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IS ECONOMIC GROWTH AFFECTED BY BASIC INFRASTRUCTURE ? (*STUDY CASE TERNATE NORTH MALUKU*)

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ABSTRAK

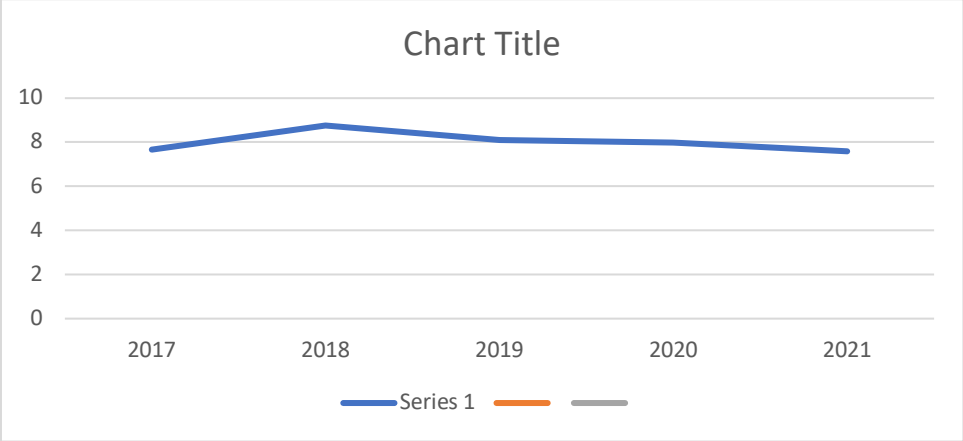
Penelitian ini bertujuan untuk mengetahui pengaruh infrastruktur jalan terhadap pertumbuhan ekonomi, infrastruktur air bersih terhadap pertumbuhan ekonomi dan infrastruktur ketenagalistrikan terhadap pertumbuhan ekonomi. Data yang digunakan bersumber dari BPS Kota Ternate dari tahun 2009-2021. Data penelitian yang digunakan adalah data kuantitatif. Jenis data yang digunakan dalam penelitian ini adalah data sekunder dan time series. Teknik pengujian yang digunakan adalah analisis regresi berganda. Hasil pengujian penelitian ini mempunyai pengaruh secara simultan terhadap ketiga variabel yang diuji. Sedangkan pengujian secara parsial variabel infrastruktur jalan, air bersih dan listrik berpengaruh terhadap pertumbuhan ekonomi.

ABSTRACT

This study aims to determine the effect of road infrastructure on economic growth, clean water infrastructure on economic growth and electricity infrastructure on economic growth. The data used is sourced from BPS Ternate City from 2009-2021. The research data used is quantitative data. The type of data used in this research is secondary data and time series. The testing technique used is multiple regression analysis. The test results of this study have a simultaneous effect on the three variables being tested. While partially testing the variables of road infrastructure, clean water and electricity effect on economic growth.

INTRODUCTION

Development of an area aims to improve welfare and realize social justice for all levels of society. For this reason, development requires the right approach, in order to produce growth accompanied by equity.



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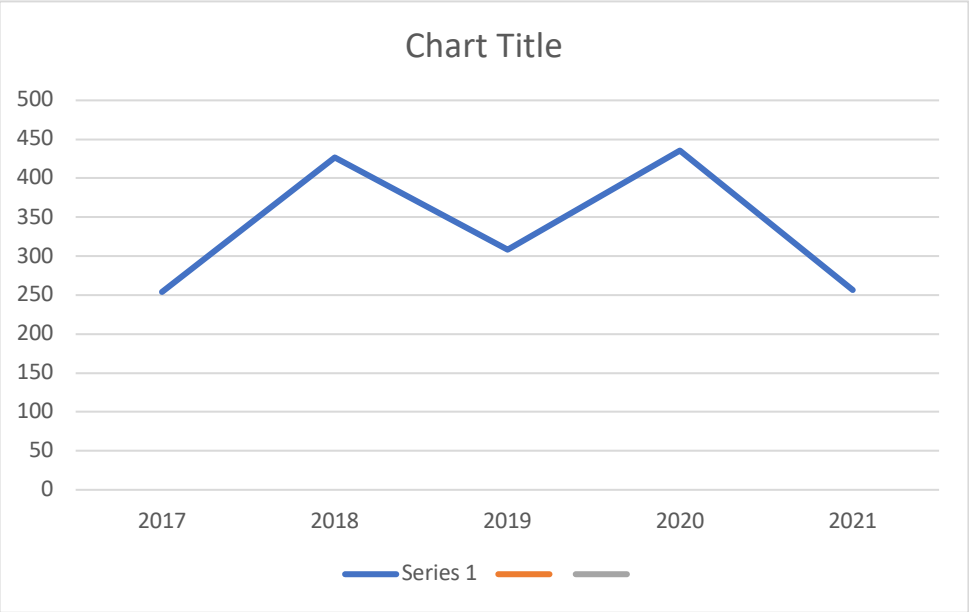
Graph 1. Growth Rate of Ternate's Gross Regional Domestic Product at Constant Prices by Business Field (percent), 2017 – 2021 (%) (BPS Ternate City, 2021)

Based on Figure 1.1. GRDP value of Ternate City in 2017 economic growth was 7.67%, in 2018 the economy of Ternate City increased to 8.76%, in 2019 the economy decreased by 8.09%, in 2020 the economy decreased by 7, 99%, in 2021 economic growth decreased by 7.59, the following is the data that was built using the State Revenue and Expenditure Budget (APBN), the Regional Revenue and Expenditure Budget of the Province of North Maluku and the City of Ternate.

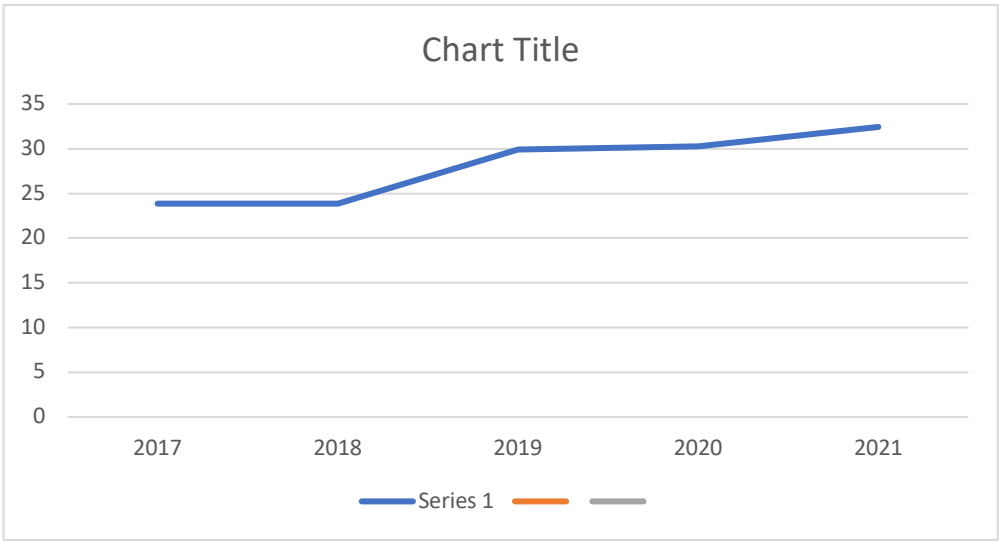


Graph 2. Road Length by District and Type of Road Surface in Ternate City (KM) (BPS Ternate City, 2021)

Judging from the graph of road infrastructure development above, it can be seen that in 2017 the data was 254 km, and from 2017 to 2018 there was an increase of 426.87 km. Furthermore, in 2018 to 2019 the length of the Ternate City road decreased by 308.69 km, from 2019 to 2020 the road infrastructure in Ternate City increased by 435.54 km and from 2020 to 2021 the road infrastructure decreased by 256, 76, there was a decrease due to the number of damaged roads.

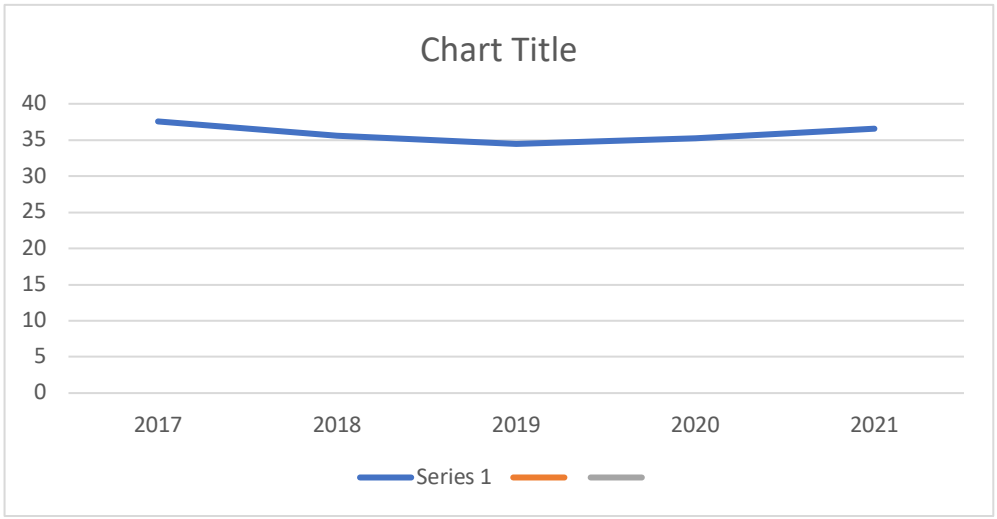
Table 1. Clean Water Infrastructure in Ternate City from 2017-2021 (M3)

· State roads along	· 58.50 km
· Provincial roads along	· 404 km
· District roads along	· 501.20 km



Source: BPS Ternate City, 2021

Seen from the graph above, the clean water infrastructure of the city of Ternate in 2017 and 2018 can be seen that the use of clean water is 23.854 (M), and then from 2018 to 2019 the clean water infrastructure has increased by 29.905 (M^3), in 2019 to 2020 water infrastructure has increased by 30.25 (M^3), and from 2020 to 2021 clean water infrastructure has increased by 32.432 (M^3).



Graph 4 Installed Power, Production, and Electricity Distribution of PT. PLN (Persero) in Ternate City, 2017-2021(KWH) (BPS Ternate City, 2021)

It can be seen from the graph of the electricity infrastructure of the city of Ternate in 2017 37,561, and from 2017 to 2018 there was a decrease of 35,561 KWH, then in 2018 to 2019 there was a decrease in electricity infrastructure by 34,453KHW, in 2019 to 2020 an increase of 35,236 and from 2020 to 2021 36,531 KHW, an increase. In infrastructure development, it must be carried out continuously and must be aligned with the economic progress that has been achieved and what is to be realized in the future.

Economic Growth Theory

According to Tarigan (2012), economic growth is an increase in overall community income that occurs in an area, the increase in income is an increase in all*value added* that occurs in the region. The classical growth theory was first put

forward by Adam Smith (2010). He stated that there are two things that cause economic growth, namely population growth and the division of labor among workers. Neoclassical growth theory developed by Robert M. Solow and TW Swan (1956) and is a refinement of the previous classical theory. Neoclassical growth theory is better known as the Solow growth model (*Solow growth models*). This model uses elements of population growth, capital accumulation, technological progress, and the amount of *output* that interact with each other (Tarigan, 2014).

Infrastructure

Kodoatie (2003) defines infrastructure as physical facilities developed or required by public agencies for government functions in the provision of water, electricity, waste disposal, transportation and other services to facilitate economic and social goals. The infrastructure system is the main support for the functions of the social system and the economic system in people's daily lives.

Road Infrastructure

According to Law No. 38 of 2004 concerning Roads, roads are land transportation infrastructure which includes all parts of the road, including complementary construction and equipment intended for traffic, which are on the surface of the land and/or water and above the water surface, except for railroads. fires, lorries, and cableways.

Clean Water Infrastructure Water

Is a basic human need whose existence is guaranteed by the constitution, namely Article 33 of the 1945 Constitution paragraph 3, which reads "Earth, water and natural resources contained therein are controlled by the state and used as much as possible for the prosperity of the people".

Electrical Infrastructure Electricity

Infrastructure is something that is not commonly heard by the general public, every region must use electricity for household activities, companies and other activities, all people in the world are very dependent and always use electricity.

The relationship between infrastructure and economic growth

Kodoatie (2005) describes the role of infrastructure with a diagram showing that ideally the natural environment is the support for the infrastructure system and the economic system is supported by the infrastructure system. The social system as objects and targets that are supported by the economic system.

Theoretical Framework for Thinking

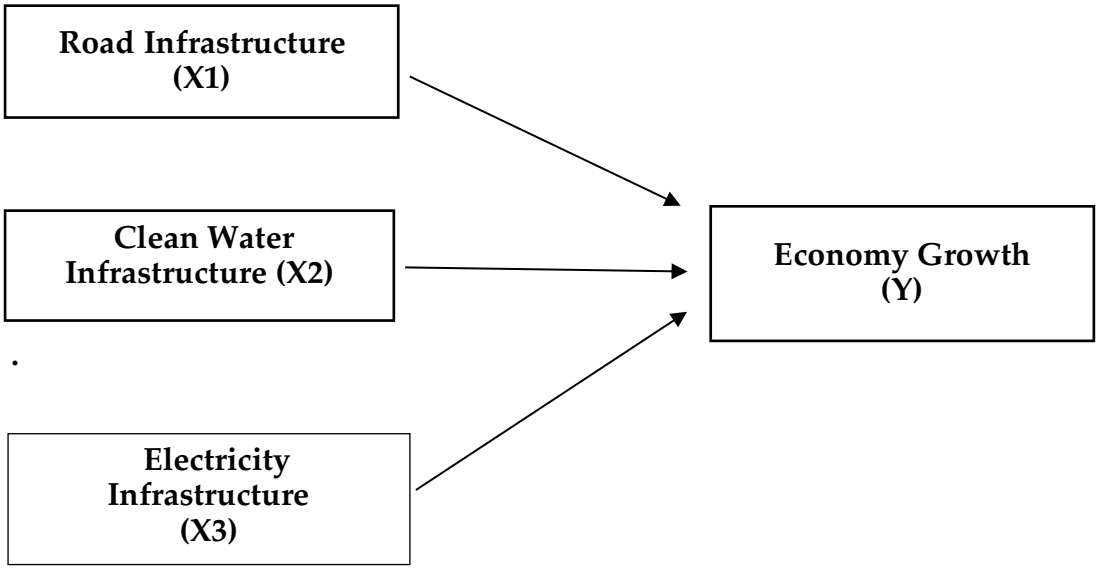


Figure 1. Framework for Thinking

The Effect of Clean Water Infrastructure on Economic Growth

Water is a chemical compound that is very important for the life of living things on this earth. The function of water for life cannot be replaced by other compounds.

The Effect of Electrical Infrastructure on Economic Growth

Electricity is an energy, even electrical energy plays an important role in our lives. Electricity is a charge consisting of a positive charge and a negative charge. Electric current is an electric charge that moves from a place of high potential to a place of low potential, passing through an electrical conductor.

The Effect of Road Infrastructure, Clean Water and Electricity on Economic Growth

Road infrastructure is a locomotive to drive economic development not only in urban areas but also in rural areas or remote areas. Through the project, the infrastructure sector can create jobs that absorb a lot of workers.

Hypothesis

Based on the theoretical basis, previous research, and the above framework, the hypotheses in this study are:

(1) Road infrastructure has a positive and significant effect on economic growth in the city of Ternate.
(2) Clean water infrastructure has a positive and significant effect on economic growth in the city of Ternate.
(3) Electricity infrastructure has a positive and significant impact on economic growth in the city of Ternate.
(4) Road infrastructure, clean water and electricity have a positive and significant impact on economic growth in the city of Ternate.

METHOD

This research was conducted in the city of Ternate. This location was used as a research location because during the last 5 years, the economy of the City of Ternate grew fluctuating from 7 to 8 percent, with the highest growth achieved in 2018 at 8.76

percent. In 2019 the economic growth was quite high, namely 8,09 percent, but in 2021 the economy slowed down at 7,59 percent, although still high. The type of data used in this research is secondary data sourced from the Central Statistics Agency (BPS) of Ternate City and other literature related to this research. The data used is Ternate City's economic growth data on the basis of constant prices from 2011-2021. data on the number of road lengths, the amount of distributed clean water and electricity data in the city of Ternate from 2011-2021. In obtaining data, it is necessary to conduct research. For data collection, the data is taken through the collection of literature, books, journals that are closely related to the problem of research results to be discussed and also take data from related agencies in the form of BPS Ternate City , the Department of Public Works and other relevant agencies.

Multiple linear regression analysis was used to examine the effect of Road infrastructure, Clean Water infrastructure, Electricity infrastructure on economic growth in Ternate City. Before the linear regression analysis is carried out, first perform a classical assumption test to ensure whether the regression model that will be used does not have problems of normality, multicollinearity and heteroscedasticity. If it is fulfilled then the analysis model is feasible to use.

Classical Assumption Test

This research uses multiple linear regression model as an analytical tool, so it must first pass the classical assumption test so that the assumptions in the regression are met. The classical assumption test aims to test and determine the feasibility of the regression model used in the study. Another goal is to ensure that the regression model used has data that are normally distributed and free from multicollinearity and heteroscedasticity (Ghozali, 2016).

Hypothesis Testing Coefficient of Determination Test (R^2)

The coefficient of determination reflects how much the independent variable is able to explain the variance of the dependent variable. Having a value between 0 - 1 where a value close to 1 means the higher the ability of the independent variable in explaining the variance of the dependent variable. The coefficient of determination in linear regression is often interpreted as how much the ability of all independent variables to explain the variance of the dependent variable. In simple terms, the coefficient of determination is calculated by squaring the Correlation Coefficient (R).

Definition of Operational Variables

In this study, one dependent variable and four independent variables were used. The dependent variable in this study is economic growth, while the independent variables in this study are road infrastructure, clean water infrastructure and electricity infrastructure. The operational definition of each of these variables will be explained as follows.

(1) Economic growth is measured using GRDP on the basis of constant prices.
(2) Road Infrastructure in this study is to calculate the length of roads that have been built in the city of Ternate in good condition in Kilo Meters.
(3) Clean Water Infrastructure What is meant in this study is to calculate the amount of clean water that has been distributed among the community, companies and others in the City of Ternate in the amount (M^3).

(4) Electricity Infrastructure What is meant in this study is to calculate the amount of electricity that has been installed among the community, companies and others in the City of Ternate Electricity in the amount (KwH).

RESULTS AND DISCUSSION

Ternate City Overview

The establishment of the first city "Ternate" (Sampalo) in 1250 was an early challenge in the development process of this old and historic city. Ternate, with its characteristics as a center for the spice trade and trading city as well as its strategic location in the northern Maluku region, is a historical record inherent in the development of Ternate since the first. The climate of Ternate City and generally in the North Maluku region has a tropical climate type. Temperature / City temperature ranges from 23.4 to 31.1 degrees Celsius.

Table 2. Ternate area and administrative division of Ternate City

No	Districts	Number of Village	Area (Ha)
1	Ternate Island	13	37.23
2	Batang Dua Island	6	29.04
3	Moti	6	24.80
4	Hiri Island	6	6.70
5	South Ternate	17	16.98
6	Center Ternate	15	10.85
7	North Ternate	14	14.38
Total		77	6,468.30

Source: BPS Ternate City, 2021

One indicator of the level of prosperity of the population in an area/region can be seen from the value of GRDP per capital, which is the quotient between the added value generated by all economic activities and the total population. Therefore, the size of the population will affect the value of GRDP per capita, while the size of the GRDP value is highly dependent on the potential of natural resources and production factors in the area.

Table 3. Ternate City Population 2009-2021(Soul)

NO	Year	Ammount
1	2009	156,925
2	2010	161,085
3	2011	166,506
4	2012	170,061
5	2013	184,473
6	2014	185,705
7	2015	190,183
8	2016	191,053
9	2017	222,858
11	2018	207,789
12	2019	212,997
13	2020	218 028
14	2021	223,111

Source: BPS Ternate City, 2021

Classical Assumption Test

This research uses multiple linear regression model as an analytical tool, so it must first pass the classical assumption test so that the assumptions in the regression are met. The classical assumption test aims to test and determine the feasibility of the regression model used in the study. Another goal is to ensure that the regression model used has data that are normally distributed and free from multicollinearity and heteroscedasticity (Ghozali, 2016).

Normality

Test The normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution or not. Good data and suitable for use in research are those that have a normal distribution or are close to normal.graph analysis *P-Plot* statistical test *One-Sample-Kolmogorov-Smirnov* (Ghozali, 2016). Statisticaltest *One-Sample-Kolmogorov-Smirnov* This test is done by looking at the *probability* or *asymp value. sig. (2-tailed)*. If the *asymp value. sig. (2-tailed)* < 0.05, then the residual data is normally distributed, while if the value *is asymp. sig. (2-tailed)* > 0.05, then the residual data is normally distributed (Ghozali, 2016). This test can be seen in the following table:

Table 4. Normality Test Results 1-Sample-KS

	Unstandardized Residual
N	13
Asymp. Sig. (2-tailed)	0.200

Source: Secondary Data Processed, 2021

Based on the results of the normality test in Table 4.4, it can be seen that the *Kolmogorov Smirnov* significance value of 0.20 above 0.05. This shows that the regression model data meets the assumption of normality. The data from the normality test with statistical tests can be concluded that the regression models in this study are feasible to use because they meet the assumption of normality.

Multicollinearity Test Multicollinearity

Testing aims to test whether the regression model found a correlation between the independent variables (independent). To test the presence or absence of multicollinearity, it can be seen from the *Tolerance and Variance Inflation Factor (*VIF) values of each independent variable. If the *Tolerance* > 0.10 and the VIF value < 10 does not occur multicollinearity (Ghozali, 2016). The results of the multicollinearity test can be seen in the following table:

Table 5. Multicollinearity Test Results

Model	Collinearity Statistics		Description
	Tolerance	VIF	
X1	0.997	1.003	There is no multicollinearity
X2	0.844	1.185	There is no multicollinearity
X3	0.846	1.182	There is no multicollinearity

Source: Secondary Data Processed, 2021

The results of the multicollinearity test are shown in Table 4.5, it can be seen in *Collinearity Statistics* (*tolerance* and VIF values) from the output it can be seen that Variable X1 has a *Tolerance* of 0.99 greater than 0.10 and a VIF value 1.00 is smaller than 10, Variable X2 has a *Tolerance* of 0.84 greater than 0.10 and a VIF value of 1.18 is smaller than 10, Variable X3 has a *Tolerance* of 0.84 greater than 0.10 and a VIF value 1.18 is less than 10. for all variables. So it can be concluded that the regression model does not have multicollinearity problems.

Heteroscedasticity

Test The heteroscedasticity test aims to test whether there is an inequality of variance from the residuals of one observation to another observation. The regression model that meets the requirements is homoscedasticity or there is no heteroscedasticity. Heteroscedasticity test using Glesjer test. If the significant probability of each independent variable > 0.05, it can be concluded that there is no heteroscedasticity in the regression model (Ghozali, 2016). The results of this test can be seen in the following table.

Table 6. Heteroscedasticity Test results (Glesjer)

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	3,879	9,262		0.419	0.685
X1	0.434	0.234	-1.237	1.506	0.484
X2	1.856	-0.233	-0.821	0.096	0.433
X3	0.371	0.396	0.265	0.937	0.373 a

. Dependent Variable: Abs_Y

Source: Secondary Data Processed, 2021

Based on the results of the Glesjer test in Table 4.6, it can be seen that the significance value of the X1 variable is 0.096 greater than 0.05, the X2 variable has a significance value of 0.433 which is greater than 0.05, the X3 variable has a significance value of 0.373. So it can be concluded that the regression model in In this study, there was no heteroscedasticity.

Autocorrelation Test Autocorrelation

test aims to test whether in the linear regression model there is a correlation between the confounding error in period t and the confounding error in period t-1 (previous). A good regression model is a regression that is free from autocorrelation. The autocorrelation test in this study used the Durbin Watson test (Ghozali, 2016).

Table 7. Autocorrelation Test Results

Model	DU	DW	4-DU
1	1,815	1,927	2,185

Source: Secondary Data Processed, 2021

Based on statistical tests obtained from the Durbin-Watson value of 1.927. The value of DU is smaller than DW and DW is smaller than 4-DU, so it can be concluded that there is no autocorrelation.

Hypothesis Testing Hypothesis

Testing aims to test whether X1, X2, and X3 have an effect on economic growth. The results of hypothesis testing are as follows:

Determination Test (R2)

The coefficient of determination (R2)is a test to measure how far the model's ability to explain the variation of the dependent variable. The value of the coefficient of determination is between zero and one.value of R2means that the ability of the independent variables to explain the variation of the dependent variable is very limited. Meanwhile, a value close to one means that the independent variable provides almost all the information needed to predict the variation of the dependent variable (Ghozali, 2016).

Table 8. Test Results of R^2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.611[a]	0.697	0.705	1.34030
a. Predictors: (Constant), X3, X1, X2				

Source: Secondary Data Processed, 2021

Based on the output results in Table 4.8, the R2 value in the regression model is 0.697 or 69.7%. This means that the ability of the independent variable in explaining the variance of the dependent variable is 69.7%. Meanwhile, there are 0.303 or 30.3% explained by other variables not examined in this study.

F Test

To determine the extent to which the independent variables (Road Infrastructure, Clean Water and Electricity) used are able to explain together the dependent variable (Economic Growth) (Ghozali, 2016). This test can be seen in the following table:

Table 9. F Test Results

Model	F Calculate	Sig.
1	9,320	0.000

Source: Secondary Data Processed, 2021

Based on simultaneous statistical testing (F-Test) shows that of the three independent variables, namely X1, X2 and X3 have an F value of 9.320, greater than F Table 3.71 and a significance probability of 0.000. Because the significance probability is less than 0.05, it can be concluded that X1, X2, and X3 simultaneously or jointly affect the Y variable.

T Test

The t-test basically shows how far the influence of one independent variable individually explains the variation of the dependent variable. Partial regression testing is intended to determine whether the independent variables individually have an

influence on the dependent variable with the assumption that the other variables are constant (Ghozali, 2016). This test can be seen in the following table:

Table 10. T-Test Results

Variable	Regression Coefficient	T Calculate	Sig.
Constant	2,447	1,145	0,001
X1	0,344	3,806	0,041
X2	0,698	4,254	0,005
X3	0,231	2,320	0,036

Source: Secondary Data Processed, 2021

Based on Table 4.10 by paying attention to the numbers in the regression coefficient column, the regression equation can be arranged as follows:

$$\mathbf{Y = 2.447 + 0.344X_1 + 0.698X_2 + 0.231X_3 + \mathit{e}}$$

(1) The constant value obtained is 2.447 This means that if the variables X1, X2, and X3 are worth 0, then the Y variable has a value of 2,447.

(2) The road X1 variable has a regression coefficient value in a positive direction, which is 0.344 and has a significance value of 0.041. This illustrates that if there is an increase in the X1 variable by 1 unit, then the Y variable or economic growth will increase by 0.344 with the assumption that other independent variables are considered constant.

(3) Variable X2, namely clean water, has a regression coefficient value in a positive direction, which is 0.698 and has a significance value of 0.005. This illustrates that if there is an increase in the X2 variable by 1 unit, then the Y variable or economic growth will increase by 0.698 with the assumption that other independent variables are considered constant.

(4) The X3 variable, namely electricity, has a regression coefficient value in a positive direction, which is 0.231 and has a significance value of 0.036. This illustrates that if there is an increase in the X3 variable by 1 unit, then the Y variable or economic growth will increase by 0.231 with the assumption that other independent variables are considered constant.

(5) The partial statistical test (T-Test) shows that

(a) variable X1 has a value of T Count of 3,806 Greater than the value of T Table 1,770 and has a significance probability of 0.041. Since the significance probability is less than 0.05, it can be concluded that the X1 variable has an effect on the Y variable. This means that H1 is Accepted

(b) Variable X2 has a value of T Count of 4,254 Greater than T table value 1,770 and has a significance probability of 0.005. Because the significance probability is less than 0.05, it can be concluded that the X2 variable has an effect on the Y variable. This means that H2 is Accepted.

(c) Variable X3 has a value of T Count of 2.320 Greater than the value of T Table 1.770 and has a significance probability of 0.036. Since the significance probability is smaller than 0.05, it can be concluded that the X3 variable has an effect on the Y variable. This means that H3 is$_{accepted}$.

DISCUSSION

The results of this study indicate that Road Infrastructure has an effect on economic growth. This means that road infrastructure has a positive influence on increasing economic growth, meaning that the variable with a positive value means that the higher the value of the road variable, it will be followed by an increase in the rate of economic growth. So if the road is increased by 1 km/capita, it will increase the income per capita of the people of Ternate City.

The Effect of Clean Water Infrastructure on Economic Growth. Clean water shows an effect on economic growth. Water infrastructure has a positive influence on increasing economic growth in the district of Ternate City, meaning that the variable with a positive value means that the higher the value of the water variable, the higher the level of economic growth will be.

The Effect of Electricity Infrastructure on Economic Growth. The Electricity infrastructure has a positive influence on increasing economic growth in the City of Ternate, meaning that a variable with a positive value means that the higher the value of the Electricity variable, it will be followed by an increase in the rate of economic growth.

CONCLUSIONS AND RECOMMENDATIONS

This study examines the effect of road infrastructure, water infrastructure and electricity infrastructure on economic growth. Based on the results of data analysis and hypothesis testing in the previous chapter, the researchers drew conclusions including:

(1) Road infrastructure has a positive effect on economic growth in Ternate City.

(2) Clean water infrastructure has a positive effect on economic growth in Ternate City.

(3) Electricity infrastructure has a positive effect on economic growth in Ternate City.

In closing, this research provides suggestions,

(1) Road infrastructure, clean water and electricity as an important part in encouraging the economic growth performance of a region or region, the government should pay special attention to the development of road infrastructure, clean water and electricity, so that the quality and quantity can provide benefits to the people in the City Ternate so that later it will provide welfare for the community and can increase economic growth.

(2) For future researchers, it is hoped that the results of this study can be used as reference material in conducting similar research. In addition, research should be conducted to identify other factors in terms of infrastructure that have an impact on the economic growth of a region.

(3) The government needs to pay attention to infrastructure development, especially infrastructure that makes a major contribution to economic growth such as road infrastructure, clean water and electricity, based on the empirical above it can be seen that the variables of roads, clean water and electricity can affect economic growth, so it is recommended the government pays more attention to road capacity, clean water and electricity. So that it can encourage the economy because roads, clean water, and electricity are vital infrastructures in encouraging economic growth.

(4) The government must maintain the existing pattern of economic growth, because the pattern of economic growth in Ternate City is in accordance with the development objectives, namely increasing economic growth accompanied by equitable distribution of infrastructure and development outcomes in order to improve the welfare of the community.

REFERENCES

Amalia, Lia. 2007. *Development Economics*. Yogyakarta: Arafah Science Graha.

Sri Yara 2017. Analysis of the Effect of Road Infrastructure, Electricity and Education on Economic Growth in Medan City. *Essay*. University of North Sumatra Medan.

Arindini, Umi Safitri (2018). The Effect of Road, Electricity and Pma Infrastructure Development on the GRDP of the Special Region of Yogyakarta for the 2004-2016 Period.

Atmaja, Harry Kurniadi. 2015. The Effect of Infrastructure Improvement on Economic Growth in Sibolga City. *Essay*. University of North Sumatra, Medan.

Central Bureau of Statistics (BPS): 2017 gross regional domestic product of Ternate City according to business field 2013-2017.

Bappenas (2003). Indonesia's Infrastructure; before, after and after the crisis. Jakarta: State Ministry of National Development Planning/Development Planning Agency (Bappenas).

Ghozali, Imam. 2016. *Application of Multivariate Analysis with IBM SPSS Program 23.* Semarang: Diponegoro University Publishing Agency.

Hapsari, Tunjung. 2011. The Effect of Infrastructure on Economic Growth in Indonesia. *Essay*. Syarif Hidayatullah State Islamic University, Jakarta.

Kodoatie, RJ2003. *Infrastructure Management and Engineering*. Student Library. Yogyakarta.

Mankiw, N. Gregory, David Romer, David N. Weil., (1992). "A Contribution To The Empirics of Economic Growth," The Quarterly Journal of Economics, Vol.107, No.2.

Mankiw, N. Gregory. 2000. *Macroeconomic Theory*. Fourth Edition. Erlangga Publisher, Jakarta.

Mankiw, N. Gregory. 2003. *Macroeconomic Theory of Translation*. Jakarta: PT. Main Library Gramedia.

Mankiw, N. Gregory. 2004. Macroeconomics. Jakarta: Erlangga.

Mankiw, Gregory. 2006. *Macroeconomics Sixth Edition*. Jakarta : Erlangga.

Mankiw, N. Gregory. 2007. Macroeconomics: Edition 6. Pent. Fitria Liza and Imam Norman. Jakarta: Publisher Erlangga.

Maqin, Abdul. 2011. *The Effect of Infrastructure on Economic Growth in West Java.*West Java: Journal of Economics, Pasundan University.

Presidential Regulation Number 42 of 2005 concerning the Committee for the Acceleration of Infrastructure Provision.

Sjafrizal. 2012. *Regional and Urban Economics*. Jakarta: Rajawali Press.

Smith, Adam. 2010. *Economic growth theory of planning and development*. PT. The king of the library graphindo. Jakarta.
Sollow, Robert M. *1987*. Growt Theory: An Exposition, Oxford University Press.
Solow, Robert M. and TW Swan. 1956. *A Contribution to the Theory of Economic Growth*.Journal of Economics. MIT.
Subandi. 2014. Economic Development. Bandung : Alphabeta.
Sugiyono. 2007. *Quantitative Research Methods*. Bandung: Alphabeta.
Sugiyono. 2008. *Business Research Methodology*. Bandung: Alfabeta.
Suryawardana Edy, and Tryani Dian. (2015). Analysis of the Impact of Road Infrastructure Development on the Growth of People's Economic Business in the City of Semarang. *Journal.* Volume 17 Number 2, June 2015 : 82 – 103.
Sugiyono. 2009. Business Research Methods (Quantitative, Qualitative and R&D Approaches). Alphabet. Bandung.
Tamara, Trini Indrati. 2011. The Effect of Telecommunication Infrastructure on Economic Growth in Indonesia in 2000 – 2009. *Thesis.* University of Indonesia, Jakarta.
Tandung, Laen Sugi Rante. 2015. Analysis of the Effect of Road Infrastructure on Economic Growth in Mamasa Regency. *Essay.* Hasanuddin University, Makassar.
Tarigan, Robinson (2009). Regional Economics: Theory and Application, Revised Edition. Jakarta: Earth Literacy.
Tarigan, Robinson. 2012. *Regional Economic Theory and Applications*. Jakarta : PT. Bumi Aksara.
dance. 2014. *Ekonomi Regional Teori dan Aplikasi Edisi Revisi.* Jakarta: PT. Bumi Aksara.
The World Bank. 1994. *World Development Report: Infrastructure For Development*. Oxford University Press, New York.
Todaro, MP (2000). Economic Development. Harlow: Addison-Wesley.
Todaro, MP Dan SC Smith. 2006. *Pembangunan Ekonomi*. Edisi Kesembilan. Erlangga, Jakarta.
Todaro, Michael. P. Dan Stephen C. Smith 2004, *Pembangunan Ekonomi di dunia ke tiga, edisi ke delapan*. Jakarta: Erlangga.
Tri Wahyuni, Krismanti, 2009. *Analisis Pengaruh Infrastruktur Ekonomi dan Sosial Terhadap Produktivitas Ekonomi di Indonesia.* Skripsi Fakultas Ekonomi dan Manajemen. Institut Pertanian Bogor. Bogor.
Undang-undang No 32 tahun 2004 tentang pemerintah daerah menetapkan bahwa pemerintah daerah memiliki hak, wewenang, dan kewajiban dalam mengatur dan mengurus sendiri urusan pemerintah dan kepentingan masyarakat setempat.
Undang - Undang No.38 Tahun 2004 tentang Jalan.
Undang – undang Dasar pasal 33 1945 ayat 3.
Winanda, Ade Ayu. 2016. Analisis Pengaruh Infrastruktur Terhadap Pertumbuhan Ekonomi Di Kota Bandar Lampung. *Essay.* Universitas Lampung, Bandar Lampung.87/jisd.v2i4.16152.