have an impact on the progress and progress of development in various other fields. Economic development certainly cannot be separated from economic growth, because economic growth will encourage economic development, and vice versa. Economic growth can also be referred to as the development of activities in the economic field which results in an increase in goods and services that will be produced by the community (Sukirno in Pridayanti, 2013). There are several factors that are considered important as a driver of economic growth in a country, namely exports, imports, tax revenues, exchange rates, and other factors (Tyas, 2022).

Based on Law No. 10 of 1995 which regulates customs, export is an activity of removing goods from the customs area, and goods that have been transported or will be loaded in the means of transportation to be released from the customs area are considered to have been exported (Stievany & Jalunggono, 2022). Meanwhile, the import itself is based on the Decree of the Minister of Industry and Trade of the Republic of Indonesia No. 13/MPP/SK/1996 which contains General Provisions in the Import Sector, we can know the meaning of import, which is an activity of entering goods into the Customs Area. Import is a trade carried out by entering goods from abroad into the customs area by fulfilling the applicable terms and conditions (Adrian Sutedi, 2014). Export and import activities carried out by Indonesia in 2020 increased from the previous year, this was conveyed by the Head of BPS Suhariyanto in Kompas.com (15/01/2021) this was indicated by a trade balance surplus of 21.74 billion USD. In 2020, Indonesia's export

value reached 163.3 billion USD and the import value reached 141.5 billion USD. So it can be seen that exports have a greater value than imports, this illustrates that economic growth in Indonesia is increasing

In addition to exports and imports, another factor that can trigger economic growth is tax revenue. Tax revenue can be interpreted as a source of income obtained from taxes and can be developed optimally according to the needs of the government and the conditions of the community. With high tax revenues, it is certainly able to provide funds for the government which can later be encouraged for productive capital expenditures that will trigger economic growth.



Source: World Bank and Ministry of Finance of the Republic of Indonesia (data processed)

Figure 1. Development of Economic Growth, Exports, Imports, and Tax Revenue 1991-2020

Based on Figure 1. above, we can see that during the period 1991-2020 economic growth looked very volatile and even classified as unstable. In 1998 Indonesia experienced a monetary crisis which caused economic growth to decline very drastically, namely -13.13%. The monetary crisis that occurred in 1998 can be said to be the worst monetary crisis that has occurred in the last 40 years because Indonesia's economic growth is negative. Similar to the monetary crisis, in the same period, exports and imports also experienced quite volatile developments, but in contrast to the declining economic growth, the highest export and import values occurred in 1998. In 1998, the export value was 52.97% and the import value of 43.22%. Meanwhile, tax revenue continues to grow every year. Tax revenue contributes <60% to state revenue, this can be said to be not optimal because public awareness is still low and policies regarding tax reform are not yet appropriate.

Export, import, and tax revenue are inextricably linked to the economic growth of Indonesia. This can be supported because exports, imports, and tax revenues are sources of state revenue, with exports generating foreign currency that can be used to finance imports of the raw materials and capital goods required for the production process that will generate added value. Similarly, with an increase in tax revenue, the country's economic growth can be maximized. This study's objective is to determine whether government revenues, primarily exports, imports, and tax revenues, impact economic

growth in Indonesia. The ECM model is used to determine whether the three variables affect economic growth (Error Correction model).

Based on research conducted by Hodijah & Angelina (2021), On the other hand, the import variable has a significant positive effect on the economic growth variable in Indonesia only over the long term, whereas the export variable has a substantial negative effect on the economic growth variable in Indonesia over both the short and long terms. In the meantime, the variable of imports has a significant and negative impact on the variable of short-term economic growth in Indonesia. According to Astuti & Ayuningtyas (2018), that the export variable influences the economic growth variable of Indonesia only over the long term, whereas the import variable has no effect on economic growth. According to Supiyadi & Anggita (2020), Exports have a strong positive effect on the economic growth indicator of Indonesia, whereas imports have a considerable negative effect.

In another study conducted by Eras Destian & Togar Laut (2022) In the short term, it can be concluded that the export variable has a significant positive impact on the economic growth variable which is stated to be in line with the international trade study which states that when the export of goods or services increases, the country itself is obliged to process high-quality products as well. The import variable itself has a significant negative impact on economic growth so that when import activities increase, it will reduce the level of economic growth described by GDP.

In research that has been conducted by Nurlina & Zurjani (2018), it can be seen that the variable tax revenue has a significant effect on the Indonesian economy. This is in line with the results of research conducted by Saragih (2018) that is with the hypothesis which states that tax revenue is proven to have an influence on economic growth. IAdriansyah (2014) also explained that tax revenue in Indonesia has an effect and is quite volatile on the variable of economic growth. As noted by Sumaryani (2019) which explains that tax revenues both in the short and long term have a positive influence on economic growth in Indonesia.

Exports, imports, and tax revenues have varying effects on economic growth, according to the findings of past study. On the basis of these findings, it may be argued that exports, imports, and tax revenues have an effect on economic growth. There are still uncertainties regarding the trend of economic growth during the past 30 years, notwithstanding diverse opinions.

2. LITERATURE REVIEW

2.1. Economic growth

From one point in time to the next, economic growth can be understood to be an increase in the capacity for the production of goods and services alike. The Gross Domestic Product (GDP) and the Regional Domestic Product (RGDP), respectively, are used to measure the expansion of the economy at the national and regional levels. Changes in the economic activity of a society that lead to an increase in the production of goods and services over time and contribute to the general well-being of the populace are what are referred to as economic growth (Untoro in Syahputra 2017). According to Sukirno (2013) Economic growth refers to the expansion of the production of products and services in a nation, such as an increase in industrial output, infrastructure development, the number of schools, production in the service sector, and capital goods. Long-term increases in per capita production constitute the definition of economic

growth. When a country's economic development rate is great, its ability to meet its citizens' demands is likewise enhanced (Hodijah & Angelina, 2021).

The following are some theories of economic growth according to well-known classical economists:

1) Classical Growth Theory

Adam Smith, David Ricardo, Malthus, and John Stuart Mill were the pioneers of this classic growth theory. This theory explains that four factors influence economic growth, including the amount of capital goods, population, technology, and land area and natural resources utilized. In this theory, the relationship between population growth and economic expansion is highlighted.

2) Neo Classical Growth Theory

Since 1950, the development of neoclassical growth theory has begun. Robert Solow, Edmund Phelps, Harry Johnson, and JE Meade pioneered the development of this idea as economists. In this theory, it is explained that economic growth depends on the expansion and supply of production components and technical progress, as the economy continues to expand in terms of full employment and the capacity of capital tools that will continue to be exploited to capacity.

3) Harrod-Domar's Theory of Economic Growth

John Maynard Keynes' macro growth theory which continues to be developed is the meaning of this growth theory. Domar's view states that basically every economy must reserve a portion of national income to replace or increase capital goods. New investment which is a capital stock can spur the process of economic growth.

4) Schumpeter's Theory

What is highlighted in this theory are entrepreneurs who innovate and state that the entrepreneurial spirit greatly influences technological progress in society who can see whether there are opportunities and have the courage to take risks to open new businesses or expand the reach of existing businesses.

Economic growth can also be used to show whether economic activity is sufficient to encourage people's income in a certain period or not. The implementation of development must be carried out in order to achieve steady economic growth and the community to obtain a prosperous life. Fast and stable economic growth can have a positive impact, either directly or indirectly, on the welfare of the people of a country (Harahap et al., 2020).

According to Todaro & Smith (2003), there are several factors that can affect economic growth, namely:

1) Population and Labor Force Growth

Population growth is related to the total number of workers who are already employed and is one of the elements influencing economic growth. The ability of the economy to absorb a productive workforce has a significant impact on population increase, as evidenced by the size of the economy that can absorb a productive workforce.

2) Capital Accumulation

Capital accumulation can be viewed as a new investment that combines land, financial equipment, and human resources with current revenue in order to boost future output.

3) Technology advances

Technological advancement according to economists is one of the most essential drivers in the progression of economic growth. This is due to the fact that technical advancements can have a significant impact because they can improve old methods and create new ways to perform a task.

According to Sadono in Pambudi (2013), a metric that can be used to evaluate the success of an area economically, specifically the rate of economic expansion that is currently taking place within the region itself. Because there are always more factors of production available, the economy of a region will keep growing by leaps and bounds year after year.

2.2. Export

The idea of export as defined by the Customs Law, Law No. 17 of 2006, can be construed as the removal of products from the customs area. The customs area is the territory of the Republic of Indonesia, including land, marine, and air areas, as well as specific areas within the Exclusive Economic Zone (EEZ) and the continental shelf where customs law applies. Export is the activity of removing products from the territory of the Republic of Indonesia, the EEZ, and the Indonesian continental shelf, according to the above definition.

The relationship between international trade such as exports and economic growth is a subject that is quite busy being discussed in the economic field but is still quite controversial. The emergence of literature on endogenous growth can lead to a greater role for the external openness of each country in the passage of technological progress compared to the growth model according to Solow which is still ancient. This relatively new approach highlights that innovation in technology emerges as a response to economic incentives where the legal, institutional environment, integration and openness of the economy can influence the speed and direction of technological change (Grossman and Helpman, 1994; Aghion and Howitt, 1998 in Astuti & Ayuningtyas, 2018). Export activity is quite important for the modern economy because it offers more markets to companies and people for the goods they own. Encouraging economic trade, and increasing export and import activities for the benefit of all parties conducting trade is one of the core functions of diplomatic relations and foreign policy between governments. Export goods are an advantage for the economy of a country and that profit will trigger economic growth in countries that carry out export activities (Todaro and Stephen in Hodijah & Angelina, 2021)

According to Sukirno in Syahputra (2017), export activities have several special characteristics, namely:

- 1) Between exporters or sellers and importers or buyers of commodities being traded, separated by state territorial boundaries.
- 2) The currency between the exporting and importing countries is different. When making transactions, it is often done using foreign currencies such as US dollars.
- 3) There are times when exporters and importers have not established a long and familiar relationship. Knowledge of the qualifications of trade relations, one of

which includes the ability to pay or supply commodities in accordance with the sales contract, which is still minimal from both the exporter and the buyer.

- 4) Not infrequently there are differences in policies between exporting and importing countries in international trade, embargoes or taxation, monetary exchange, and labeling.
- 5) Between exporters and importers sometimes have differences in the level of mastery and terminology of international trade transactions as well as the use of foreign languages that are popularly used in conducting transactions.

2.3. Import

To meet domestic needs in the form of food or for industrial activities, it is necessary to buy goods from other countries or import. The level of national income of a country greatly determines the continuity of import activities. Import can be defined as the activity of buying or entering goods originating from abroad into a domestic economy (Sukirno in Pridayanti, 2013). Import activities have a considerable influence on economic growth in a country, this is explained in the Heckscher-Ohlin study (Appleyard, Field and Cobb in Eras Destian & Togar Laut, 2022) which states if a product can be imported by a country by using production components that are not owned or reserves that are small in that nation. These activities can provide profits for countries that carry out transactions rather than carry out processing activities independently but are not carried out efficiently. Meanwhile, according to Blanchard in Harahap et al., (2020) Imports can be interpreted as part of domestic demand for goods originating from abroad. Economic growth is closely related to people's ability to buy goods to fulfill their needs. When domestic income increases, the demand for goods will also increase, both at home and abroad. So it can be concluded that when domestic income is higher, it will also encourage high demand for imported goods.

Based on their activities, imports can be grouped into five types. The types of imports are as follows: (Study in Dawn, 2021):

- 1) Import to wear

This activity means importing goods or services into the Indonesian customs territory for the purpose of being used, owned, or controlled by a person or company domiciled in Indonesia.

- 2) Temporary import

Temporary import means the activity of entering goods or services into the Indonesian customs territory whose purpose is to be exported to other countries with a maximum period of 3 years.

- 3) Import freight forward or continue

This import activity means bringing goods using transportation or carriers from one office to another without going through the unloading process first

- 4) Import to stockpile

Import means the activity of bringing goods using transportation or carriers from one office to another by going through the process of unloading the cargo first.

- 5) Import for Re-export

The meaning of this import is to bring imported commodities that are in the customs area to be sent or re-exported to other countries. This is done on imported commodities with defective conditions, not in accordance with the order, damaged,

wrong delivery, not meeting technical requirements, or due to changes in regulations.

2.4. Tax

According to Law No. 28 of 2007 regarding the Third Amendment to Law No. 6 of 1983, "Taxes are mandatory contributions to the state owed by individuals or entities that are coercive under the law, without receiving direct compensation, and are used for the needs of the state to promote the greatest prosperity of the people." Taxes can also be thought of as public contributions to the state that are owed by those who are required to pay them by general rules (laws) with no return of achievement that can be directly appointed and whose purpose is to pay for general expenses related to the state's responsibility to run the government (Waluyo in Nurlina & Zurjani, 2018). Taxes are important for a country, if taxes can be optimal, of course it can also have a good impact on the economy.

Based on the above definitions, it can be concluded that taxes have the following characteristics:

- 1) Tax is the transfer of wealth from a person or entity to the government
- 2) Tax collection is carried out by the government at both the central and regional levels
- 3) Tax collection is carried out based on the law and its implementing rules that are enforced
- 4) Tax payments cannot be demonstrated by the existence of individual direct counter-achievements provided by the government
- 5) Taxes are intended for government expenditures, if from the income there is still a surplus that can be used to finance development that is shown for the public interest.

The following are some of the tax functions, namely:

1) Budget function

The budget function can be seen as a way for the state to get money, while taxes are used to pay for state spending. The tax money is used to keep the government running and to pay for new projects. Tax money is also used for everyday things like paying employees, buying goods, and keeping things running.

2) Function set

Tax policy is one way the government can control how fast the economy grows. With this ability, taxes can be used to reach a certain goal. There are a number of tax relief programs to encourage both domestic and international investment. To protect domestic production, the government puts high taxes on goods from other countries.

3) Stability function

The government can use taxes as a way to control inflation and carry out policies to keep prices stable. This can be done by controlling how money moves around the community, collecting taxes, and using taxation in an effective and efficient way.

4) Income redistribution function

State-collected taxes will be used to finance all public interests, one of which is financing development to create employment opportunities that will increase the community's income.

2.5. Research Hypothesis

The hypotheses to be tested in this study are:

- 1) It is suspected that exports have a significant influence on economic growth
- 2) It is suspected that imports have a significant influence on economic growth
- 3) It is suspected that tax revenue has a significant effect on economic growth
- 4) It is suspected that exports, imports and tax revenues have a significant and joint influence on economic growth

3. RESEARCH METHODS

This study employs the Error Correction Model (ECM) technique, with EViews10 serving as the analytical software, and data from the World Bank and the Ministry of Finance of the Republic of Indonesia. The dependent variable is economic growth, and the independent variables are exports, imports, and tax revenues. The ECM method is expected to provide an explanation of short- and long-term relationships.

The World Bank and the Ministry of Finance provided the secondary and periodic (Time Series) data utilized in this study. This study uses economic growth, exports, imports, and tax revenue information from 1991 to 2020. Using Eviews 10 and ECM (Error Correction Model) analysis, the technical analysis of the data used to solve problems in this study is performed with the aid of Eviews 10. Using this model, it is hoped that both short- and long-term behavior can be explained.

This research systematically uses the following basic model:

$$GDP = f(Export_t, Import_t, TR_t)$$

Information:

GDP = Economic growth rate/year
 $Export_t$ = Exports/ year
 $Import_t$ = Imports/ year
 TR_t = Tax Revenue/year

So the equation for the long-run model is:

$$GDP_t = \alpha_0 + \beta_1 Export_t + \beta_2 Import_t + \beta_3 TR_t + \epsilon_t$$

Information:

$Export_t$ = Exports/ year
 $Import_t$ = Imports/ year
 TR_t = Tax Revenue/year
 GDP_t = Economic Growth Rate/year
 ϵ_t = Error term

While the equation of the short-term model is as follows:

$$D(GDP_t) = \alpha_0 + \beta_1 D(Export_t) + \beta_2 D(Import_t) + \beta_3 D(TR_t) + E_t$$

Information:

$D(Export_t)$ = Exports/years differentiated in first difference

$D(Import_t)$ = Imports/year differentiated in first difference

$D(TR_t)$ = Tax Revenue/year which is differentiated on the first difference

$D(GDP_t)$ = Differentiated Economic Growth Rate at first difference

ECT = Error Correction Term

Before estimating the ECM or error correction model, it is important to make sure that the data used by the model don't change over time. It is important to do a unit root test to see if the data is stable at the stage level.

1) Stationary Test

The stationarity test is a key concept in time series data analysis. This investigation was done using the Augmented Dickey-Fuller (ADF) test. When comparing the calculated ADF's absolute value to the ADF table, the McKinnon Cointegration Degree Test's critical value is used (Widarjono in Prasanti et al., 2021). This test is carried out to find out to what degree or order of difference the observed data will be stationary.

2) Cointegration Test

The stationarity test, which was done to determine the long-term relationship between each independent and dependent variable, is followed by the cointegration test, which is a follow-up to the stationarity test. The Johansen cointegration test was utilized in the current investigation. It was determined that the Johansen test would provide the most accurate results, so that test was chosen. The value of the trace statistic is compared to the critical value of either the five percent or one percent level in this Johansen test. The ECM test, also known as the Error Correction Model test, can be carried out whenever the variables in question exhibit cointegration.

3) ECM (Error Correction Model) Test

The objective of the estimation of the inflation model based on ECM is to strike a healthy equilibrium between the short- and long-term effects of inflation. The use of the ECM model can be considered to be valid; the significance of the Error Correction Term (ECT) can be determined, and if it is significant, the model specification can be said to use ECM. If the ECT is not significant, the use of the ECM model cannot be determined.

4) Classic assumption test

a) Normality test

The normality test is used to determine whether or not the variables in the study were normally distributed in the regression model. Variables with a normal distribution will yield objective results. This test is conducted using the Jarque-Berra (JB) test model with a 10% threshold value (Widarjono in Prasanti et al., 2021).

b) Multicollinearity Test

This test determines whether there is a high or perfect correlation between the independent variables, also known as the independent variable, in the regression model. Multicollinearity is the existence of a relationship between independent variables in a single regression (Agus Widarjono, 2018). The purpose of the multicollinearity test is to determine "if there is a correlation between independent variables in the regression model." A reliable regression model should not exhibit a correlation between the independent variables (Ghozali in Sri & Br, 2019).

c) Heteroscedasticity Test

A test for heteroscedasticity was performed to determine whether or not the regression model had a heteroscedasticity issue. This study employs the Breusch-Pagan test to examine heteroscedasticity. In this study, the standard value for Obs*R-squared is 5%, so if the value is less than 5%, it can be concluded that there is no heteroscedasticity issue.

d) Autocorrelation Test

The correlation between the residuals of one observation and those of the other observations in the regression model is investigated by this test. The Durbin-Watson Test (DW Test), which is used to determine if there is a serial correlation in the regression model or if there is autocorrelation between the observed variables in the model used, can be used to determine if there is autocorrelation between the variables in the model. Autocorrelation can be determined using this test.

4. RESULTS AND DISCUSSION

4.1. Analysis Results

4.1.1. Stationarity Test

In this research, the first step is the stationarity test. Each variable was tested using Augmented Dickey Fuller or commonly known as ADF. Each variable must be ensured to be stationary at the same level. The following is the result of the stationary test calculation in this study:

- 1) Augmented Dickey-Fuller Unit Root Level Test
 - a) Economic Growth (GDP)

Table 1. GDP Stationary Test Result at Level

		t-Statistic	Prob.*
<u>Augmented Dickey-Fuller test statistic</u>		-2.835027	0.0667
Test critical values:	1% level	-3.699871	
	5% level	-2.976263	
	10% level	-2.627420	

Source: EViews10 (processed data)

The estimation above indicates that the variable of economic growth from 1991 to 2020 is not stationary at the 1%, 5%, and 10% confidence levels because its probability is > 0.05. In order to determine the degree to which the data will be stationary, it is necessary to evaluate the degree of integration.

b) Export

Table 2. Export Stationary Test Result at Level

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.285433	0.9124
Test critical values: 1% level	-3.769597	
5% level	-3.004861	
10% level	-2.642242	

Source: EViews10 (processed data)

The estimation above indicates that the export variable from 1991 to 2020 is not stationary at the 1%, 5%, and 10% levels of confidence because its probability is > 0.05 . Therefore, a degree of integration test must be conducted to determine the extent to which the data will be stationary.

c) Import

Table 3. Import Stationary Test Result at Level

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.310710	0.9736
Test critical values: 1% level	-3.752946	
5% level	-2.998064	
10% level	-2.638752	

Source: EViews10 (processed data)

The estimation from the figure above indicates that the import variable from 1991 to 2020 is not stationary at the 1%, 5%, and 10% levels of confidence because its probability is > 0.05 . In order to determine the extent to which the data will be stationary, it is necessary to evaluate the degree of integration.

d) Tax revenue

Table 4. Tax Revenue Stationary Test Result at Level

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.580480	0.0151
Test critical values: 1% level	-3.769597	
5% level	-3.004861	
10% level	-2.642242	

Source: EViews10 (processed data)

The estimation above demonstrates that the tax revenue variable from 1991 to 2020 is not stationary at the 1%, 5%, and 10% confidence levels because it has a probability > 0.05 . In order to determine the degree to which the data will be stationary, it is necessary to evaluate the degree of integration.

- 1) Augmented Dickey-Fuller Unit First Difference Test
a) Economic Growth (GDP)

Table 5. GDP Stationary Test Result at First Difference

	t-Statistic	Prob.*
<u>Augmented Dickey-Fuller test statistic</u>	-4.212966	0.0030
Test critical values: 1% level	-3.711457	
5% level	-2.981038	
10% level	-2.629906	

Source: EViews10 (processed data)

The above estimation indicates that the variable of economic growth from 1991 to 2020 is stationary at the 1%, 5%, and 10% levels of confidence because its probability is < 0.05 . To determine the degree to which the data will be stationary, it is therefore unnecessary to continue with the degree of integration test.

- b) Export

Table 6. Export Stationary Test at First Difference

	t-Statistic	Prob.*
<u>Augmented Dickey-Fuller test statistic</u>	-3.436826	0.0211
Test critical values: 1% level	-3.788030	
5% level	-3.012363	
10% level	-2.646119	

Source: EVies10 (processed data)

The estimation above indicates that the export variable from 1991 to 2020 is stationary at the 1%, 5%, and 10% confidence levels because its probability is < 0.05 . To determine the degree to which the data will be stationary, it is therefore unnecessary to continue with the degree of integration test.

- c) Import

Table 7. Import Stationary Test at First Difference

	t-Statistic	Prob.*
<u>Augmented Dickey-Fuller test statistic</u>	-6.401978	0.0000
Test critical values: 1% level	-3.699871	
5% level	-2.976263	
10% level	-2.627420	

Source: EViews10 (processed data)

The above estimation indicates that the import variable from 1991 to 2020 is stationary at the 1%, 5%, and 10% confidence levels because its probability is < 0.05 . To determine the degree to which the data will be stationary, it is therefore unnecessary to continue with the degree of integration test.

d) Tax revenue

Table 8. Stationary Test at First Difference . Tax Revenue

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.610487	0.0120
Test critical values: 1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

Source: EViews10 (processed data)

The estimation above shows that the variable of tax revenue from 1991-2020 is stationary at a confidence level of 1%, 5%, and 10% because it has a probability of <0.05 . Therefore it is not necessary to continue with the degree of integration test to ascertain the extent to which the data will be stationary.

4.1.2. Cointegration Test

The cointegration test was conducted after the stationarity test, at which point all variables included in the study had the same level of integration, namely the first difference level. This test is used to determine if the variables in the study are cointegrated or if the variables in the research have a long-term relationship so that the next estimate can be made. In this study, the Johansen Cointegration test is used to determine the relationship between the data. The results of the cointegration test are provided below:

Table 9. Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.870120	85.89850	47.85613	0.0000
At most 1	0.522018	28.74642	29.79707	0.0657
At most 2	0.233414	8.077289	15.49471	0.4572
At most 3	0.022411	0.634647	3.841466	0.4257

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.870120	57.15208	27.58434	0.0000
At most 1	0.522018	20.66913	21.13162	0.0579
At most 2	0.233414	7.442642	14.26460	0.4382
At most 3	0.022411	0.634647	3.841466	0.4257

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: EViews10 (processed data)

Table 9 shows the results of the Johansen Cointegration test with Trace Statistics > critical value. Same is the case with Maximum Eigenvalue > critical value. This is indicated by the trace statistic value of 85.89850 with a critical value of 47.85613. The Maximum Eigenvalue is 57.15208 with a critical value of 27.58434. So it can be said that economic growth, exports, imports, and tax revenues have a cointegration or long-term relationship in the equation model contained in the study.

4.1.3. ECM (Error Correction Model) Test

After conducting the unit root test and cointegration test which stated that the research data was stationary and had a cointegration relationship, it could be continued to the next test, namely estimating the research variables to determine the long-term and short-term effects.

Table 10. Long-Term Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXPOR	-0.434607	0.152569	-2.848602	0.0085
IMPOR	-0.184177	0.223987	-0.822269	0.4184
PP	-4.57E-06	1.08E-06	-4.215469	0.0003
C	24.39743	3.369793	7.240038	0.0000

Source: EViews10 (processed data)

The results of the ECM estimation demonstrate that exports and tax revenues have a significant impact on economic growth over the long term. The probability value, which is < 0.05 or 5%, demonstrates this. Moreover, the import variable has no effect on economic growth because the probability value is > 0.05

Table 11. Short-term Estimation Results with ECM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.468716	0.447031	-1.048509	0.3048
D(EXPOR)	-0.867213	0.155251	-5.585863	0.0000
D(IMPOR)	0.335416	0.199896	1.677951	0.1063
D(PP)	5.03E-06	6.32E-06	0.796391	0.4336
RESID01_ECT(-1)	-0.774967	0.150946	-5.134072	0.0000

Source: EViews10 (processed data)

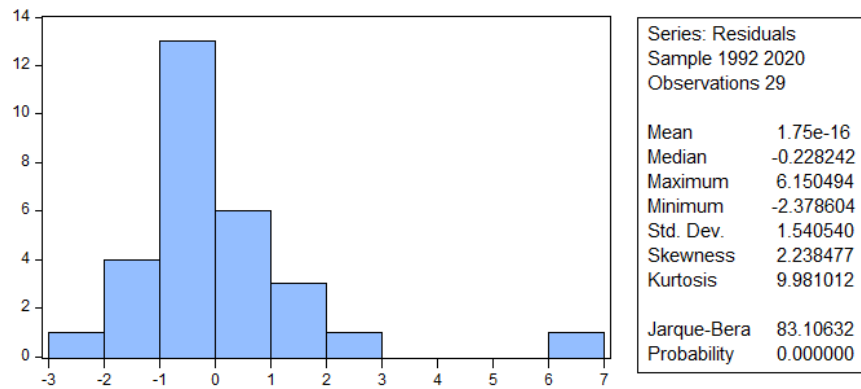
Based on the estimation results of the ECM (Error Correction Model), the export variable has a significant impact on short-term economic growth with a probability value < 0.05, or 5%. Imports and tax revenues, meanwhile, have no impact on economic growth. This can be determined based on the probability value being > 0.05 or 5%. Moreover, the ECT value is -0.774967 and is statistically significant with a probability value of 0.0000.

The results of the ECM (Error Correction Model) calculation indicate that the export variable has a significant impact on the long- and short-term economic growth of Indonesia. It can be determined using a probability value of < 0.05 or 5%. Long-term and

short-term economic growth is unaffected by the variable of imports. Variable tax revenue has only a long-term impact on economic growth.

4.1.4. Classic Assumption Test

1) Normality Test



Source: EViews10 (processed data)

Figure 2. Normality Test Results

According to the aforementioned normality test results, the ECM (Error Correction Model) is not normally distributed since the jarque-fall probability value is < 0.05 , which is 0.000000. Therefore, this model fails the normality test.

2) Multicollinearity Test

Table 12. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.199836	2.093049	NA
D(EXPOR)	0.024103	9.695197	9.657677
D(IMPOR)	0.039958	10.10949	10.05494
D(PP)	3.99E-11	2.376475	1.344271
RESID01_ECT(-1)	0.022785	1.042535	1.041103

Source: EViews10 (processed data)

Using Variance Inflation Factors (VIF), test results for multicollinearity can be viewed; if the Cetered VIF value is less than 10, then the data does not exhibit multicollinearity. Based on the aforementioned test findings, it can be concluded that the Cetered VIF value 10 does not exhibit multicollinearity.

3) Heteroscedasticity Test

Table 13. Heteroscedasticity Test Results

F-statistic	1.109367	Prob. F(4,24)	0.3751
Obs*R-squared	4.525246	Prob. Chi-Square(4)	0.3396
Scaled explained SS	13.91759	Prob. Chi-Square(4)	0.0076

Source: EViews10 (processed data)

The study model has been subjected to a Breusch-Pagan-Godfrey test for heteroscedasticity, with the findings showing that the probability of Obs*R-squared is 4.525246 and the probability of Chi-Square(4) is 0.3396. This result is > 0.05 or 5%, suggesting that H_0 is accepted and that heteroscedasticity does not present in the research model used.

4) Autocorrelation Test

Table 14. Autocorrelation Test Results

F-statistic	1.369448	Prob. F(2,22)	0.2751
Obs*R-squared	3.210652	Prob. Chi-Square(2)	0.2008

Source: EViews10 (processed data)

The autocorrelation test performed on the research model using the Breusch-Godfrey Serial Correlation LM Test yielded the findings shown in the table above, where the value of Obs*R-squared is 3.2110552 and the value of Prob. Chi-Square(2) is 0.2008. This result is > 0.05 or 5%, indicating that H_0 is accepted, which suggests that autocorrelation is not present in the utilized research model.

4.2. Discussion

4.2.1. The Effect of Exports on Economic Growth

The results of the analysis indicate that the export variable has a significant long- and short-term impact on Indonesia's economic growth. The export variable has a significant negative impact on economic growth over the short term. The t-statistic value of -5.585863 and the probability value of 0.0000 demonstrate this. This indicates that a 1% increase in exports will reduce GDP by approximately 0.86 percent in the short term. The export variable has a negative and significant effect on Indonesia's economic growth over the long term. The t-statistic value of -2.848602 and the probability value of 0.0085 demonstrate this. This is similar with the previous research conducted by Asnuri (2015) which states that in the long term exports have a negative effect on economic growth. Research conducted by Eras Destian & Togar Laut (2022), also explained that exports have a negative and significant impact on economic growth which is described by GDP in the long term. This is certainly contrary to the various theories that have been put forward by economists who state that export or foreign trade activities will indirectly increase economic growth.

4.2.2. The Effect of Imports on Economic Growth

According to the results of the analysis, the import variable has no significant effect on Indonesia's economic growth over the short term. This is demonstrated by the t-statistic value of 1.677951 and the probability of 0.1063. As indicated by the t-statistic value of -8.822209 and the probability value of 0.4184, imports have no significant negative effect on economic growth over the long term. These results are supported by research conducted by Astuti & Ayuningtyas (2018) which states that the t-statistic value of -1.605646 with a probability of 0.1153 demonstrates that the number of imports has no significant impact on economic growth. It has no effect on economic growth whether the number of imports increases or decreases.

4.2.3. The Effect of Tax Revenue on Economic Growth

The results of the analysis indicate that the variable of tax revenue has a significant negative impact on Indonesia's economic growth over the long term. The variable tax revenue has a significant negative effect, as indicated by a t-statistic value of -4125469 and a probability of 0.0003. The variable of tax revenue has no significant effect on economic growth over the short term. The t-statistic value of 0.796391 and the probability value of 0.4336 demonstrate this. This indicates that an increase in tax revenues will not have an immediate impact on GDP. The author has not yet discovered any research that corresponds with the results of the performed analysis.

5. CONCLUSION

5.1. Conclusion

Using the Error Correction Model (ECM) approach and the classical assumption test to test and analyze data about the effects of exports, imports, and tax revenues on economic growth in Indonesia from 1991 to 2020, it can be said, among other things, that exports have a negative and significant effect on economic growth both in the short and long term. This means that when exports increase, growth in the economy will slow down. Since the import variable has no long-term or short-term effect on economic growth, an increase or decrease in import activities will have no effect on economic growth.

The short-term impact of tax revenue on economic growth in Indonesia is negligible. This indicates that neither an increase nor a decrease in tax revenues will affect economic growth. Long-term, tax revenue has a significant negative impact on economic growth, such that an increase in tax revenue will reduce the rate of economic expansion.

5.2. Suggestion

Based on the results of the research that has been done, the authors suggest to the government to be able to regulate export and import activities so that there is no trade balance deficit, which means that import activities are greater than export activities balanced by increasing the quality of products to be exported so that they have a high selling value and can compete in the international market. Importers are also expected to reduce the volume of imports and divert the consumption of goods and services by using domestic products. The researcher also suggests that the next research can develop or add other independent variables and be developed with data analysis.

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