The Impact of Inflation, Foreign Trade and Exchange Rates on Economic Growth in 5 ASEAN Countries

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Abstract

This study aims to examine and analyze the partial and simultaneous influence of inflation , foreign trade , and exchange rates on economic growth in ASEAN countries . This study uses quantitative methods and descriptive data analysis. The sample in this study is five ASEAN countries . which was first formed . The results of this study indicate that inflation partially has a positive and significant effect on economic growth in ASEAN countries . With a probability value of 0.0247 <0.05, while the $_{calculated}$ T and T $_{table\ values}$ are 2.1161 > 2.01290 . The import probability value is 0.0478 <0.05, while the $_{calculated}$ T and T $_{table\ values}$ are 2.0112 > 2.01290. The import probability value is 0.3595 > 0.05, while the $_{calculated}$ T and T $_{table\ values}$ are 0.9741 <2.01290. The exchange rate probability value is 0.2086 > 0.05, while $_{the\ calculated}$ T and T $_{table}$ values are 1.0207 <2.01290. And the Prob F-Statistic value is 0.000015. Since the F-Statistic value is 0.000015 < 0.05, Ha is rejected and Ho is accepted. Therefore, it can be concluded that inflation, exports, imports, and exchange rates simultaneously have a positive and significant effect on economic growth in ASEAN countries.

INTRODUCTION

Economic growth is one of the benchmarks for a region's prosperity. Good economic growth indicates a region's economic progress. Therefore, governments implement various policies to boost economic growth and achieve prosperity (Abdul, 2019) . Economic growth is a crucial component of economic policy in countries with diverse economic systems . Economic growth is the primary goal for achieving this, a goal sought by many countries worldwide, including ASEAN countries.

ASEAN was established on August 8, 1967, through the signing of the Bangkok Declaration in Thailand. The five founding members of ASEAN were Indonesia, Malaysia, Thailand, Singapore, and the Philippines. Following them as members were Brunei Darussalam (1984), Vietnam (1995), Laos and Myanmar (1997), and Cambodia (1998). Since the ratification of the ASEAN Charter in 2007, ASEAN has transformed into a regional organization operating under a common legal umbrella. The ASEAN Charter serves as an important benchmark for ASEAN's ambition to become a regional organization relevant to political developments in both Southeast Asia and the Asia Pacific.

Based on the Bangkok Declaration, ASEAN was established with the aim of accelerating economic growth, social progress, and cultural development. Furthermore, ASEAN was established to enable Southeast Asian countries to cooperate and assist each other for shared interests in the economic, social, technical, scientific, and administrative fields, as well as to maintain close cooperation within existing regional and international organizations (DJSEF, 2025).

In theory, ASEAN countries' contribution to economic growth is to cooperate to enhance regional stability and boost economic growth in Southeast Asia through cooperation in trade, investment, and industrial development. However, in reality, economic growth in ASEAN countries continues to fluctuate, as evidenced by the economic growth data for five ASEAN countries from 2015 to 2024:

Economic Growth Data (%) in 5 ASEAN Countries 2015-2024

Year	Indonesia	Malaysia	Philippines	Singapore	Thailand
2015	4.8763223	5.091532422	6.348309717	2.976799316	3.134047249
2016	5.033069183	4.449781398	7.14945675	3.747578488	3.435157717
2017	5.069785901	5.81272241	6.930988326	4.476899158	4.177681032
2018	5,17429154	4,843086976	6,341485572	3,451975966	4,222870287
2019	5,01928768	4,413187421	6,118525662	1,308041182	2,114557796
2020	-2,065511829	-5,456846584	-9,51829474	-3,814708855	-6,050038469
2021	3,702885628	3,315349544	5,714733132	9,756804463	1,552166084
2022	5,307197227	8,861821876	7,580982128	4,108000219	2.580378747
2023	5.049023318	3.555487154	5.518949679	1.821406941	2.017750953
2024	5.030344694	5.114155478	5.692016128	4.388023625	2.525961758

Source: World Bank 2025

From the data above, it can be seen that the highest exports of ASEAN countries in 2014-2024 were in Singapore, namely in 2022, valued at 186.11%. This was due to the recovery of the global economy after the pandemic, strong demand for electronic and semiconductor products, and Singapore's role as a regional logistics and trade center (Tan, 2020) . Meanwhile, the lowest export value was in Indonesia in 2020, valued at 17.33%. This was due to the COVID-19 pandemic which triggered a decrease in demand for Indonesian products, as well as disruptions to the global supply chain and logistics. In addition, the decline in global commodity prices also contributed to the decline in the value of Indonesian exports (Andrian, 2012) .

Meanwhile, imports are a country's demand for raw materials from the international market. Import activities significantly influence economic growth, as stated in the Hecksher-Ohlin Theory in Darwanto (2004), which states that a country will import products/goods that use production factors that the country does not or does not have in abundance.

Import Data (%) in 5 ASEAN Countries in 2015-2024

Year	Indonesia	Malaysia	Philippines	Singapore	Thailand
2015	20.77746098	61.92138155	31.93353487	151.0867904	57,20297188
2016	18,33234795	60,12356457	35,10306242	138,2889918	53,50434332
2017	19,17819264	63,14343086	38,61607889	145,0527838	54,21859497
2018	22,07156246	61,84765408	41,94979293	148,3983359	56,00376783
2019	19,03624974	57,75079519	40,45892225	147,5036851	50,17062409

2020	15,64100712	55,21024653	32,96672099	150.258781	46.30631664
2021	18.78820264	63.40293914	37.7325749	146.4505771	58.69355544
2022	20.96175851	69.65522964	44.04228206	146.235277	67.48594789
2023	19.58243967	63.4824063	40.78311997	144,1319016	63.37955121
2024	20.38933443	66.0117234	40.11203137	143.5951411	66.71085654

Source: World Bank 2025

From the table above, we can see that the highest imports in ASEAN countries from 2015-2024 were in Singapore in 2015, which was valued at 151.08%. This was due to the country's heavy reliance on imports to meet basic and industrial needs (Tarigan, 2011) . Meanwhile, the lowest import value was in Indonesia, which was valued at 15.64% in 2020. This was due to the slowdown in the global and domestic economy due to the pandemic, as well as social restriction policies that reduced economic activity and consumption (Andrian, 2012) .

The next factor supporting economic growth is the exchange rate. The exchange rate is a crucial economic indicator and plays a strategic role in an economy (Oktaviana, 2015) . In the process of investment between countries and the exchange of goods and services, all countries agree on an exchange rate to facilitate the trade process . (Azmi, 2020) . Exchange rates will impact trade in goods and services, capital flows, inflation, and the balance of payments (Yaumidin, 2014). When a country's currency weakens relative to another country (which is an exporting country), the most visible impact is usually on the price of imported goods or services. The following is data on exchange rates in five ASEAN countries from 2015 to 2024:

Exchange Rate Data (US$) in 5 ASEAN Countries in 2015-2024

Year	Indonesia	Malaysia	Philippines	Singapore	Thailand
2015	13389.41294	3.905500263	45.50283994	1.374825	34.24771667
2016	13308,3268	4.148300663	47.49246386	1.381546364	35.29638333
2017	13380,83388	4,300440878	50.40371979	1.380925	33.93981106
2018	14236.93877	4,035130137	52,66142995	1,348841667	32,31022574
2019	14147,67136	4,142469736	51,79578265	1,364158333	31,04760578
2020	14582,20347	4,203481949	49,624096	1,379741667	31,29367321
2021	14308,1439	4,143297598	49,25459773	1,343483333	31,97709344
2022	14849,85394	4,401076345	54,47778584	1,378666667	35.06135021
2023	15236,88466	4.560623432	55.63036322	1.342766667	34.80218858
2024	15855,44829	4.576427911	57.29065507	1.336233333	35.29353808

Source: World Bank 2025

From the table above, we can see that Indonesia had the highest exchange rate in ASEAN countries from 2015 to 2024, at US$15,855.44 in 2024. This was due to the high demand and supply of currency in the foreign exchange market. Meanwhile, Singapore had the lowest exchange rate in 2024, at US$1.33. This was due to the country's high import rate, which caused the exchange rate to decline.

METHODS

This research is a quantitative study. Kasiram defines quantitative research as a research method that uses numerical data as a tool for analyzing and conducting research studies, especially regarding what has been researched. The data used in this study are inflation, exchange rates,

foreign trade, and economic growth in five ASEAN countries, which can be accessed through www.worldbank.org. The research method used in this study is descriptive. Descriptive research is research conducted to determine the value of one or more variables (independent) without making comparisons or relationships with other variables (Sugiono, 2017) .

In this study, the researcher used secondary data sources. Secondary data is data that has typically been collected by data collection institutions. According to Sugiyono, data types are divided into two types based on their sources: primary data and secondary data. Primary data is data sources that directly provide data to data collectors. Meanwhile, secondary data is data sources that indirectly provide data to data collectors, for example through other people or documents (Sugiono, 2014).

Population is a group of elements or elements that can be in the form of humans or individuals, animals, plants, institutions or institutions, documents, groups, events, something, symptoms, or in the form of concepts that become the object of research (Jusuf, 2012) . Or population can also be said to be a generalization area consisting of objects or subjects that have certain criteria and characteristics determined by researchers so that they can be studied and conclusions drawn. The population in this study is ASEAN countries.

Research Sample

No.	Country
1.	Indonesia
2.	Malaysia
3.	Philippines
4.	Singapore
5.	Thailand

The data analysis in this study used panel data (pooled data), a combination of time series and cross-sectional data. Hypothesis testing was then conducted using a panel data regression model (Basuki, 2016) . Panel data regression is a regression technique that combines time series data with cross-sectional data.

The method of estimating a regression model using panel data can be done using three approaches, including:

a. Common Effect Model (CEM)

This is the simplest panel data model approach because it only combines time series and cross-sectional data. This model ignores the time or individual dimensions, assuming that company data behaves the same across time periods. This method can use the Ordinary Least Squares (OLS) approach or the least squares technique to estimate panel data models. The model is as follows:

Yit = a + X1 it bit + eit

Where:

Y = Economic growth

a = constant

X1, X2, X3, X4 = Inflation, Exchange Rates and Foreign Trade.

b = regression coefficient

e = error terms

t = time period/year
i = cross section (individual)/country

b. Fixed Effect Model (FEM)

This model assumes that differences between individuals can be accommodated by differences in their intercepts. To estimate panel data, the Fixed Effects model uses a dummy variable technique to capture differences in intercepts between countries. However, the slope is the same across countries. This estimation model is often referred to as the Least Squares Dummy Variable (LDSV) technique. The model is as follows:

Yit = a +ia1 + X1 it bit + eit Where:
Y = Economic Growth
a = constant
ia1 = dummy variable
X1, X2, X3, X4 = Inflation, Exchange Rates and Foreign Trade.
b = regression coefficient
e = error terms
t = time period/year
i = cross section (individual)/country

c. Random Effect Model

This model estimates panel data where disturbance variables may be interrelated over time and between individuals. In a random effects model, differences in intercepts are accommodated by error terms for each country. The advantage of using this model is that it eliminates heteroscedasticity. This model is also called the Error Component Model (ECM) or the Generalized Least Squares (GLS) technique. The model is as follows:

Yit = X1it βit + vit
Where: vit = ci + dt + εit
ci : Constant that depends on i
dt : Constant that depends on t

RESULTS AND DISCUSSION

Descriptive Statistical Test Results for All Samples

	PE	INF	EX	IMP	NT
Mean	4.745000	66.17000	53.22500	7.583500	10.75500
Median	4,000,000	75,00000	56,50000	2.186000	9,000,000
Maximum	9.756804	14.921410	186.1142	151.0867	15855.44
Minimum	-9.518294	-5.018642	17.33116	15.64100	1.336233
Std. Dev.	4.080838	28.46211	23.23064	36.19442	8.943990
Skewness	2.233911	-1.048237	0.047797	3.467416	0.913264
Kurtosis	10.10714	2.980257	2.177378	16.20483	3.260095
Jarque-Bera	587.2738	36.62994	5.715380	1853.828	28.36544

Probability	0.000000	0.000000	0.057401	0.000000	0.000001
Sum	949.0000	13234.00	10645.00	1.52E+12	2151.000
Sum Sq. Dev.	3313.995	161208.2	107392.9	4.13E+22	15919.00
Observations	50	50	50	50	50

Sumber : Output Eviews 9, Tahun 2025

Based on the table above, the independent variable, inflation, reached a maximum value of 14.92% in 2022 in Singapore, driven by rising food prices, service prices, and retail prices. Meanwhile, Singapore recorded a minimum inflation rate of -5.01% in 2023, driven by reduced import pressures and reduced tightness in the domestic labor market.

Independent variable Export Exports reached a maximum value of 186.11% in 2022 in Singapore, driven by the post-pandemic global economic recovery, strong demand for electronics and semiconductor products, and Singapore's role as a regional logistics and trade hub. Meanwhile, Indonesia's exports reached a minimum of 17.33% in 2020, driven by the COVID-19 pandemic, which triggered a decline in demand for Indonesian products and disruptions to the global supply chain and logistics. Furthermore, the decline in global commodity prices also contributed to the decline in Indonesia's export value.

The independent variable, imports, had a maximum value of 151.08% in 2015 in Singapore, due to the country's heavy reliance on imports to meet basic and industrial needs. Meanwhile, Indonesia's minimum import value was 15.64% in 2020, driven by the global and domestic economic slowdown due to the pandemic and social restrictions that reduced economic activity and consumption.

The independent exchange rate variable had a maximum value of US$15,855.44 in 2024 in Indonesia, due to the high demand and supply of currency in the foreign exchange market. Meanwhile, the minimum exchange rate was US$ 1.33 in 2024 in Singapore, due to the country's high import rate, which caused the exchange rate to decline.

The dependent variable Economic Growth has a maximum value by 9.75% in 2021 in Singapore, this is due to a strong recovery from the contraction caused by the COVID-19 pandemic in 2020. And driven by an expansive manufacturing sector and growth in global trade. Manufacturing sector. Meanwhile, the minimum economic growth value of -9.51% in 2020 in the Philippines, this is due to the COVID-19 pandemic that destroyed the retail and tourism sectors. In addition, the Philippines in 2020 also experienced several natural disasters that severely impacted the country's economy .

a. Panel Data Regression Analysis Model

***1) Common Effect* Model (CEM)**

common effect model is the simplest regression model among other regression models because it only combines *cross-sectional data* with *time series data* and uses the OLS method to estimate the panel data model. The results of *the Common Effect* Model test are as follows:

CEM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.149757	1.112224	2.831946	0.0051
INF	-0.002765	0.011642	-0.237518	0.8125
EKS	0.016301	0.014756	1.104719	0.2706
IMP	1.910121	2.110253	0.907275	0.3654
NT	0.071187	0.035465	2.007284	0.0461

R-squared	0.022552	Mean dependent var	4.745000
Adjusted R-squared	0.002501	S.D. dependent var	4.080838
S.E. of regression	4.075731	Akaike info criterion	5.672660
Sum squared resid	3239.259	Schwarz criterion	5.755118
Log likelihood	-562.2660	Hannan-Quinn criter.	5.706029
F-statistic	1.124751	Durbin-Watson stat	1.195102
Prob(F-statistic)	0.346048		

2) Fixed Effect Model (FEM)

This model assumes that differences between individuals can be accommodated through differences in their intercepts. To estimate panel data, this model uses a dummy variable technique to capture differences in intercepts between countries, which can arise from differences in economic systems, culture, or economic policies. However, the slope is the same across countries. The following are the results of *the Fixed Effect Model* (FEM) test:

FEM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.426080	2.795215	-0.867940	0.3740
INF	0.072972	0.034483	2.116155	0.0247
EKS	0.030494	0.031303	0.974142	0.0478
IMP	4.291032	3.421810	2.011242	0.3595
NT	0.036677	0.035933	1.020701	0.2086

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.613448	Mean dependent var	4.745000
Adjusted R-squared	0.158474	S.D. dependent var	4.080838
S.E. of regression	3.743546	Akaike info criterion	5.545373
Sum squared resid	2606.629	Schwarz criterion	5.776255
Log likelihood	-540.5373	Hannan-Quinn criter.	5.638807
F-statistic	3.882706	Durbin-Watson stat	1.429429
Prob(F-statistic)	0.000015		

3) Random Effect Model (REM)

model estimates panel data where disturbance variables may be interrelated across time and between individuals. To analyze using this method, the cross-sectional data set must be larger than the number of coefficients or research variables. The following are the results of the REM test:

REM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.732159	1.831394	0.945814	0.3454
INF	0.020910	0.021716	0.962900	0.3368
EKS	0.015384	0.023693	0.649324	0.5169
IMP	3.912134	2.924110	1.339603	0.1819
NT	0.047807	0.035066	1.363350	0.1743

Effects Specification	S.D.	Rho
Cross-section random	2.059573	0.2324
Idiosyncratic random	3.743546	0.7676

Weighted Statistics			
R-squared	0.025069	Mean dependent var	1.786607
Adjusted R-squared	0.005070	S.D. dependent var	3.762215
S.E. of regression	3.752666	Sum squared resid	2746.087
F-statistic	1.253522	Durbin-Watson stat	1.372079
Prob(F-statistic)	0.289771		

Unweighted Statistics			
R-squared	-0.013483	Mean dependent var	4.745000
Sum squared resid	3358.678	Durbin-Watson stat	1.121825

b. Model Testing Techniques

1) *Chow* Test

Chow test was conducted to see between the *common effect test* and Which *fixed effect* is more appropriate to use for this research? If the *Cross Section* F prob score is > 0.05, meaning Ho is accepted, then the model used is the model *common effect* . However, if the *Cross Section* F probability score < 0.05, meaning that H_o is rejected, then the model used is the *fixed effect model.*

Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.015812	(9,186)	0.0000
Cross-section Chi-square	43.457378	9	0.0000

Based on the table of *Chow* test results above, *the Cross Section* F probability score is 0.0000 < 0.05, so the appropriate model used in this study is the modern *fixed effect.*

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2) Test Hausman

After the *Chow test* , the next step is to conduct the *Hausman* test . In the *Chow test* , the most appropriate model is *the fixed effect model.* This *Hausman* test is conducted to determine which model is more effective, *the random effect model* or *the fixed effect model.* If *the cross-section random effect score*

is <0.05, the fixed effect model will be used. However, if *the cross-section random effect score* is >0.05, the *random effect model* will be used. The results of the *Hausman* test are as follows:

Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.951253	4	0.0221

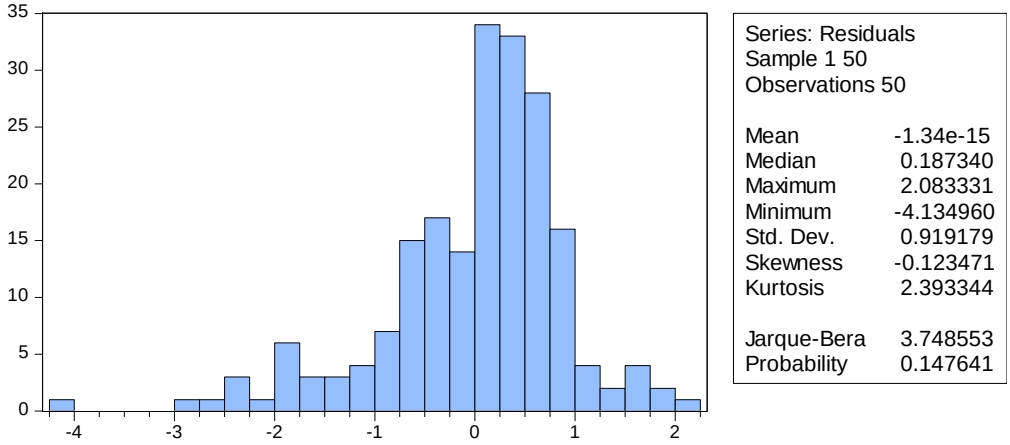
Based on the *Hausman* test results table above, the *cross-section probability score* is 0.0221 < 0.05, so the most effective model used in this study is the *fixed effect model.*

c. Classical Assumption Test

1) Normality Test

This normality test is performed to determine whether the distribution of the independent and dependent variables is normally distributed. The basis for determining whether the processed data is normally distributed is by examining its probability values. If the Prob value is > 0.05, then the data is considered normally distributed. However, if the Prob value is < 0.05, then the data is not normally distributed. After conducting the normality test, the following results were obtained:

Normality Test Results



Based on the graph of the results of the normality test above, it can be seen that the probability value is 0.147641 > 0.05, so it can be concluded that the data is normally distributed.

2) Multicollinearity Test

A multicollinearity test is performed to ensure that there are no strong, multiple relationships between the independent variables. Multicollinearity can be determined by a high R2 score. If a relationship between variables exceeds 0.80, multicollinearity is likely present. The following results were obtained after the multicollinearity test:

***Correlation Matrix* Results**

	INF	EX	IMP	NT
INF	1,000,000	-0.099997	-0.144994	-0.101949
EX	-0.099999	1,000,000	0.144952	0.102187
IMP	-0.144994	0.144952	1,000,000	-0.112884
NT	-0.101949	0.102187	-0.112884	1,000,000

Based on the results of the multicollinearity test above, it was found that the score of each variable was <0.80, which means there was no multicollinearity problem.

3) Heteroscedasticity Test

This heteroscedasticity test is conducted to examine differences in residual types between researchers. This heteroscedasticity test is assessed through the *Obs*R-square probability score* . If the *Obs-R-square score* is <0.05, heteroscedasticity is present in the estimation model. However, if *the Obs-R-square* is >0.05, heteroscedasticity is not present in the estimation model. After conducting the heteroscedasticity test, the following results were obtained:

Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.046312	0.687573	1.521747	0.1297
INF	0.021002	0.007197	2.918090	0.0639
EKS	-0.001667	0.009122	-0.182724	0.8552
IMP	-6.691602	1.302118	-0.513673	0.6081
NT	0.023081	0.021924	1.052788	0.2937

Based on the table of heteroscedasticity test results above, it can be seen that all probability scores above are > 0.05, so there is no heteroscedasticity in the estimation model.

4) Autocorrelation Test

The following are the results of the autocorrelation test, namely:

Autocorrelation Test Results

R-squared	0.213448	Mean dependent var	4.745000
Adjusted R-squared	0.158474	S.D. dependent var	4.080838
S.E. of regression	3.743546	Akaike info criterion	5.545373
Sum squared resid	2606.629	Schwarz criterion	5.776255
Log likelihood	-540.5373	Hannan-Quinn criter.	5.638807
F-statistic	3.882706	Durbin-Watson stat	1.429429
Prob(F-statistic)	0.000015		

Based on the table above , it can be seen that Durbin-Watson is in the area of no autocorrelation (dU<d<4-dU) but (1.7701>1.4294<2.2299) with dU= 1.7701, dL= 1.3431 , 4-dU= 2.2299 and 4-dL= 2.6569. so it can be concluded that autocorrelation in this study cannot be

concluded, with dL<d<dU (1.3431<1.4294<2.2299) which means that in this study Autocorrelation cannot be concluded.

d. *Fixed Effect Model* (FEM) Research Model

The panel data model used in this study is the *Fixed Effect Model* (FEM). To see the relationship between each independent variable and the dependent variable, we can examine the coefficient values in the estimation results, as shown in the following table:

FEM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.426080	2.795215	-0.867940	0.3740
INF	0.072972	0.034483	2.116155	0.0247
EKS	0.030494	0.031303	0.974142	0.0478
IMP	4.291032	3.421810	2.011242	0.3595
NT	0.036677	0.035933	1.020701	0.2086

Based on the estimation results in the table above , the relationship between the independent variable and the dependent variable can be explained as follows:

1. The constant obtained a value of -2.426080, which means that if the value of the INF, EKS, IMP, and NT variables is 0, it will reduce Economic Growth by 2.426080 or 2.42%.
2. In the INF (Inflation) variable, a constant value of 0.072972 was obtained, which means that if inflation increases by 1%, it will affect Economic Growth by 0.07%.
3. In the EKS (Export) variable, a constant value of 0.30494 was obtained, which means that if exports increase by 1%, it will affect Economic Growth by 0.30%.
4. In the IMP (Import) variable, a constant value of 4.291032 was obtained, which means that if foreign investment increases by 1%, it will affect Economic Growth by 4.29%.
5. In the NT (Exchange Rate) variable, a constant value of 0.036677 was obtained, which means that if inflation increases by 1%, it will affect Economic Growth by 0.03%.

e. Hypothesis Testing

1) t-test (Partial Test)

The parisal test or t-test is conducted to see whether the independent variables, namely Inflation (X1), Exports (X2), Imports (X3), and Exchange Rate (X4) have a significant influence on the dependent variable, namely Economic Growth.

A variable is said to have a significant influence if the $_{\text{calculated T value}} > T_{\text{table}}$, degrees of freedom (dk) = n (number of data) – k (independent variable) = 50 – 4 = 46. Then the $T_{\text{table value}}$ is 2.01290, or it can also be seen from the probability value if the prob value < 0.05, then the variable has a significant influence and vice versa. The results of the t test are as follows:

t-Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.426080	2.795215	-0.867940	0.3740
INF	0.072972	0.034483	2.116155	0.0247
EKS	0.030494	0.031303	0.974142	0.0478
IMP	4.291032	3.421810	2.011242	0.3595
NT	0.036677	0.035933	1.020701	0.2086

Based on the table above, it can be seen that the probability value of inflation (X1) is 0.0247 < 0.05, so it can be concluded that the inflation variable has a positive and significant influence on economic growth. Or it can also be seen by comparing the calculated T value with the T table. From the table above, it can be seen that in the inflation variable , the calculated T value and the T table are 2.1161 > 2.01290, so it can be concluded that inflation has a positive and significant influence on economic growth.

Furthermore, to see the effect of exports on economic growth, the table above shows that the export probability value is 0.0478 <0.05, so it can be concluded that exports have a positive and significant effect on economic growth. If we compare the calculated T with the T table , namely from the table above, the calculated T and T table values are 2.0112 > 2.01290, meaning that exports have a positive and significant effect on economic growth.

Furthermore, to see the effect of imports on economic growth, the table above shows that the import probability value is 0.3595 > 0.05, so it can be concluded that imports do not have a positive and significant effect on economic growth. If we compare the calculated T with the T table , namely from the table above, the calculated T and T table values are 0.9741 < 2.01290, meaning that imports do not have a positive and significant effect on economic growth.

Furthermore, to see the effect of the exchange rate on economic growth, in the table above it can be seen that the exchange rate probability value is 0.2086 > 0.05, so it can be concluded that the exchange rate does not have a positive and significant effect on economic growth. If by comparing the calculated T with the T table , namely from the table above, the calculated T and T table values are 1.0207 < 2.01290, meaning that the exchange rate does not have a positive and significant effect on economic growth.

2) F Test (Simultaneous Test)

The F-test is a test conducted to determine the simultaneous influence of independent variables on the dependent variable. This F-test can be performed by comparing the calculated F with the F- table and can also be seen through the *F-statistic probability value* . The hypothesis is as follows:

H o : Inflation, Exports, Imports and Exchange Rates do not have a positive and significant effect on economic growth in ASEAN countries.

H a : Inflation, Exports, Imports and Exchange Rates have a positive and significant influence on economic growth in ASEAN countries.

F Test Results

R-squared	0.613448	Mean dependent var	4.745000
Adjusted R-squared	0.158474	S.D. dependent var	4.080838
S.E. of regression	3.743546	Akaike info criterion	5.545373
Sum squared resid	2606.629	Schwarz criterion	5.776255
Log likelihood	-540.5373	Hannan-Quinn criter.	5.638807
F-statistic	3.882706	Durbin-Watson stat	1.429429
Prob(F-statistic)	0.000015		

Based on the table above , it can be seen that the *F-Statistic Prob value* is 0.000015. Because the prob value *F-Statistic* is 0.000015 < 0.05, so Ha is rejected and Ho is accepted. So it can be

concluded that Inflation, Exports, Imports and Exchange Rates simultaneously have a positive and significant effect on economic growth in ASEAN countries.

Another way to see the results of this f test is by comparing the $_{calculated\ F}$ with the F_{table}. The method is to determine the value of the degrees of freedom (df) for the numerator (dfl) with the formula dfl = k-1. Then determine the degrees *of freedom* (df) for the denominator df2 with the formula df2 = nk. where k is the number of variables (independent + dependent) and n is the number of data. In this study k = 5 and n = 50. then dfl in this study is dfl = 5–1 = 4 and df2 = 50 – 5 = 45, so that the value in the F_{table} can be seen as 2.58.

$_{calculated}$ F value with the $F_{table.}$ The table above shows a $_{calculated}$ F value of 3.882706. It can be concluded that the $_{calculated\ F\ value} > F_{table}$ (3.882706 > 2.58), which means that inflation, exports, imports, and exchange rates simultaneously have a positive and significant effect on economic growth in ASEAN countries.

3) Determination Coefficient Test (*Adjusted* ^{R2})

This coefficient of determination test is conducted to determine the extent of influence of the *independent variable* on the *dependent variable* . The results of the coefficient of determination test are as follows:

R-Square Test Results (R^2)

R-squared	0.613448	Mean dependent var	4.745000
Adjusted R-squared	0.158474	S.D. dependent var	4.080838
S.E. of regression	3.743546	Akaike info criterion	5.545373
Sum squared resid	2606.629	Schwarz criterion	5.776255
Log likelihood	-540.5373	Hannan-Quinn criter.	5.638807
F-statistic	3.882706	Durbin-Watson stat	1.429429
Prob(F-statistic)	0.000015		

Based on the table above , the coefficient of determination ($R2^{)}$ is 0.613448 or 61.34 % . The coefficient of determination value shows that the *independent variables* consisting of inflation (X1), exports (X2), imports (X3) and exchange rates (X4) are able to explain the *dependent variable* , namely economic growth (Y) by 61.34%, while the remainder (100% - 61.34% = 38.66%) is explained by other variables not included in the estimation model in this study.

f. Research Analysis

1) The Effect of Inflation (X1) on Economic Growth (Y) in 5 ASEAN Countries

Based on the estimation results on the inflation variable, it shows that inflation has a negative and significant effect on Economic Growth. This can be seen from the inflation probability value of 0.0247 < 0.05, so it can be concluded that the inflation variable has a positive and significant effect on economic growth. Or it can also be seen by comparing the T-calculation value with the T-table. From the table above, it can be seen that for the inflation variable, the T-calculation and T-table values are 2.1161 > 2.01290, so it can be concluded that inflation has a positive and significant effect on economic growth.

According to monetarist theory, inflation is caused by the amount of money in circulation exceeding production capacity. According to Guritno (2012), inflation can disrupt economic stability and affect people's purchasing power. However, this study shows that inflation has a positive and significant effect on economic growth, with a probability value of 0.0247 <0.05. The

highest inflation occurred in Singapore in 2022, reaching 14.92 % , due to rising food and retail service prices. The lowest inflation occurred in 2023 in Singapore at -5.01%, due to reduced import cost pressures.

2) The Effect of Exports (X2) on Economic Growth (Y) in 5 ASEAN Countries

Based on the estimation results on the export variable, it shows that exports have a positive but insignificant effect on Economic Growth. This is seen from the export probability value of 0.0478 < 0.05, so it can be concluded that exports have a positive and significant effect on economic growth. If by comparing the calculated T with the T table, namely from the table above, the calculated T and T table values are 2.0112 > 2.01290, meaning that exports have a positive and significant effect on economic growth.

Exports are the shipment of goods abroad, which can increase national income. Todaro (2014) emphasized that exports contribute to economic growth by increasing aggregate demand. However, this study shows that exports have a positive and significant effect on economic growth, with a probability value of 0.0478 <0.05. Singapore's highest exports in 2022 reached 186.11 % , driven by global demand for electronic products. Indonesia's lowest exports in 2020, at 17.33 % , were due to the COVID-19 pandemic, which reduced demand and disrupted supply chains.

3) The Effect of Imports (X3) on Economic Growth (Y) in 5 ASEAN Countries

Based on the estimation results on the import variable, it shows that imports have a positive and significant effect on Economic Growth. This is seen from the import prob. value of 0.3595 > 0.05, so it can be concluded that imports do not have a positive and significant effect on economic growth. If by comparing the calculated T with the T table, namely from the table above, the calculated T and T table values are 0.9741 < 2.01290, meaning that imports do not have a positive and significant effect on economic growth.

Imports are the demand for goods from abroad. The Hecksher-Ohlin theory suggests that countries will import goods that cannot be efficiently produced domestically. According to Purwanto (2016), imports can negatively impact economic growth. However, this study found that imports had no significant effect on economic growth, with a probability value of 0.3595 > 0.05. The highest imports in Singapore in 2015 reached 151.08 % , indicating a high dependence on foreign goods. The lowest imports in Indonesia in 2020, at 15.64 % , were due to the economic slowdown caused by the pandemic.

4) The Effect of Imports (X3) on Economic Growth (Y) in 5 ASEAN Countries

Based on the estimation results on the exchange rate variable, it shows that the exchange rate does not have a positive and significant effect on Economic Growth. This is seen from the exchange rate probability value of 0.2086 > 0.05, so it can be concluded that the exchange rate does not have a positive and significant effect on economic growth. If by comparing the calculated T with the T table, namely from the table above, the calculated T and T table values are 1.0207 < 2.01290, meaning that the exchange rate does not have a positive and significant effect on economic growth.

The exchange rate is the price of one currency against another. Oktaviana (2015) states that the exchange rate affects international trade, inflation, and capital flows. A weakening

exchange rate can increase import costs and reduce economic growth. However, this study shows that the exchange rate has a negative and insignificant effect on economic growth, with a probability value of 0.2086 > 0.05. The highest exchange rate in Indonesia in 2024 reached US$15,855.44, driven by high demand for the currency. The lowest exchange rate in Singapore in 2024 was US$1.33 , related to high import levels.

CONCLUSION

Based on the research results and discussions outlined in the previous chapter , the following conclusions can be drawn:

1. The inflation probability value (X1) is 0.0247 < 0.05, so it can be concluded that the inflation variable has a positive and significant influence on economic growth.
2. The import probability value is 0.0478 < 0.05, so it can be concluded that exports have a positive and significant effect on economic growth.
3. The import probability value is 0.3595 > 0.05, so it can be concluded that imports do not have a positive and significant effect on economic growth.
4. The exchange rate probability value is 0.2086 > 0.05, so it can be concluded that the exchange rate does not have a positive and significant effect on economic growth.

REFERENCE

Abdul , N. R., Shamshir, M., Hussain, A., & Sabir, S. (2019). *Relationship Between Major Macroeconomic Variables and Economic Growth: A case of Pakistan during 1976-2016*. WALIA journal.

Basuki, Tri Agus, *Analisis Regresi dalam Penelitain Ekonomi & Bisnis*, (Depok: RajaGrafindo, 2016).

D Lubis Adrian, 2012. Analisis Faktor yang Memengaruhi Kinerja Ekspor Indonesia, (Buletin Ilmiah Litbang Perdagangan, Vol.4 No. 1)

Direktorat Jenderal Strategi Ekonomi Dan Fiskal Tahun 2025 Recent Ecomomic Development. Monetary Authority Of Singapore tahun 2025.

Firdaus dan Ariyanti. *Manajemen Perkreditan Bank Umum: Teori, Masalah, Kebijakan, dan Aplikasi Lengkap dengan Analisis Kredit*. Bandung: Alfabeta. 2011.

Guritno Mangkoesoebroto, dan Algifari, *Teori Ekonomi Makro edisi III,* (Yogyakarta: STIE YKPN, 2012).

Iskandar, Putong, *Economics, Pengantar Mikro dan Makro, Edisi Kelima,* (Jakarta :Mitra Wacana Media, 2013).

Jusuf Soewandi, *Pengantar Metode Penelitian* (Jakarta: Elex Media Komputindo, 2012)

Kasidi, F., & Mwakanemela, K. (2013). *Impact of Inflation on Economic Growth: A cash Study of Tanzania.* Asian Journal of Empirical Research, hal.363-380.

Michael P Todaro, *Pembangunan Ekonomi di Dunia Ketiga*, (Jakarta: Eirlangga, 2014)

Purwanto. (2016). Analisis Faktor-Faktor yang Mempengaruhi Pertumbuhan Ekonomi. Jurnal Cendekia Niaga, 1(ISSN: 2548-3137).

Raab Hasanah Aries Oktaviana. *Volatitas Nilai Tukar Dan Pertumbuhan Ekonomi : Studi Kasus Indonesia*. (Skripsi : Universitas Airlangga). 2015.

Sadono Sukirono, *Makroekonomi Teori Pengantar*, (Depok: Raja Grafindo, 2016)

Sugiyono, *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D*, (Bandung : Alfabeta, 2017)

Sugiyono, *Statistika Untuk Penelitian* (Bandung: Alfabeta, 2014)

Tan, K. Y. (2020). Singapore's Economic Growth: Factors Behind the Success. Asian Economic Policy Review, 47–67.

Tarigan, P. (2011). Faktor Pendukung Keberhasilan Singapura Sebagai Salah Satu Pusat Perdagangan Dunia (Kajian Perspektif Multinational Corporation di Singapura). Jurnal Ekonomi Program Pascasarjana Universitas Borobudur, 2–3.

Umi Karomah Yaumidin. *Financial Coorperation Of Oic Countries Prospect For Commom Currency Area. Jurnal Ekonomi Dan Pembangunan*. Vol 22, No. 2. 2014.

Undang-undang perdagangan No.10 Tahun 1995

Wiqaya Azmi. *Pengaruh Human Capital Investment, Investasi Asing Langsung, Nilai Tukar, Dan Sukuk Terhadap Pertumbuhan Ekonomi*. (Skripsi Iain Salatiga, 2020).