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ANALYSIS OF THE INFLUENCE OF POPULATION NUMBER AND EMPLOYMENT OPPORTUNITIES ON POVERTY IN THE CITY OF PALANGKARAYA

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Abstract
This research aims to analyze the influence of population and employment opportunities that occurred during 2010-2024 on poverty in Palangkaraya City. This research is descriptive quantitative and uses multiple regression analysis tools. The results of multiple regression analysis using SPSS 25 show that population and employment opportunities do not have a significant influence on poverty in the city of Palangkaraya. Meanwhile, based on classical assumptions, it is explained that the regression model in this study meets the normality assumption, multicollinearity occurs in the regression model in this study, in this regression model symptoms of heteroscedasticity occur, it is concluded that there are no symptoms of autocorrelation.

Keywords: Population, Job opportunities, Poverty

Abstrak
Penelitian ini bertujuan untuk menganalisis pengaruh jumlah penduduk dan kesempatan kerja yang terjadi selama tahun 2010-2024 terhadap kemiskinan di Kota Palangkaraya. Penelitian ini bersifat deskritif kuantitatif dan menggunakan alat analisis regresi berganda. Adapun hasil dari analisis regresi berganda menggunakan SPSS 25 menunjukkan bahwa jumlah penduduk dan kesempatan kerja tidak mempunyai pengaruh yang signifikan terhadap kemiskinan di kota Palangkaraya. Sedangkan berdasarkan asumsi klasik dijelaskan bahwa model regresi pada penelitian ini memenuhi asumsi normalitas, terjadi multikolinearitas pada model regresi pada penelitian ini, dalam model regresi ini terjadi gejala heteroskedastistas, disimpulkan bahwa tidak terjadi gejala autokorelasi.

Kata kunci*: Jumlah penduduk, Kesempatan kerja, Kemiskinan*

Introduction

The population increase in Palangkaraya City from year to year shows an increase and this certainly affects the supply of labor. Whether the supply of labor is extensive or limited is certainly related to abundant human resources. Based on Table below, it can be seen that from 2010 to 2024 the population has increased as follows:

YEAR	POPULATION (THOUSAND/PERSON)	EMPLOYMENT OPPORTUNITIES	POVERTY (%)
2010	220962	91274	11,74
2011	224663	106107	10.57
2012	229599	88049	10.12
2013	244500	102110	9.71
2014	252105	106911	9.86
2015	259865	119589	10.25

2016	267757	120070	9.96
2017	275667	120070	9.91
2018	283612	125292	9.78
2019	266020	131226	9.69
2020	293500	131095	10.23
2021	298954	135271	10.86
2022	305907	139785	10.62
2023	306104	140989	10.31
2024	310182	146158	10.70

Table. Population, Employment Opportunities, and Poverty In Palangkaraya City During 2010-2024

Source: palangkakota.bps.go.id 2013-2022,2023, Palangkaraya dalam angka 2012-2013, id.wikipedia.org 2024, kalteng.bps.go.id 2024.

Apart from that, the job opportunities available in Palangkaraya City have also increased from 2010 to 2024 as seen in the table above. Where in 2010 the available job opportunities amounted to 91,274 thousand/person and in 2016 it amounted to 120,070 thousand/person and in 2024 it amounted to 146,158 thousand/person. Meanwhile, the poverty rate in Palangkaraya City as seen in the table above from 2010 to 2024 has fluctuated and tends to decline. It can be seen that in 2010 the poverty rate was 11.74% in 2017 it was 9.91% and in 2024 it was 10.70%. This explains that the population in Palangkaraya City during the 2010-2024 period experienced an increasing increase in prosperity. Population is an important indicator in a country. Classical economists including Adam Smith stated that population is an input of production factors to increase household production. The more people there are the more labor that can be used. Uncontrolled population growth can lead to many problems such as environmental damage and social problems including underdevelopment, hunger, and poverty (Kousar & Shabbir, 2021; Kundu & Sarangi, 2007). One of the impacts that will occur if there is a population explosion is high competition in the world of work. If the problem is a lack of job opportunities in an area while the population is experiencing an extreme increase, this will lead to a lot of unemployment and increasing poverty (Baloch et al., 2020).

The ever-increasing population has led to an increase in living needs such as food, water, housing, and others. The significant increase in population also creates an imbalance between the availability of natural resources and human needs. This has an impact on reducing the quality of human life (Ebbinghaus, 2021; Laborde et al., 2021). If viewed from a social aspect, high population density must also provide sufficient employment opportunities so that problems such as unemployment, poverty, inequality, and social estrangement do not occur (Mhlanga, 2021). Economic growth is an indicator that can be a measure of the success of economic development. The most important goal in economic development lies in reducing the level of poverty, therefore if economic growth is high, generally the higher welfare is obtained by the community (Omar & Inaba,

2020). The factors that drive the rise and fall of economic growth in an area or region are land and natural resources, the number and quality of the population and workforce in the area, the value of capital goods, and the state of technological level as well as the social system and community attitudes (Purnomo & Istiqomah, 2019). Based on the review above and the phenomenon of population, employment opportunities that occur in Palangkaraya City, and the poverty rate which has fluctuated over the last few years, the author is interested in researching the influence of population and employment opportunities that occurred during 2010-2024 on poverty in Palangkaraya City.

Research Methods

This research was carried out in Palangkaraya City with the title Analysis of the Influence of Population and Employment Opportunities on Poverty. The data used in this research is data from 2010-2024. The type of data used in this research is secondary data obtained from various sources related to the research, namely in the form of literature, documentation, or materials in the form of numbers. Secondary data is a source of research data obtained indirectly through intermediary media. This means that this data is not collected directly by researchers but rather from pre-existing sources, such as documents, literature, or data collected by other parties. Examples of secondary data sources include books, academic journals, articles, financial reports, and census data collected by the government (Jaya, 2020). Secondary data can be obtained from various sources, including documents, government publications, industry analyses by the media, websites, and the internet. Researchers use documentation methods to collect secondary data, such as searching and analyzing documents relevant to the research topic. Apart from that, researchers can also use books, journals, and internet references to obtain the necessary secondary data (Djaali, 2021).

The analytical tool used in this research is a multiple regression analysis tool with the equation:

Y = a+b1X1+b2X2 + Ui

Where:

Y = Poverty

X1 = Number of residents

X2 = Job opportunities

Ui = Nuisance variable

The tests used in this research are :

1. Test classical assumptions
2. Statistical tests (T-Test, F Test, and Determination Test (R2)

Data Analysis Techniques:

Classic Assumption Test

a. Normality Test

The normality test aims to test whether the regression model under study has a normal data

distribution or distribution of statistical data on the diagonal axis of the normal distribution graph. (Jaya, 2020).

b. Multicollinearity Test

The multicollinearity test aims to test whether the regression model finds a correlation between the independent variables. A good regression model should not correlate between independent variables (Jaya, 2020). To detect the presence or absence of multicollinearity in the regression model is as follows:

a. The R2 value produced by an empirical regression model estimation is very high, but individually many of the independent variables do not significantly influence the dependent variable.
b. Analyze the correlation matrix of independent variables. If there is a fairly high correlation (generally above 0.90), then this is an indication of multicollinearity.
c. A low tolerance value is the same as a high VIF value (because VIF = 1/Tolerance). The cutoff value is commonly used to indicate a tolerance value ≥ 0.10 or the same as a VIF value ≤ 10, meaning that all variables that will be included in the regression model calculation must have a tolerance above 0.10. If the tolerance value is less than 0.10 then multicollinearity occurs. Meanwhile, the results of calculating the VIF value, if the VIF value is less than 10, then there is no multicollinearity problem (Djaali, 2021).

c. Heteroscedasticity Test

The heteroscedasticity test is a residual variance that is not the same for each variable in the regression model. A good regression model is if there are no symptoms of heteroscedasticity.

Guidelines for making Heteroscedasticity Test Decisions with the Glejser Test:

a. If the significance value (Sig) is > 0.05 then there are no symptoms of heteroscedasticity
b. If the significance value (Sig) < 0.05 then symptoms of heteroscedasticity occur (Yusuf, 2024)

d. Autocorrelation Test

The autocorrelation test aims to test whether, in the regression model, there is a correlation between confounding errors in period t and confounding errors in period t-1 (previously). If a correlation occurs, it is called an autocorrelation problem (Jaya, 2020). Autocorrelation arises because successive observations over time are related to each other. This problem arises because the residuals are not independent from one observation to another. A good regression model is a regression that is free from autocorrelation. The autocorrelation test can be carried out in several ways, namely the Durbin Watson test (DW Test), Langrage Multiplier test (LM Test), Q statistics test, and run test (Djaali, 2021).

Hypothesis Testing

a. Coefficient of Determination Test (R^2)

The coefficient of determination test (R2) essentially measures how far the model can explain variations in the dependent variable. The coefficient of determination value is between 0 and 1. The coefficient of multiple determination (R2) according to Kuncoro (2019: 240), is to measure the model's ability to explain the influence of the independent variable on the dependent variable. The coefficient of determination shows the contribution of the independent variable to the related variable, which is described as a percentage. The larger the percentage, it can be said that the independent variable (X) has a large contribution or role in influencing the dependent variable, while the remaining percentage is another independent variable that is not included in this research. On the other hand, the smaller the percentage, the smaller the contribution or role of the independent variable (X) in influencing the dependent variable (Sehangunaung, 2023).

b. F Test

The F test aims to determine whether or not there is a simulant influence (together) given by the independent variable (X) on the dependent variable.

Decision-making guidelines:

a. If the sig value <0.05, the table then H0 is accepted

b. If the sig value is > 0.05, then H0 is rejected, H1 is accepted (Jaya, 2020).

c. Autocorrelation Test

The t-test in research is used to test whether each independent variable individually or partially affects the dependent variable (Romadhoni et al., 2022). With the hypothetical decision-making criteria if the value of tcount> ttable. On the other hand, if the tcount < ttable, then each independent variable individually does not affect the dependent variable (Saputra & Rizal, 2019) (Fairuzsyifa, 2024).

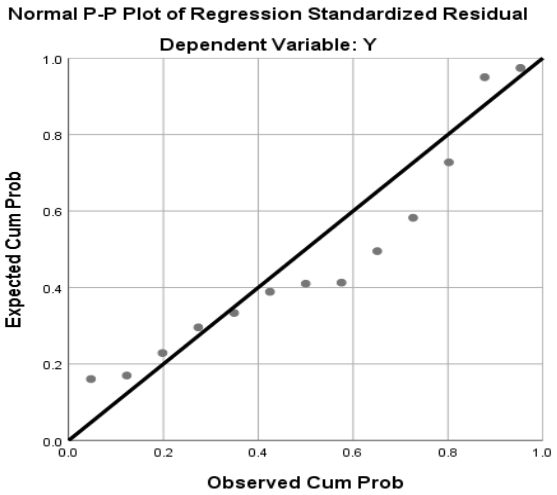
Results and Discussion

Classic Assumption Test

Normality Test

Below are the results of the normality test using SPSS 25 on the influence of population and employment opportunities on poverty in Palangkaraya City as follows :

Figure. Normality Test



Source: Processed data, 2025

Based on the processed data in Figure 1 above, the figure above shows that the points follow and approach the diagonal line, so it can be concluded that the regression model in this study meets the normality assumption.

Multicollinearity Test

The Multicollinearity Test in this research is a technique for detecting whether there is multicollinearity in the regression model which can be seen from the tolerance and Variance inflation factor (VIF) values, tolerance values above 0.1 and VIF values below 10 indicate that there is no multicollinearity among the independent variables. (Masiaga, 2022).

The results of the analysis test using SPSS 25 can be seen in the table below:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.290	6.373		.673	.516		
	X1	-1.098E-6	.000	-.335	-.327	.751	.045	22.190
	X2	1.112E-6	.000	1.049	1.023	.331	.045	22.190

a. Dependent Variable: Y

Table. Multicollinearity Test
Source: processed data, 2025

Based on the processed data in table 2 above, judging from the Coefficients results in the Collinearity Statistics section, it shows that the tolerance value for population (X1) and employment opportunities (X2) is 0.045, which is smaller than 0.10, while the VIF value for the variables population (X1) and employment opportunities (X2) is 22,190, which is greater than 10.00. So it can be concluded from the output results above that multicollinearity has occurred in the regression model in this study.

Heteroscedasticity Test

One way to detect heteroscedasticity problems is with the Glejser Test. The Glejser test is carried out by regressing the independent variable with the absolute value of the residual. If the significance value between the independent variable and the absolute residual is more than 0.05 then there is no heteroscedasticity problem.

According to Ghozali (2018), the heteroscedasticity test with the Glejser test uses the following basis for decision-making:

a. If the Sig value of the independent variable is <0.05= heteroscedasticity occurs.
b. If the Sig value of the independent variable is > 0.05= heteroscedasticity does not occur (Galih, 2022).

Below is Table 3 of the results of the Heteroscedasticity Test on the influence of population (X1) and employment opportunities (X2) on poverty in Palangkaraya City :

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.290	6.373		.673	.516		
	X1	-1.098E-6	.000	-.335	-.327	.751	.045	22.190
	X2	1.112E-6	.000	1.049	1.023	.331	.045	22.190

a. Dependent Variable: Y

Table. Heteroscedasticity Test
Source: processed data, 2025

Based on the table above, the X1 test results show that the Sig value is 0.05 < 0.751 and the X2 test results show the Sig value is 0.05 < 0.331, so it can be concluded that heteroscedasticity symptoms occur in the regression model.

Autocorrelation Test

Autocorrelation is a condition where there is a correlation between sample members ordered based on units of time. This autocorrelation test can be carried out using the Runs Test, where the basis for decision-making is:

a. If the value Asym. Sig (2-tailed) is smaller than 0.05, then there are symptoms of autocorrelation.
b. b. If the value Asym. Sig (2-tailed) is greater than 0.05, so there are no symptoms of autocorrelation (Galih, 2022).

Runs Test

	Unstandardized Residual
Test Value[a]	-.05109
Cases < Test Value	7
Cases >= Test Value	8
Total Cases	15
Number of Runs	5
Z	-1.597
Asymp. Sig. (2-tailed)	.110

a. Median

Table. Autocorrelation Test
Source: processed data, 2025

Based on the Runs Test results in table 4 above, the Asymp value is known. The Sig (2-tailed) of 0.110 is greater than 0.05, so it can be concluded that there are no symptoms of autocorrelation.

Hypothesis Testing

Coefficient of Determination Test (R^2)

The coefficient of determination (R^2) is used to determine how far the research model can explain variations in the dependent variable. The results of the coefficient of determination test (R2) can be seen in table 5 below:

R	*R SQUARE*	*ADJUSTED R SQUARE*	*STD. ERROR OF THE ESTIMATE*
0.065[A]	0.004	- 0.162	0.60396

Table. Coefficient of Determination Results (R^2)
Source: processed data, 2025

Based on the results of the Coefficient of Determination (R2) test, the adjusted R square is 0.004. This means that the influence of population and employment opportunities on poverty in Palangkaraya City is 0.004 or 0.4% while the remaining 99.6% is explained by other factors outside the research model.

F Test

The F test is used to show that all independent variables included in the model influence the dependent variable. The results of the F statistical test can be seen in the table below:

F	SIG.
0,026	0.975[b]

Table. F Statistical Test Results
Source: processed data, 2025

Based on the F test results above, seen from Table, it shows that the calculated F is 0.026 with a significance level of 0.975. This explains that the sig level is 0.975 > 0.05 or simultaneously the independent variable does not influence the dependent variable.

T Test

Below are the results of the T-test on the influence of population and employment opportunities on poverty in the city of Palangkaraya as follows:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.650	1.663		6.403	.000
	x1	-2.988E-6	.000	-.162	-.183	.858
	x2	3.577E-6	.000	.115	.130	.899

a. Dependent Variable: y

Table. T-test
Source: processed data, 2025

Based on the results of the T-test calculation above from Table, the calculated t value for So it can be concluded that population and employment opportunities do not have a significant influence on poverty in the city of Palangkaraya.

Conclusion

Based on the result and discussion can explain that the analysis of the regression model examining the influence of population and employment opportunities on poverty in Palangkaraya City indicates that the model meets the assumption of normality. However, the results suggest the presence of multicollinearity and heteroscedasticity, while no symptoms of autocorrelation are detected. The Coefficient of Determination (R^2) test reveals that population and employment opportunities contribute only 0.4% to variations in poverty, with the remaining 99.6% influenced by other factors outside the research model. Furthermore, the F test results show a significance level of 0.975, which is greater than 0.05, indicating that the independent variables do not simultaneously influence the dependent variable. Similarly, the T-test results confirm that population size and employment opportunities do not have a significant effect on poverty in Palangkaraya City.

These findings suggest that fluctuations in poverty levels are not directly influenced by population growth. Despite an increase in population each year, poverty does not necessarily rise due to other contributing factors, such as balanced economic growth. Meanwhile, the lack of influence of employment opportunities on poverty can be explained by the city's growing economy, which ensures

sufficient regional minimum wages that enable workers to meet their family's living needs. Additionally, adequate education levels and employment opportunities in the informal sector contribute to reducing poverty in Palangkaraya City.

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