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ANALYSIS OF THE INFLUENCE OF HUMAN CAPITAL ON ECONOMIC GROWTH IN REGENCIES/CITIES IN EAST KALIMANTAN PROVINCE

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Abstract

Indonesia is an archipelagic country comprising several large islands, including Kalimantan. Kalimantan is one of the largest islands in the world and has been selected as the location for the development of the new capital city, Ibu Kota Nusantara (IKN). The goal of economic development is to achieve higher and more equitable economic growth across all regions. However, economic growth disparities remain in East Kalimantan, particularly among the 10 regencies/cities within the province. Key determinants of economic growth include life expectancy, average years of schooling, and the open unemployment rate. This research is classified as associative research using a quantitative approach. The data source consists of secondary data obtained from the Central Statistics Agency (BPS) to construct panel data for regencies/cities in East Kalimantan Province from 2018 to 2023, covering 10 regencies/cities. The study comprises 60 observations in total. Data analysis techniques include descriptive statistical analysis and panel data regression analysis. The results of the study show: Life expectancy, education level, and open unemployment rate have a significant simultaneous effect on economic growth in regencies/cities in East Kalimantan Province. Life expectancy has a positive but not significant effect on economic growth, education level has a positive and significant effect on economic growth, and the open unemployment rate has a negative and significant effect on economic growth. The government can prioritize improving the qualifications of the workforce through training and education programs aligned with local labor market needs, strengthening economic infrastructure to enhance regional accessibility and competitiveness, optimizing the utilization of local resources in regencies/cities across East Kalimantan, and allocating resources and attention to economic factors that directly influence economic growth in the region.

Keywords: Life Expectancy, Education**,** Open Unemployment Rate, Economic Growth

INTRODUCTION

Indonesia is an archipelago consisting of several large islands, one of which is the island of Kalimantan. Kalimantan is one of the largest islands in the world, even now the island of Kalimantan has been chosen as the location for the Development of the Indonesian Capital City (IKN). The selection of the island of Kalimantan was certainly not arbitrary, but there were various considerations made by the government, one of which was considering economic growth and economic equality in the region.(Syarawie, 2023). The following is the economic growth of the Provinces in Kalimantan.

Table 1. Economic Growth in Kalimantan Province 2018-2023 (%)

No.	Province

		2018	2019	2020	2021	2022	2023
1	Central Kalimantan	5.61	6.12	-1.41	3.59	6.45	4.14
2	North Kalimantan	5.36	6.89	-1.09	3.99	5.32	4.94
3	South Kalimantan	5.08	4.09	-1.82	3.48	5.11	4.57
4	West Kalimantan	5.07	5.09	-1.82	4.80	5.07	4.90
5	East Kalimantan	2.64	4.70	-2.90	2.55	4.48	6.22

Source: Central Statistics Agency of the Republic of Indonesia, 2024

Based on Table 1, it can be seen that the rate of economic growth in the Kalimantan region in 2023 is quite good, more than 4 percent. East Kalimantan Province is the province with the highest economic growth rate compared to other provinces in Kalimantan. This condition is an interesting phenomenon, because East Kalimantan in 2022 is the province with the lowest growth rate, even in 2020 it was -2.90 percent. However, in the midst of the growth of the economy on the island of Kalimantan, especially those that have been selected as the IKN Development, East Kalimantan Province shows the highest economic growth rate. Of course, the rate of economic growth in East Kalimantan is also inseparable from the economic growth in each district/city, which is listed in Table 2.

Table1.Economic Growth of Districts/Cities in East Kalimantan Province 2018-2023 (%)

No.	Regency/City	2018	2019	2020	2021	2022	2023
1.	Passer	3.68	3.99	-2.86	5.39	1.09	1.38
2.	West Kutai	5.04	5.69	2.87	4.19	4.77	5.83
3.	Kutai Kartanegara	2.12	3.92	-4.21	2.68	3.71	5.13
4.	East Kutai	2.34	8.17	-3.08	-0.89	5.58	7.71
5.	Berau	2.05	5.63	-3.32	5.36	3.95	5.44
6.	North Paser Penjam	1.24	2.61	-2.34	-1.69	14.49	29.58
7.	Upper Mahakam	5.04	5.52	-0.22	1.27	0.91	2.80
8.	Balikpapan	4.95	4.99	-0.91	4.56	4.94	6.49
9.	Samarinda	4.94	5.00	-0.99	2.78	6.58	8.62
10.	Bontang	-4.01	-2.15	-2.74	1.60	2.46	4.16
East Kalimantan Province		2.64	4.70	-2.90	2.55	4.48	6.22

Source: BPS East Kalimantan Province, 2024

Table 2 shows economic growth in various districts/cities in East Kalimantan Province. East Kalimantan Province has ten districts/cities, one of which is Penajam Paser Utara Regency, which is seen to have the highest economic growth in 2023 with an economic growth rate of 29.58 percent. In addition, Paser Regency is the region with the lowest economic growth rate in 2023 with a value of 1.38 percent. When compared to the economic growth rate in East Kalimantan Province in 2023 of 6.22 percent, it can be seen that there are still many districts/cities whose economic growth rates are below East Kalimantan Province. Based on this, it can be seen that there is an imbalance in the rate of economic growth in districts/cities with provinces which is interesting to study further.

The increase in economic growth in a region is influenced by several factors. One factor that is believed to have a significant influence on economic growth is life

expectancy.(Akasumbawa et al., 2021). Life expectancy reflects the health and well-being of a country's population, which in turn can affect the country's productivity and economic potential.(Kustanto, 2020). This is supported by research conducted byJojo et al., (2019)which shows that life expectancy has a positive effect on economic growth. Similar research results were presented byArifin (2018)which shows that life expectancy has a positive effect on economic growth based on gender. The following is data on life expectancy in East Kalimantan Province.

Table2.Life Expectancy Rate of Regency/City of East Kalimantan Province 2018-2023 (Year)

No.	Regency/City	2018	2019	2020	2021	2022	2023
1.	Passer	72.28	72.52	72.62	72.88	72.89	72.99
2.	West Kutai	72.57	72.79	72.86	73.01	73.01	73.19
3.	Kutai Kartanegara	71.93	72.21	72.34	72.64	72.65	72.75
4.	East Kutai	72.76	73.03	73.16	73.46	73.47	73.57
5.	Berau	71.68	71.94	72.06	72.32	72.32	72.41
6.	North Paser Penjam	71.05	71.03	71.41	71.68	71.71	71.83
7.	Upper Mahakam	71.56	71.09	72.10	72.33	72.35	72.46
8.	Balikpapan	74.18	74.41	74.49	74.76	74.78	74.89
9.	Samarinda	73.93	74.17	74.27	74.54	74.56	74.68
10.	Bontang	73.94	74.18	74.28	74.55	74.57	74.67
East Kalimantan Province		73.96	73.96	74.22	74.33	74.61	74.72

Source: BPS East Kalimantan Province, 2024

Table 3 shows the life expectancy of districts/cities in East Kalimantan Province, from 2019 to 2023, each year always experiencing positive changes with life expectancy always increasing. Life expectancy at birth (AHH) is the average estimate of the number of years a person can live during their life. Calculation of life expectancy through an indirect estimation approach (BPS East Kalimantan, 2023). Based on Table 1.3, it was found that Balikpapan City was the area with the highest AHH in 2023, namely 74.89 years. Penajam Paser Utara Regency was the area with the lowest AHH in 2023, namely 71.83 years. When compared to the AHH of East Kalimantan Province of 74.72 years, it shows that AHH in the district/city area is still a positive number.

Education level is also a key factor in determining a country's economic growth.(Mauludin & Dewi, 2020). Quality education can improve the skills and productivity of the workforce, as well as promote innovation and technological development.(Suripto & Subayil, 2020). Countries with high levels of education among their population tend to have a competitive advantage in the global market and are able to create sustainable economies. Higher education usually leads to increased individual productivity.(Atmaja et al., 2020). With better skills and knowledge, the workforce can work more efficiently and produce more output in the same time.(Suripto & Subayil, 2020). Good education prepares

individuals to understand and develop new technologies, which in turn can increase economic efficiency and productivity.(Istianto et al., 2021). The level of education in a region can be measured by looking at the average length of schooling proxied in years. The following is data on the average length of schooling for districts/cities in East Kalimantan Province from 2019 to 2023.

Table 3. Average Length of Schooling in Districts/Cities of East Kalimantan Province 2018-2023 (Year)

No.	Regency/City	2018	2019	2020	2021	2022	2023
1.	Passer	8.22	8.54	8.55	8.79	8.08	8.91
2.	West Kutai	8.07	8.34	8.47	8.07	8.78	8.85
3.	Kutai Kartanegara	8.84	9.01	9.22	9.23	9.24	9.26
4.	East Kutai	9.08	9.18	9.19	9.43	9.44	9.45
5.	Berau	8.98	9.25	9.52	9.53	9.54	9.56
6.	North Paser Penjam	8.03	8.16	8.28	8.36	8.51	8.53
7.	Upper Mahakam	7.69	7.89	7.97	8.18	8.36	8.49
8.	Balikpapan	10.65	10.67	10.68	10.91	10.92	10.93
9.	Samarinda	10.46	10.47	10.48	10.49	10.71	10.93
10.	Bontang	10.72	10.73	10.79	10.08	10.81	10.92
East Kalimantan Province		9.48	9.48	9.07	9.77	9.84	9.99

Source: BPS East Kalimantan Province, 2024

Table 4 shows that Balikpapan and Samarinda cities are the areas with the highest average length of schooling in 2023, namely 10.93 years. Mahakam Ulu Regency has the lowest average length of schooling at 8.49 years. When compared to the average length of schooling in East Kalimantan Province, which is 9.99 years. The average length of schooling in districts/cities in East Kalimantan Province shows an increase, indicating that people are thinking about how important education is. RLS can be used to determine the level of education of people in an area. Education Level according toSuripto & Subayil (2020)is an activity of a person in developing his/her abilities, attitudes, and forms of behavior, both for future life through certain organizations or unorganized. High levels of education have a very positive impact on the economic growth of a country. This is supported by research conductedYanti et al., (2020)which shows that education is an important aspect for economic growth. Other research results conducted byThe Saviour (2021)shows that the level of education can positively affect economic growth. The unemployment rate is also one of the factors that affect economic growth.

On the other hand, the open unemployment rate can also have a negative impact on economic growth.(Safitri, 2021). High unemployment can result in a decrease in people's purchasing power, a decrease in production, and an increase in the fiscal burden on the government. This is shown in the data in Table 5.

Table 5. Open Unemployment Rate (TPT) by Regency/City in East Kalimantan Province 2018-2023 (%)

No.	Regency/City	2018	2019	2020	2021	2022	2023
1.	Passer	4.84	4.38	4.52	5.70	4.88	4.72
2.	West Kutai	4.67	4.89	4.97	5.14	4.62	6.16
3.	Kutai Kartanegara	5.74	5.79	5.70	5.66	4.14	4.05
4.	East Kutai	5.85	5.45	5.45	5.35	6.48	5.93
5.	Berau	5.45	4.95	5.08	5.82	5.02	4.95
6.	North Paser Penjam	5.45	6.03	6.22	2.95	2.12	2.07
7.	Upper Mahakam	4.03	3.56	3.49	3.14	2.44	2.09
8.	Balikpapan	9.27	7.15	9.00	8.94	6.90	6.09
9.	Samarinda	5.99	5.73	8.26	8.16	6.78	5.92
10.	Bontang	9.41	9.02	9.46	9.92	7.81	7.74
	East Kalimantan Province	6.41	6.41	5.94	6.87	6.83	5.31

Source: BPS East Kalimantan Province, 2024

Table 5 shows that the open unemployment rate in Bontang Regency is the highest with a value of 7.74. Penajam Paser Utara Regency has the lowest open unemployment rate with a value of 2.07. East Kalimantan Province has an open unemployment rate of 5.31. This condition indicates that the number of unemployed in East Kalimantan is still quite high, so it is indicated to affect economic growth. This is in accordance with research conducted bySuripto & Subayil (2020)shows that the open unemployment rate has a negative effect on economic growth. The same thing was conveyed byYanti et al., (2020)that a high level of open unemployment can reduce economic growth in a region.

From the background explained, it can be concluded that the districts/cities in East Kalimantan Province are one of the provinces with the lowest economic growth in other provinces in Indonesia. According to Adam Smith's classical theory, economic growth is partly caused by the influence of human capital. The influence of human capital on economic growth consists of life expectancy, average length of schooling and open unemployment rate.(Han & Lee, 2019). Therefore, further research is conducted to discuss how big the role of human capital is on the economic growth of districts/cities in East Kalimantan Province. Based on the background of understanding above, the title raised in this study is the analysis of the influence of human capital on the economic growth of districts/cities in East Kalimantan Province.

RESEARCH METHODS

This research is an associative research with a quantitative approach. Data analysis is quantitative or statistical in nature with the aim of testing the established hypothesis.(Sugiyono, 2016:2). Quantitative research is associative (relationship) in nature, namely research in the form of analysis of correlation or relationships or in the analysis of the influence of one variable on another variable.(Sugiyono, 2016:8). The form of the research is associative because the purpose of this study is to determine the relationship

between three variables, namely life expectancy, education level and workforce to the economic growth of districts/cities in East Kalimantan Province. The data source for this study uses secondary data obtained from the Central Statistics Agency to obtain panel data for districts/cities in East Kalimantan Province between 2018 - 2023 covering 10 districts/cities in East Kalimantan Province. The number of observations in this study is 60 observations. The data analysis technique uses descriptive statistical analysis and panel data regression analysis.

This study selected the location of the district/city in East Kalimantan Province. This research location was chosen because there is still a disparity in the rate of economic growth of districts/cities (Paser, West Kutai, Kutai Kartanegara, East Kutai, Berau, North Penajam Paser, Mahakam Ulu, Balikpapan, Samarinda, Bontang) in East Kalimantan Province from 2018-2023 which shows fluctuations and there is a phenomenon that there are still many districts/cities whose economic growth rates are below East Kalimantan Province.

The data collection method in this study is using non-participant observation techniques. Non-participant observation is a data collection technique with observation or observation where the researcher is not directly involved and only as an independent observer (Sugiyono, 2016: 145). This data collection is carried out by observing, recording, and studying descriptions from books, scientific works such as theses, articles, and observing life expectancy, education level and open unemployment rate through data obtained from (BPS) districts/cities in East Kalimantan Province to measure the variables used as samples in the study, to be analyzed in panel form.

RESULTS AND DISCUSSION

Statistical Results

Panel Data Selection

Table 6. Multiple Regression Results of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province in 2018-2023 with the Common Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.027203	8.124678	-0.249512	0.8039
X1 (Life Expectancy)	0.005235	0.125531	0.041705	0.9669
X2 (Level of education)	0.566893	0.149810	3.784072	0.0004
X3 (Open Unemployment Rate)	-0.448731	0.052712	-8.512840	0.0000
R-squared	0.573	F-statistic		25.118
Adjusted R squared	0.550	Prob(F-statistic)		0.0000

Source: Appendix 3

Furthermore, the same model was also tried to be analyzed using the Fixed effect model. Based on the results of the data processing in Appendix 3, it is presented again in Table 7.

Based on Table 7, it can be seen that statistically the model with fixed effects of the influence of life expectancy, education level, and open unemployment rate on economic growth in districts/cities in East Kalimantan province is valid with an F-statistic of 5.4223 with a probability of 0.0000. The variables of life expectancy and education level do not have a significant effect on the level of economic growth with a probability greater than 0.05.

Table 7. Multiple Regression Results of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province in 2018-2023 with a Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.36162	33.15592	0.583957	0.5620
X1 (Life Expectancy)	-0.346861	0.530152	-0.654267	0.5161
X2 (Level of education)	1.035151	0.715889	1.445966	0.1548
X3 (Open Unemployment Rate)	-0.458717	0.078033	-5.878492	0.0000
R-squared	0.580	F-statistic		5.4223
Adjusted R-squared	0.473	Prob (F-statistic)		0.0000

Source: Appendix 3

Furthermore, the same model was also tried to be analyzed using the Random effect model. Based on the results of the data processing in Appendix 3, it is presented again in Table 8.

Table 8. Multiple Regression Results of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province in 2018-2023 with the Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.027203	8.796076	-0.230467	0.8186
X1 (Life Expectancy)	0.005235	0.135904	0.038522	0.9694
X2 (Level of education)	0.566893	0.162190	3.495237	0.0009
X3 (Open Unemployment Rate)	-0.448731	0.057068	-7.863062	0.0000
R-squared	0.573	F-statistic		25.118
Adjusted R-squared	0.550	Prob(F-statistic		0.0000

Source: Appendix 3

Based on Table 8, it can be seen that statistically the model with Random effect of the influence of life expectancy, education level, and open unemployment rate on economic growth in the districts/cities of East Kalimantan province is valid with F statistic of 25.118 with probability 0.0000. The life expectancy variable does not have a significant effect on the level of economic growth with a probability greater than 0.05.

To select the best model, the model is then tested for validity using the Chow test. If the test produces a Fixed effect model that is better than the common effect model, then it will be continued with the Hausman test. Conversely, if the common effect model is better than the Fixed effect, then the test ends with the Chow test only. The Chow test is useful for comparing Common Effect (OLS) with Fixed Effect. The null hypothesis used is that Common Effect is better than Fixed Effect. If H0 is rejected, we continue the test to the Hausman Test.

Ho : The best model of Common Effect

H1 : Best Fixed Effect Model

Based on the processed data results in Appendix 3 regarding the Chow test, the summary is presented in Table 9.

Table 9. Chow Model Fixed Effect Test of the Influence of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province in 2018-2023

Effects Test	Statistics	df	Prob.
Cross-section F	0.086377	(9.47)	0.9997
Cross-section Chi-square	0.984302	9	0.9995

Source: Appendix 3

Based on Table 9, it can be seen that the Cross section Chi square prob row. The p-value obtained = 0.9995 (greater than 5 percent). So the decision taken is to accept H0 or the Common Effect model is better than the Fixed Effect. Therefore, the best model using complete independent variables is decided to use the Common Effect, so for the next analysis only focuses on the results of the Common Effect model. The results of the Common Effect model are presented again in Table 10.

Table 10. Multiple Regression Results of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province in 2018-2023 with the Common Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.027203	8.124678	-0.249512	0.8039
X1 (Life Expectancy)	0.005235	0.125531	0.041705	0.9669
X2 (Level of education)	0.566893	0.149810	3.784072	0.0004
X3 (Open Unemployment Rate)	-0.448731	0.052712	-8.512840	0.0000
R-squared	0.573	F-statistic		25.118
Adjusted R squared	0.550	Prob(F-statistic)		0.0000

Source: Appendix 3

Classical Assumption Test Results

1) Normality Test

The probability of the residual distribution of the Regression Model of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in the Regency/City of East Kalimantan Province is 0.891. Therefore, the value is more than 0.05, meaning that the residual model is normally distributed, so that the resulting model is suitable for use in predicting.

2) Multicollinearity Test

Table 11. Tolerance and Variance Inflation Factor

Variables	Tolerance	VIF
X1 (Life Expectancy)	.957	1,045
X2 (Level of education)	.858	1.166
X3 (Open Unemployment Rate)	.894	1.119

Source: Appendix 4

Based on Table 11, it can be seen that the data used in the multicollinearity test in this study are data from independent variables, where none of the variables contain symptoms of multicollinearity. Each variable has a VIF value of less than 10 and a tolerance of more than 0.1, so it can be concluded that there are no symptoms of multicollinearity.

3) Heteroscedasticity Test

Table 12. Results of Glejser Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.542162	3.707407	0.146237	0.8840
X1 (Life Expectancy)	-0.008717	0.030870	-0.282385	0.7781
X2 (Level of education)	0.036985	0.108365	0.341300	0.7334
X3 (Open Unemployment Rate)	-0.042996	0.262914	-0.163535	0.8703
R-squared	0.033647	F-statistic		1.92660
Adjusted R-squared	0.334988	Prob(F-statistic)		0.127244

Source: Appendix 4

Based on Table 12, it can be seen that the calculated F result is 1.926 and with a probability of 0.127 means that the model does not contain symptoms of heteroscedasticity. This is also reinforced by the partial test of independent variables which all show no significant effect on the absolute residual, with a probability greater than 0.05.

Results of Testing the Effect of Life Expectancy, Education Level, and Open Unemployment Rate Simultaneously on Economic Growth

Table 13. Results of the F Statistical Test of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province, 2018-2023

R-squared	0.573
Adjusted R-squared	0.550
SE of regression	0.469
F-statistic	25.118
Prob(F-statistic)	0.0000

Source: Appendix 3

1) Hypothesis Formulation

Ho : $\beta_1 = \beta 2 = \beta 3 = 0$, meaning that the variables of life expectancy, education level and open unemployment rate simultaneously do not have a significant effect on the economic growth variable of districts/cities in East Kalimantan Province.

H1: at least one of $\beta 1 \neq 0$, meaning that the variables of life expectancy, education level and open unemployment rate simultaneously have a significant effect on the economic growth variable of districts/cities in East Kalimantan Province.

2) Testing Conditions

Using a 95 percent confidence level or a 5 percent error level (α 0.05, comparative free data: k and denominator degree: nk-1, the F table value obtained is 0.05 (k; nk-1), (60 – 3 - 1) = 56 in the F table obtained = 2.77.

3) Testing Criteria

If F-count > 2.77 then Ho is rejected, meaning there is a significant influence.

If F-count < 2.77 then Ho is accepted, meaning the effect is not significant.

4) Acceptance and Rejection of Ho

The results of data processing using the eviws program obtained an Fcount value of 25.118 with a significance of 0.0000. Based on the overall test results obtained Fcount value> Ftable, 25.118> 2.77, with a sig value, 0.0000 <0.05, then Ho is rejected and H1 is accepted.

5) Conclusion

Based on the analysis results, the significance value of the F test is 0.000 <0.05 and the Fcount value> Ftable, 25.118> 2.77. These results mean that life expectancy, education level and open unemployment rate simultaneously have a significant effect on the economic growth variables of districts/cities in East Kalimantan Province.

6) Interpretation of the Coefficient of Determination (R2)

The R-Square result of 0.573 means that 57.3 percent of the variation in economic growth in districts/cities in East Kalimantan Province in 2018-2023 is influenced by variations in life expectancy, education level, and open unemployment rate, while the remaining 42.7 percent is influenced by other variables outside the model.

Test Results of the Influence of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth

Table 14. Partial Test Results (t-Test) of the Effect of Life Expectancy, Education Level, and Open Unemployment Rate on Economic Growth in Districts/Cities in East Kalimantan Province, 2018-2023

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.027203	8.124678	-0.249512	0.8039
X1 (Life Expectancy)	0.005235	0.125531	0.041705	0.9669
X2 (Level of education)	0.566893	0.149810	3.784072	0.0004
X3 (Open Unemployment Rate)	-0.448731	0.052712	-8.512840	0.0000
R-squared	0.573	F-statistic		25.118
Adjusted R squared	0.550	Prob(F-statistic)		0.0000

Source: Appendix 3

Based on Table 14, the partial test (t-test) shows that the life expectancy variable does not have a significant effect on economic growth in the districts/cities of East Kalimantan Province, the education level variable has a positive effect on economic growth in the districts/cities of East Kalimantan Province, while the open unemployment rate variable has a negative and significant effect on economic growth in the districts/cities of East Kalimantan Province.

Testing the Influence of Life Expectancy (X_1) on Economic Growth (Y) in Districts/Cities in East Kalimantan Province

a) Hypothesis Formulation

Ho :$\beta_1 \leq 0$:Life expectancy does not have a positive and significant partial effect on economic growth in districts/cities in East Kalimantan Province.

H2 :$\beta_1 > 0$: life expectancy has an effectpositive and significantpartially on the economic growth of districts/cities in East Kalimantan Province.

b) Testing Conditions

Using a 95 percent confidence level or a 5 percent error level (α = 0.05), and degrees of freedom: nk-1, a two-sided test on the left and right sides obtained a t-table value (0.05; nk-1)= (60 - 3 - 1), then t table = 1.672.

c) Testing Criteria

If t-count <1,672 then Ho is accepted meaning the influence is not significant

If t-count >1,672then Ho is rejected meaning the influence is significant.

d) Comparing t count with t table

The calculated t value > t table (0.0417 < 1.672) then Ho is accepted and H2 is rejected.

e) Conclusion

Based on the analysis results, a significance value of 0.9669 was obtained, more than 0.05 (0.9669 > 0.05), with a regression coefficient value of 0.005 and a calculated t value < t table (0.0417).< 1.672). This result means thatLife expectancy has a positive but not significant effect on economic growth in districts/cities in East Kalimantan Province.

Testing the Influence of Education Level () on Economic Growth (Y) of Districts/Cities in East Kalimantan ProvinceX_2

a) Hypothesis Formulation

H0 :$\beta_2 \leq 0$:The level of education does not have a positive and significant partial effect on the economic growth of districts/cities in East Kalimantan Province..

H3 :$\beta_2 > 0$: level of educationinfluentialpositive and significantpartially on the economic growth of districts/cities in East Kalimantan Province.

b) Testing Conditions

Using a 95 percent confidence level or a 5 percent error level (α = 0.05), and degrees of freedom: nk-1, a two-sided test on the left and right sides obtained a t-table value (0.05; nk-1)= (60 - 3 - 1), then t table = 1.672.

c) Testing Criteria

If t-count <1,672then H0 is accepted meaning the influence is not significant

If t-count >1,672then H0 is rejected meaning the influence is significant.

d) Comparing t count with t table

The calculated t value < t table (3.784 > 1.672) means H0 is rejected and H3 is accepted.

e) Conclusion

Based on the analysis results, a significance value of 0.0004 is obtained, which is smaller than 0.05 (0.0004 < 0.05), with a regression coefficient value of 0.566 and a calculated t value> t table (3.784> 1.672). These results mean that the level of education has a positive and significant partial effect on the economic growth of districts/cities in East Kalimantan Province.

Testing the Influence of Unemployment Rate () on Economic Growth (Y) in Districts/Cities in East Kalimantan ProvinceX_3

a) Hypothesis Formulation

H0 :$\beta_3 \leq 0$:The unemployment rate does not have a negative and significant partial effect on economic growth in districts/cities in East Kalimantan Province..

H4 :$\beta_3 > 0$: unemployment rateinfluentialnegative and significantpartially on the economic growth of districts/cities in East Kalimantan Province.

b) Testing Conditions

Using a 95 percent confidence level or a 5 percent error level (α = 0.05), and degrees of freedom: nk-1, a two-sided test on the left and right sides obtained a t-table value (0.05; nk-1)= (60 - 3 - 1), then t table = 1.672.

c) Testing Criteria

If -t-count <1,672then Ho is accepted meaning the influence is not significant

If -t-count >1,672then Ho is rejected meaning the influence is significant.

d) Comparing t count with t table

The calculated t value > -t table (-8.512 > -1.672) means Ho is rejected and H4 is accepted.

e) Conclusion

Based on the analysis results, a significance value of 0.000 is obtained, less than 0.05 (0.000 <0.05), with a regression coefficient value of -0.448 and a calculated t value> t table (-8.512> -1.672). This result means that the unemployment rate has a negative and significant partial effect on the economic growth of districts/cities in East Kalimantan Province.

Discussion of Results

The Influence of Life Expectancy, Education Level, and Open Unemployment Rate Simultaneously on Economic Growth in Districts/Cities of East Kalimantan Province

Life Expectancy (X1), Education Level (X2) and Open Unemployment Rate (X3) simultaneously have a significant effect on Economic Growth (Y) in districts/cities in East Kalimantan Province. This result means that when Life Expectancy, Education Level, and Open Unemployment Rate simultaneously affect economic growth.

The Partial Influence of Life Expectancy on Economic Growth

The results show that Life Expectancy has no significant effect on Economic Growth in districts/cities in East Kalimantan Province. The Life Expectancy Coefficient is 0.005 and sig value.0.9669means that the Life Expectancy variable has a positive but insignificant effect on the Economic Growth variable in districts/cities in East Kalimantan Province in 2018-2023.

This study is in line with research conducted by Hepi & Zakiah (2018) which states that life expectancy has a positive but insignificant effect on economic growth. This finding is also supported by the fact that the dependency ratio of the population of East Kalimantan Province in 2019 was recorded at 43.81 percent. This means that every 100 people of productive age support around 43.81 people who are not yet productive or are no longer productive. This figure is lower than in 2014, which was 45.76 percent (East Kalimantan Central Statistics Agency, 2023). The higher the dependency ratio, the higher the burden that must be borne by the productive age population. A high dependency ratio can be a factor inhibiting economic growth and development in a region, because some of the income generated by productive groups must be spent to meet the needs of groups that are not yet or are no longer productive.

The results of this study are in accordance with research conducted by Novi Sri Handayani, IKG Bendesa and Ni Nyoman Yuliami (2016) in a journal entitled The Influence of Population Number, Life Expectancy, Average Length of Schooling and PDRB Per Capita on Economic Growth in Bali Province. Where life expectancy does not have a significant

effect on economic growth in Bali Province. Research conducted by Nita Nurwijayati entitled The Influence of Composite Indicators of Human Development on Economic Growth in Districts/Cities in the Province of DIY concluded that Life Expectancy has no effect on Economic Growth. This is because high Life Expectancy but not balanced by increased skills will only be a burden for regional development. In addition, there is a lack of provision of jobs for the elderly who can still work.

The Partial Influence of Education Level on Economic Growth

The results show that the level of education has a positive and significant effect on economic growth in districts/cities in East Kalimantan Province. The coefficient of education level is 0.566. and sig value.0.0004This means that if there is an increase in the level of education by one coefficient, economic growth during 2018-2023 will increase by 0.566. percent assuming other independent variables are constant.

This study is in line with the study by I Kadek Bayu Astawan (2015) entitled Analysis of the Influence of Labor, Education Level, and Investment on Economic Growth in East Java Province in 2009-2012 (Case Study in 38 Regencies/Cities in East Java Province) Based on the results of the estimation of the influence of education level on the rate of economic growth in East Java Province, it is known that the regression coefficient on the education level variable linearly is 3.393 with a significant value of 0.000 (less than 0.05) which means that the education level variable linearly has a significant (real) influence on the economic growth rate variable or means that the regression coefficient with a value of 3.393 explains that if the education level variable is increased by 1 unit, it will increase the economic growth rate by 3.393 units significantly. In this case, education is a very useful investment for economic growth. Therefore, people or individuals who receive higher education tend to earn higher incomes when compared to individuals who do not have higher education. This is because individuals who have higher education are often placed in the formal sector which tends to have more decent wages when compared to workers in the non-formal sector. Improvements in education provide several benefits in accelerating economic growth, namely the management of modern companies that are developed is increasingly efficient, the use of modern technology in economic activities can develop more quickly.

The Influence of Partial Open Unemployment Rate on Economic Growth

The results show that the open unemployment rate has a negative and significant effect on economic growth in districts/cities in East Kalimantan Province. The coefficient of the Open Unemployment Rate is (-0.448)and sig value.0,000This means that if there is an increase in the open unemployment rate of one percent, economic growth during 2018-2023 will decrease by (-0.448) percent assuming other independent variables are constant.

This study is in line with the results of research by Parlin Damanik & Darwin Damanik (2023) entitled The Effect of Open Unemployment Rate and Inflation on Economic Growth in Jambi Province which concluded that the open unemployment rate has a significant negative effect on economic growth in Jambi Province. This shows that the higher the open unemployment rate, the lower economic growth tends to be. This is because

people's purchasing power has decreased due to increasing unemployment and decreasing income generated, which will cause entrepreneurs to be reluctant to invest.

CONCLUSION

Based on the results of the analysis described in the previous chapter, conclusions can be drawn to answer the problem formulation that has been described as follows:

1) Life Expectancy, Education Level, and Open Unemployment Rate simultaneously have a significant effect on Economic Growth of districts/cities in East Kalimantan Province.
2) The level of education has a positive and significant partial effect. The results of this study mean that when the level of education variable increases, there will be an increase in Economic Growth in the districts/cities of East Kalimantan Province. The open unemployment rate has a negative and significant partial effect on economic growth in the districts/cities of East Kalimantan Province. The results of this study mean that when the open unemployment rate variable increases, there will be a decrease in economic growth in the districts/cities of East Kalimantan Province. Life expectancy has a positive but not significant effect on economic growth in districts/cities in East Kalimantan Province.

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