



## Analysis of the Effect of an Open Economy on Indonesia's National Income

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**Abstract:** *This research aims to examine the impact of various factors, such as the value of exports and the value of imports, on Indonesia's total national income. These factors are considered as independent variables, while the amount of Indonesia's national income is the dependent variable. The research methodology involves a descriptive quantitative approach and explanatory research, with a focus on the analysis of Indonesia's national income from 1993 to 2024. The required data was obtained from secondary sources such as the Badan Pusat Statistik, Uncomtrade, Trademap, books, and similar research-related publications. To analyze the data, multiple linear regression statistical methods were used with the help of SPSS version 27 software. The results of the analysis show that overall (F test), the factors studied have a significant influence on the amount of national income. Furthermore, partial analysis (t test) shows that the variables of Indonesia's export value and import value also have a significant influence on Indonesia's total national income.*

**Keywords:** *Export Value, Import Value, Indonesia, National Income, Multiple Linear Regression*

### INTRODUCTION

Income national is indicator success economy a country (Batubara and Pane, 2023). If the country's income high, p the reflect level prosperity and well-being its inhabitants. Amount income national can also reflect level growth economy a country. Economic output a country can identified through total income and level growth economic situation that occurs in the country (Andinata *et al.*, 2020). Export and import is one of influential variables to growth economics, in particular in sector trade (Kustiawati *et al.*, 2023). Growth ideal economics shows enhancement activity economy, as indicated by an increase use source power available finance (Nasir and Sriyono, 2015). Growth economy This is characteristics from enhancement well-being public.

One of topic main in discussion economy is circumstances development economy a country. With improve and encourage export products and services, a country can speed up rate growth its economy. Import volume varies depends request aggregate (real GDP growth) and vice versa with price relative. Increasing prices relatively can cause import must substituted, that's for sure will lower mark dollar import along with decrease in volume. Import capital goods and materials standard For expansion industry part financed through remittances.

One of component most importantly trading international is import and export encouraging stuff growth economy. A country that does import and export will obtain profit from this activity. With his abilities for operate in a way wide cross-border, export is source foreign exchange important for economy open. This matter possible enhancement production,

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which in turn push growth and stability economics, so potential give contribution significant to growth and stability host country economy. Temporary that, the state can fulfil need goods and services that do not can produced domestically through import, so lower cost goods and services.

Enhancement Product Gross Domestic (GDP) can influenced by various factors, incl level unemployment, level inflation, and exports net which is also influenced by factors others (Kurniawan, 2021). According to BPS data (2024), Indonesia's GDP is experiencing enhancement from 2021 until with 2023 indicates that income nationally accepted public experience enhancement. Indonesia's GDP in 2021 will reach 16,976.8 trillion rupiah with rate growth amounting to 3.70 percent. In 2022, Indonesia's GDP will increase to 19,588.1 trillion rupiah with rate growth of 5.31 percent. Indonesia's GDP experienced enhancement returning in 2023 to be amounting to 20,892.4 trillion rupiah with rate growth of 5.05 percent.

In 2022, when global and Asian economies are experiencing decline , Southeast Asia in general startling show enhancement economy. According to ADB, among eleven countries in the region Only Brunei Darussalam experienced this decline economy, and Singapore's growth its economy slowing down, while other countries are enjoying growth. Strength request domestic has become the main pillar of support growth economy in Southeast Asia.

In the middle slowdown global economy, Indonesia, as Southeast Asian members, noted performance strong economy with growth by 5.31% in 2022, an increase from 3.70% in 2021. Transportation and Warehousing Sector become contributor main with growth amounted to 19.87%, while export goods and services support from side expenditure with enhancement amounting to 16.28% (BPS, 2022).

Projection growth Indonesian economy to front seen the more bright with increasing request domestic which includes consumption house ladder and investment. Easing restrictions mobility after elimination of PPKM, prospects improving business, improvement genre foreign investment, as well solution project national strategic, it is hoped will keep going push growth positive economy.

Based on explanation above, formulation problem in study this is how influence economy open to income national. The purpose of this study that is analyze influence from economy open to income national.

## **RESEARCH METHODS**

Method used in this study is method quantitative descriptive. Sugiono (2016) state that method quantitative is approach scientific looking reality as something that can observed,

can measurable, concrete, and capable classified. Data used in study This that is using secondary data obtained from the Badan Pusat Statistik, *Uncomtrade*, *Trademap*, besides the, books and publications related study other works as additional data sources. Dataset used in this study includes *time series* data for 32 years final from 1993 to 2024.

The analysis model used for test influence economy open to Indonesian national income, used multiple linear regression (multiple regression) with formula as following :

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

### Information :

Y = Variable bound or response variable.

X = Variable free or predictor variable.

$\alpha$  = Constant.

$\beta$  = Slope or estimate coefficient.

## RESULTS AND DISCUSSION

### Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.873E+13	3.683E+13		.780	.442
	Export	.253	.112	.366	2.254	.032
	Import	-.474	.123	-.627	-3.867	<.001

a. Dependent Variable: National Income

**Figure 1. Analysis Multiple Linear Regression**

Source : BPS, 2024 (data processed)

Figure 1 shows equality possible regression stated as following :

$$Y = 2.8730000000000 + 0.253X_1 + (-0.474X_2)$$

### Equality the can interpreted as following :

- 1) If value export increase of 1 unit, estimated income national will increase about 0.253 units, with assumption variable other still constant.
- 2) If value imports increase by 1 unit, then estimated income national will experience decline of 0.474 units, with assumption variable other still.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.989 <sup>a</sup>	.979	.977	1.274E+14

a. Predictors: (Constant), Import, Export

**Figure 2. Coefficient of Determination**  
Source : BPS, 2024 (data processed)

In context multiple linear regression, coefficients determination measure extent of influence combined from variable independent, consisting from value export (X1) and value import (X2), against Indonesia’s national income (Y) as variable dependent. This study use coefficient calculated determination with using SPSS version 27, and the results is displayed in figure 2.

Coefficient determination (R square) obtained is 0.979, shows that about 97.9% variation in Indonesia’s national income (Y) can explained by variables independent in this model, value export (X1) and value import (X2). Temporary that is, 2.1% variation the caused by other factors that are not including in this model .

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.155E+31	2	1.077E+31	663.541	<.001 <sup>b</sup>
	Residual	4.708E+29	29	1.624E+28		
	Total	2.202E+31	31			

a. Dependent Variable: National Income  
b. Predictors: (Constant), Import, Export

**Figure 3. Simultaneous Test (F Test)**  
Source : BPS, 2024 (data processed )

In the context of the F test or simultaneous test, we evaluate is there is significant effect from all over variable independent to variable dependent in a statistical model. If the testvalue shows significance, then hypothesis zero (H0) will rejected and hypothesis alternative (H1) will accepted. On the other hand, if no there is significance, then H0 will accepted and H1 will rejected. By in short, we can state :

H0 is rejected If mark Fcount > Ftable .

H0 is accepted If mark Fcount < Ftable .

Based on Figure 3, value the significance of F is less from 0.001 and more small of 0.05 shows that the regression model is tested own significance statistics. This matter

indicated that Indonesia's national income as variable bound in a way simultaneous influenced by variables free, that is value export (X1) and value import (X2). Therefore that's a hypothesis null (H0) is rejected and the hypothesis alternative (H1) is accepted .

In the context of a t test or partial test, we measure influence individual from every variable independent to variable dependent. Based on the results shown in Figure 1, we can conclude matter following :

1. Indonesia's export value has impact positive and significant to Indonesia's national income, with mark significance more low of  $\alpha$  0.05, namely 0.032. Therefore that's a hypothesis alternative (H1) is accepted.
2. The value of Indonesia's imports shows influence negative and significant to Indonesia's national income, because mark its significance not enough of 0.001, which is more low of  $\alpha$  0.05. As a result, hypothesis alternative (H1) is accepted.

From the results testing Hypothesis 1, we can conclude that through Simultaneous Test (F test) and coefficient determination (R2), exists proof that variables like value export (X1) and value import (X2) has significant influence in a way collective to Indonesia's national income (Y). The significance value obtained from the F test is not enough of 0.001, which is more small from significance threshold 0.05 ( $<0.001 < \alpha=0.05$ ), so stated hypothesis exists influence significant from variables the to Indonesia's national income basis together is correct.

Next, assess coefficient determination (R2) of 0.979 indicates that about 97.9% variation in Indonesia's national income can explained by the variables studied, while the remaining 2.1% influenced by other factors that are not including in study.

Indonesia's export value has positive and significant impact to amount income Indonesian national . Then mark Indonesian imports have negative and significant impact to amount Indonesia's national income. Effect recognized as factors that influence export volume (Hodijah, 2021). Based on study by (Pridayanti, 2014) entitled "Influence Exports, Imports, and Exchange Rates To Economic Growth in Indonesia for the 2002-2012 Period" was revealed that mark export own effect positive and significant in number Indonesia's national income. Another study by (Ngatikoh and Isti'annah, 2020) "Influence Export Imports for Economic Growth in an Islamic Perspective" also shows that mark import own influence negative and significant to amount Indonesia's national income. From the findings this, got itconcluded that its increase and decrease amount Indonesia's national income correlation withmark Indonesian exports and imports, as stated proven by research (Astuti and Ayuningtyas, 2018), (Rianda, 2020), (Putra, 2022), and (Egita *et al.*, 2024).

## CONCLUSION

From the F test results, it can be seen that all variable independently researched own impact together to amount Indonesia's national income. F value obtained from analysis is 663,541 which shows that calculated F value more tall than F value in the table distribution F. This indicates that hypothesis zero (H0) must be rejected and hypothesis alternative (H1) is accepted. That is, value exports and value import in a way simultaneously give significant influence to Indonesia's national income. With This, hypothesis first confirmed. Furthermore, based on the t test, it was found that value exports and value import together own strong and dominant influence to Indonesia's national income.

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