

## The Influence of Transportation and Warehousing Investments on the Economic Growth of Indonesia

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### ABSTRACT

This consider points to decide whether transportation and warehousing venture on financial development in Indonesia in 2018-2023 has an impact. Venture information utilized in investigate are PMDN and PMA information. This sort of inquire about employments an affiliated quantitative approach. This inquire about employments the assistance of the SPSS 25 application. The tests utilized in this ponder are classical suspicion tests within the frame of ordinariness tests, heteroscedasticity tests, multicollinearity tests, and autocorrelation tests. Based on the comes about of synchronous impact investigation (measurable test f) appears that noteworthy values of  $0.017 < 0.05$  can be concluded that  $H_0$  is rejected and  $H_a$  is acknowledged. From this, it is said that the factors PMA and PMDN at the same time have an impact on financial development.

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## INTRODUCTION

One of the pointers that ought to be considered in a nation is financial development. Financial development is the method of nonstop alter within the economic conditions of a nation towards distant better;a much better;a higher;a stronger;an improved">a distant better state over a certain period (Yunianto, 2021). This financial development is one of the imperative markers which can decide the level of welfare and supportability of a country's society. Indonesia is one of the nations with fast financial development in ASEAN. Agreeing to databoks. katadata.co.id in 2023, Indonesia positioned 3rd in ASEAN with an financial development rate of 5.05%. Here is the information with respect to Indonesia's financial development.

Table 1. Indonesia's Economic Growth 2018 - 2023

Year	Growth Percentage
2018	5,17
2019	5,02
2020	2,07
2021	3,70
2022	5,31
2023	5,05

Source: Central Statistics Agency (2024), Processed Data.

Table 1, shows that there was a significant decrease in 2020 by 2.07%, which was due to the COVID-19 outbreak that caused widespread economic losses worldwide. There was a decrease of 0.15% from 2018 to 2019. From 2019 to 2020, there was a decrease of 2.95%. From 2020 to 2021, there was an increase of 1.63%. From 2021 to 2022, there was an increase of 1.61%. From 2022 to 2023, there was a decrease of 0.26%. Throughout the period from 2018 to 2022, Indonesia's economic growth experienced a decrease of 0.12%.

In improving financial development, it is certainly accomplished through capital speculation. Capital venture is one of the columns for boosting financial development. One of the quickly developing regions of speculation is in transportation and warehousing. Agreeing to the report from the Central Insights Office, the segment with the most elevated increment in 2023 was the transportation and warehousing division, with a development rate of 13.96%, taken after by other administrations at 10.52%. The Head of the Central Insights Office said that "typically certainly driven, among other components, by the increment in open versatility, the facilitating of universal occasions such as the FIFA U-17 World Glass, ASEAN Summit, Mandalika Moto GP, and the Common Decisions.

In common, capital speculation or speculations come in two shapes: Household Coordinate Venture (DDI) and Remote Coordinate Venture (FDI). In this case, venture in transportation and warehousing is inspected in terms of Residential Coordinate Venture (DDI) and Remote Coordinate Speculation (FDI). Here is the information with respect to speculations in transportation and warehousing.

Table 2. Investment in Transportation and Warehousing Year 2018 - 2023.

Year	Investment	
	Domestic investment. (In Million USD)	Foreign investment (In Million USD)
2018	58.739,84	3.027,15
2019	68.082,56	4.727,76
2020	93.282,8	3.580,4
2021	61.241,5	3.159,21
2022	75.138,4	4.125,1
2023	76.659,4	5.615,5

Source: Central Statistics Agency (2024), Processed Data

Table 2, shows that there are increases and decreases in the realization of investment in transportation taken through Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI). The realization of Domestic Direct Investment (DDI) from 2018 to 2023 amounted to 433,144.5 Million USD. The realization of Foreign Direct Investment (FDI) from 2018 to 2023 amounted to 24,235.12 Million USD. With the receipt of investment or capital investment, it will certainly have an impact on the welfare of all Indonesian society.

Based on the background provided by the researcher, the issue raised by the researcher is whether investment in transportation and warehousing affects the economic growth of Indonesia from 2018 to 2023.

## LITERATURE REVIEW

### Economic Growth

Financial development may be a prepare pointed at expanding national wage over time, which is an imperative pointer in surveying the victory of a country's economy and deciding the heading of future improvement (Amdan & Sanjani, 2023). Financial development clarifies or measures the execution of financial improvement. In genuine financial exercises, financial development implies the monetary advancement of the generation of merchandise and administrations winning in a nation, such as the increment within the production and amount of mechanical products, infrastructure development, the increment within the number of schools, the increment within the generation of benefit segment, and the increment within the generation of capital merchandise (Hanifah, 2022).

Factors considered in measuring economic growth include Gross Domestic Product (GDP). Gross Domestic Product (GDP) is the total production of goods and services generated in a country or specific region within a certain period. Nominal GDP (or Current Price GDP) refers to the value of GDP without considering the influence of prices. Meanwhile, Real GDP (or Constant Price GDP) adjusts nominal GDP figures by incorporating the influence of prices. The analysis of the National Economic Mechanism (performance) based on GDP is through three approaches: the production approach, the expenditure approach, and the income approach (Simanungkalit, 2020).

According to Sukirno (2012), theories of economic growth are viewed based on the relationship between economic growth and its determinants. The differences between one theory and another lie in the focus of discussion and the assumptions used.

### **Classic Growth Theory**

Agreeing to the classical financial analysts, there are four components that impact financial development: populace estimate, the sum of capital stock, arrive region and normal assets, and the innovation utilized. Classical financial analysts emphasize the affect of populace development on financial development. This hypothesis emphasizes the significance of components of generation in expanding national salary and accomplishing development. Concurring to classical financial analysts, an intemperate labor constrain will influence financial growth.

The Schumpeter theory emphasizes the importance of the role of entrepreneurs in achieving economic growth. In this theory, entrepreneurs are portrayed as individuals who continually innovate in economic activities. These innovations include: introducing new products, improving production efficiency, expanding the market for products into new markets, developing new sources of raw materials, and making changes in organizations to enhance efficiency. These various innovation activities will require new investments.

### **Growth Theory**

Neo-Classical Theory looks at the supply side. According to the theory developed by Abramovits and Solow, economic growth depends on the development of factors of production. According to Abramovits, the most important factor in achieving economic growth is not the increase in capital and labor. The most important factor is the advancement of technology and the increase in skills and sensitivity of the workforce.

### **Harrod-Domar Theory**

The Harrod-Domar theory aims to explain the conditions that must be met for an economy to achieve stable or steady growth in the long term. According to the Harrod-Domar analysis, sustained growth in aggregate expenditure is needed in the long term to achieve economic growth, and stable economic growth can only be achieved if  $I+G+(X-M)$  continues to increase at an encouraging rate.

### **Investment**

Speculation Venture can be characterized as a commitment of a certain sum of cash or other assets made at show time with the desire of getting benefits within the future. In viable terms, venture is more often than not related with different exercises related to contributing cash in different elective resources, whether classified as genuine resources such as arrive, gold, property, or money related resources, such as different securities like stocks, bonds, or shared stores. For more astute and more risk-tolerant financial specialists, their speculation exercises may too incorporate venture in other

more hazardous and more complex budgetary resources, such as warrants, alternatives, and prospects, as well as worldwide values (Khusnah & Anshori, 2018).

The purpose of investment is to enhance the prosperity of investors (in monetary terms). Additionally, investment aims to mitigate the impact of inflation and reduce tax burdens.

The fundamental aspect in the investment decision-making process is understanding the relationship between the expected return and the risk of an investment. Generally, the relationship between risk and expected return of an investment is a direct and linear relationship. This means that the greater the risk of an investment, the greater the expected return from that investment, and vice versa (Khusnah & Anshori, 2018).

Based on Law No. 25 of 2007 concerning Investment, Article 1 Paragraph 2 states that "Domestic Investment is the activity of investing capital to conduct business within the territory of the Republic of Indonesia carried out by domestic investors using domestic capital." Meanwhile, Domestic Investment according to Law No. 15 of 2007 is "the activity of investing capital to conduct business within the territory of the Republic of Indonesia carried out by domestic investors and using domestic capital."

Based on the definitions over, it can be concluded that residential speculation is an action of contributing capital carried out by speculators utilizing household capital inside the region of Indonesia. The benefits of household venture incorporate sparing remote trade, decreasing reliance on remote items, advancing the progression of household businesses through forward and in reverse linkages, and contributing to endeavors to retain business.

### **Foreign investment**

Based on the definitions over, it can be concluded that residential speculation is an action of contributing capital carried out by speculators utilizing household capital inside the region of Indonesia. The benefits of household venture incorporate sparing remote trade, decreasing reliance on remote items, advancing the progression of household businesses through forward and in reverse linkages, and contributing to endeavors to retain business.

According to Salim and Budi (2008: 149), remote venture is the exchange of capital, both unmistakable and intangible, from one nation to another or capital movement. The reason of this capital movement is to produce benefits beneath the supervision of the capital proprietors, either entirely or in part. With remote venture, work openings can be made, hence decreasing unemployment. Also, remote venture brings modern aptitudes to creating nations. Outside venture is additionally a source of investment funds since with outside speculators contributing their capital, financial development will increment.

### Gross Domestic Product (GDP)

Gross Domestic Product (GDP) atau Produk Domestik Bruto (PDB) is one of the components of national income, along with Gross National Product (GNP), Net National Product (NNP), National Income (NI), Personal Income (PI), and Disposable Personal Income (Larasati & Sulasmiyati, 2018).

According to Sukirno (2012: 35), Gross Domestic Product (GDP) is the value of goods and services in a country produced by factors of production owned by the citizens of that country and foreigners. Goods and services are produced not only by companies owned by the country's residents but also by residents of other countries as long as those companies are still operating in the country.

A more comprehensive clarification of Net Household Item (GDP) is given by Latumaerissa (2015: 18) as the entire esteem of all products and administrations created by a nation in a certain period or one year, counting merchandise and administrations created by companies claimed by the inhabitants of that nation and by inhabitants of other nations living within the particular nation. Mankiw (2006: 11) defines the calculation of Net Household Item (GDP) as takes after.

$Y = C + I + G + NX$  Information: Y : Net Residential Item (GDP) C : Utilization I : Venture G : State Use NX : Net trades

There's past inquire about by (Sari et al., 2019) which states that speculation has an impact on financial development. Past inquire about by (Ramadhania, 2018) expressed that speculation has no impact on financial growth. The following may be a picture of the outline of intellect, to be specific as takes after.

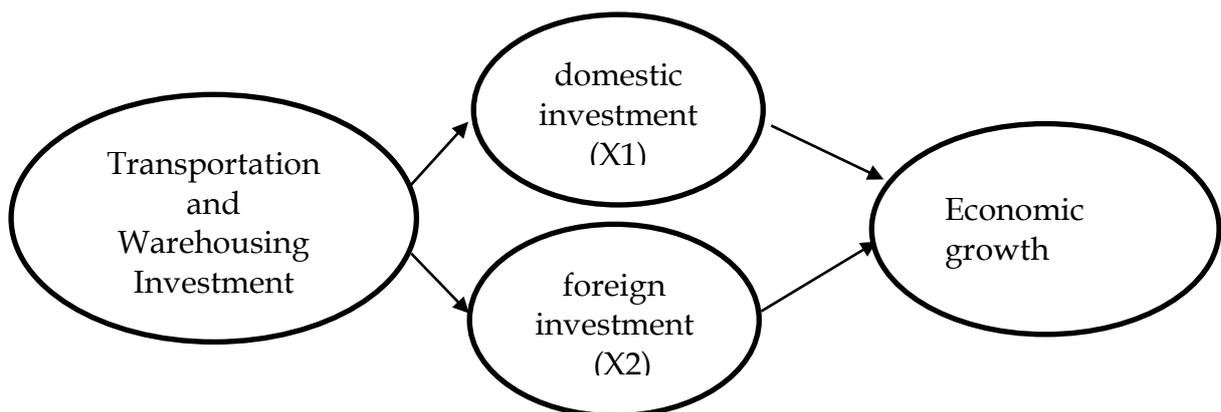


Figure 1. Framework of Mind

### METHODOLOGY

#### Information Sorts and Sources

This sort of inquire about employments an affiliated quantitative approach. Auxiliary information gotten from the Central Measurements Organization is information for 2018 – 2023 with respect to financial development, level of Net

Household Item (GDP), Household Speculation (PMDN), and Outside Venture (PMA).

### Data analysis method

This investigate employments the SPSS 25 application. The tests utilized in this investigate are classic presumption tests within the shape of ordinariness tests, heteroscedasticity tests, multicollinearity tests, and autocorrelation tests. Theory testing takes the frame of different straight relapse investigation, relationship coefficient investigation ( $R^2$ ), synchronous impact examination (f measurable test), and halfway impact test (t measurable test).

## RESEARCH RESULT

### Classic assumption test

#### Normality test

The following is table 3 regarding the results of the normality test, which are as follows.

Table 3. Normality Test Results

#### One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		6
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1756.78813360
Most Extreme Differences	Absolute	.203
	Positive	.167
	Negative	-.203
Test Statistic		.203
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Table 3 is the comes about of the ordinariness test utilizing the Kolmogorov-Smirnov test which can be said to be ordinary in the event that it contains a esteem of more than 0.05. From the test comes about, it can be said that all investigate variable information is ordinarily disseminated since the critical esteem is 0.200 which shows more than 0.05.

### Heteroscedasticity Test

The following is Figure 1 of the heteroscedasticity test results, namely the following.

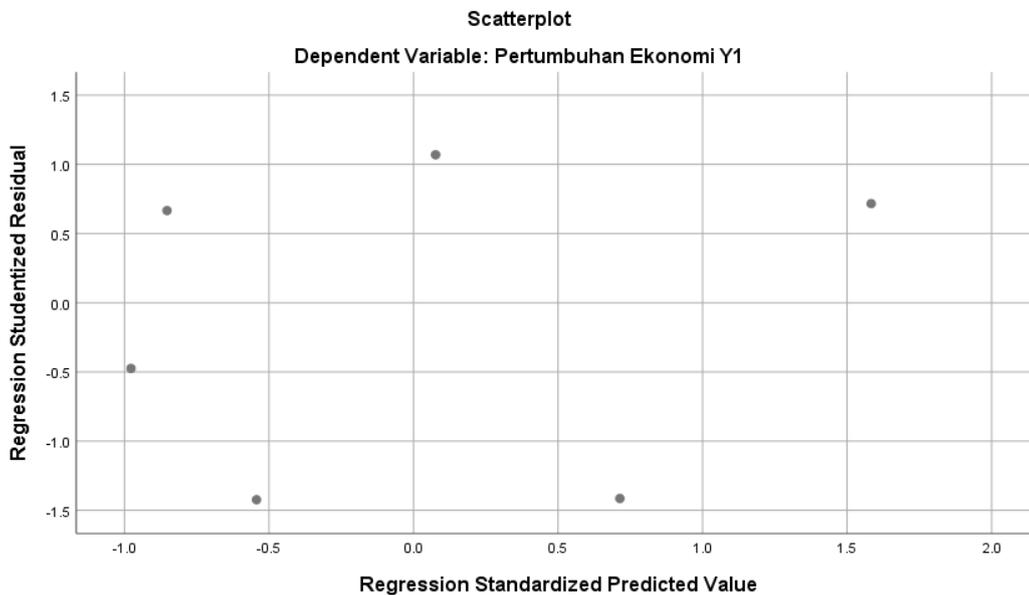


Figure 2. Heteroscedasticity Test Results

Figure 2 shows that scores are distributed above and below zero. This indicates that all data for the research variables in this regression model are not heteroskedastic and suitable for use as research data.

### Multicollinearity Test

The following is Table 4 regarding the results of the multicollinearity test, namely as follows.

Table 4. Results of multicollinearity test.

Coefficients								
Model		Unstandardized Coefficients		Standar dized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1095.349	2670.744		.410	.709		
	PMDN X1	-.012	.035	-.194	-.347	.752	.917	1.090
	PMA X2	.301	.442	.380	.681	.545	.917	1.090

a. Dependent Variable: Economic Growth

Table 4 shows that the tolerance value calculation for PMDN (X1) and PMA (X2) variables is 0.917, which indicates that this value is greater than 0.10. The result of the value of the Variance Inflation Factor (VIF) is 1.090, which

indicates that the Variance Inflation Factor (VIF) in the variables PMDN (X1) and PMA (X2) is less than 10.00. Based on the test results, it can be said that there is no multicollinearity in the regression model.

**Autocorrelation Test**

Table 4 shows that the tolerance value calculation for PMDN (X1) and PMA (X2) variables is 0.917, which indicates that this value is greater than 0.10. Following is Table 5 of the autocorrelation test results, which are as follows.

Table 5. Autocorrelation Test Results

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.374 <sup>a</sup>	.140	-.433	943.76247	2.656
a. Predictors: (Constant), PMA X2, PMDN X1					
b. Dependent Variable: Economic Growth					

From Table 5 above, it can be seen that the Durbin-Watson value is 2.656. Based on the decisions to obtain these values, it can be argued that  $-2 \leq 2 \leq 2$ , which means that the entire regression model has no autocorrelation.

**Hypothesis testing**

**Multiple Linear Regression Analysis**

The following is Table 6, which deals with the results of the multiple linear regression analysis, namely as follows.

Table 6. Multiple Linear Regression Analysis

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12087.094	2124.013		5.691	.011
	PMDN X1	.007	.029	.035	.233	.831
	PMA X2	1.161	.180	.961	6.431	.008
a. Dependent Variable: Economic Growth						

Table 6 shows the results of the multiple linear regression analysis using the multiple linear regression equation model as follows.

$$Y = 12087,094 + 0,007X_1 + 1,161X_2$$

The constant (a) is 12087.094. which means that if the PMDN and PMA (X) variables are both zero, the economic growth (Y) variable has a value of 12087.094.

The PMDN regression coefficient (X1) has a value of 0.007. This means that when the variable of PMDN (X1) increases by one unit, the variable of economic growth increases by 0.007.

The regression coefficient of PMA (X2) has a value of 1.161. This means that if the PMA variable (X2) increases by one unit, the economic growth variable (Y) increases by 1.161.

**Determinant Coefficient Analysis (R<sup>2</sup>)**

The following is Table 7 of the results of the correlation coefficient analysis (R<sup>2</sup>), which are as follows.

Table 7. Correlation coefficient analysis results (R<sup>2</sup>).

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.967 <sup>a</sup>	.934	.891	800.25119
a. Predictors: (Constant), PMA X2, PMDN X1				

Table 7 shows the correlation coefficient (R<sup>2</sup>) value of 0.934, so it can be said that PMDN and PMA variables affect economic growth by 93.4%. The remaining 6.6% are affected by other variables outside this research model.

**Analysis of simultaneous effect (F-statistic test)**

The following is Table 8 regarding the results of the simultaneous influence Below is Table 8 of the results of the simultaneous analysis (f-statistic test), namely as follows.

Table 8. Results of simultaneous effects analysis (F-statistics test)

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27357525.342	2	13678762.671	21.360	.017 <sup>b</sup>
	Residual	1921205.883	3	640401.961		
	Total	29278731.225	5			
a. Dependent Variable: Economic Growth						
b. Predictors: (Constant), PMA X2, PMDN X1						

Based on table 8, it shows that the significant value is 0.017 < 0.05 which can be concluded that H0 is rejected and Ha is accepted. From this it can be said that the PMA and PMDN variables simultaneously have an influence on economic growth.

**Partial Influence Test (T Statistical Test)**

The following is table 9 regarding the results of the partial influence test (t statistical test), which is as follows.

Table 9. Results of Partial Influence Test (T Statistical Test)

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12087.094	2124.013		5.691	.011
	PMDN X1	.007	.029	.035	.233	.831
	PMA X2	1.161	.180	.961	6.431	.008
a. Dependent Variable: Economic Growth						

Table 9 shows that if the significant value is <0.05 then H0 is rejected and Ha is accepted. The following is an explanation, namely as follows.

PMDN variable (X1) shows a significant value of 0.831 > 0.05, so H0 is accepted and Ha is rejected. This shows that the PMDN variable (X1) does not affect economic growth. The PMA variable (X2) shows a significant value of 0.008 < 0.05, so H0 is rejected and Ha is accepted. This shows that the PMA variable (X2) affects economic growth.

**CONCLUSIONS AND RECOMMENDATIONS**

Based on research, a classical hypothesis test using the normal value test has a probability of 0.200 greater than 0.05. Heteroskedasticity test shows no heteroskedasticity and is suitable for use as research data. The multicollinearity test shows the tolerance value and VIF value according to the decision criteria, which indicates that there is no multicollinearity. An autocorrelation test with a decision criterion of  $-2 \leq 2 \leq 2$  shows that there is no autocorrelation in the entire regression model.

Hypothesis testing using multiple linear regression analysis yielded a constant value of (a) of 12087.094. The regression coefficient value of domestic investment (X1) is 0.007, while the regression coefficient value of foreign investment (X2) is 1.161. The analysis of the coefficient of determination (R<sup>2</sup>) shows that the variables Internal Investments and Foreign Investments influence economic growth by 93.4%. The analysis of simultaneous effect (f-statistic test) shows a significant value of 0.017 < 0.05, from which it can be concluded that they have a simultaneous effect on economic growth. The partial effect test (t-statistic test) of the domestic investment variable (X1) shows no

effect on economic growth, while the foreign investment variable (X2) has an effect on economic growth.

**Recommendations.**

For further research, additional variables and an extended study period could be considered to make the research findings more significant.

**ADVANCED RESEARCH**

This research has a contribution to guide research development and government policy. The results of this study provide an empirical basis for understanding the environmental effects of economic practices and the potential for sustainable solutions. This, in turn, guides researchers to identify urgent and significant issues that must be addressed in the form of research.

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