Analysis Of Sectoral Employment Opportunities Elasticity In East Kutai Regency

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A B S T R A C T

This study aims to analyze and determine the effect of employment as well as elasticity on the agricultural, mining, and industrial sectors in East Kutai. The data used are secondary data, namely labor force growth and economic growth (GRDP) in East Kutai from 2016 to 2024. This study uses quantitative analysis techniques. The analytical tools used are the Cobb Douglas function and employment elasticity analysis.The results show that the agricultural and mining sectors do not significantly influence employment opportunities in East Kutai Regency, but the industrial sector does. The results of the study indicate that the employment elasticity of the agricultural, mining, and industrial sectors is greater than 1 (elastic). This indicates that a 1% increase in GRDP growth will result in an increase in the number of workers available for absorption of more than 1%.

Keywords: Economic Growth, Employment Opportunities, Employment Elasticity

Acknowledgment

INTRODUCTION

Discussions on employment always attract attention, given the complexity of the problems that frequently arise. These problems include a limited supply of jobs, inadequate education quality among the workforce, and disparities between the qualifications of job seekers and the requirements of vacancies. Furthermore, according to Hasibuan (1987), Indonesia faces significant challenges in this sector, including limited access to employment, significant labor force growth, low minimum wages and worker productivity, and regional disparities that affect wage scales and labor distribution.

Rapid economic growth alone is not enough to guarantee a country's prosperity. This prosperity must be supported by expanding job opportunities to absorb the new workforce entering the market. Therefore, population growth must be balanced with adequate job availability to optimally absorb the entire workforce. Employment opportunities are a key

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indicator of economic development. High employment opportunities indicate low unemployment rates, which directly impact public welfare. The availability of adequate employment is crucial because it can accelerate the process of economic development, especially when accompanied by high productivity. By definition, employment opportunities can be defined as the opportunity to obtain employment in various economic sectors.

In general, employment opportunities and economic growth rates have a close reciprocal relationship. This relationship can be measured using the concept of Employment Elasticity, as explained by Zainab (1984). Employment Elasticity measures the extent to which new jobs are generated by a change in economic growth. In other words, this elasticity value indicates the sensitivity of job creation to economic growth rates.

East Kutai Regency is a Regency with economic strength derived from the primary sector derived from the wealth of Natural Resources in which there are 2 business fields namely agriculture, plantations, forestry and the mining and quarrying sector, but the largest economic sector is still contributed by the mining and quarrying sector where during the 3-year period from 2022-2024 it always experiences an increase, from data from the East Kutai Central Statistics Agency in figures, the growth rate of gross regional domestic product in 2022 was 5.40%, in 2023 it experienced a significant increase of 8.00% and in 2024 it was 10.12%. The second economic sector is the agriculture, forestry and fisheries sector where according to data from the Central Statistics Agency for the last 3 years from 2022-2024 it experienced a decline, in 2022 it was 2.53%, in 2023 it was 2.37% and in 2024 it was 1.11%. The third economic sector that contributes to East Kutai's GRDP is the Manufacturing Industry Sector, from data from the Central Statistics Agency it can be seen that over the last 3 years 2022-2024, there has been fluctuation where in 2022 it was 5.31%, in 2023 it experienced a decrease of 1.87% and in 2024 it experienced a significant increase of 21.77%

RESEARCH METHODS

In analyzing the data, regression was used using the Cob Douglas Function and Employment Opportunity Elasticity (EKK). This test examines the magnitude of the influence and elasticity shown by the Agricultural Sector, the Mining Sector, and the Industrial Sector on Employment Opportunities.

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RESULT

Classical Assumption Test

Normality Test

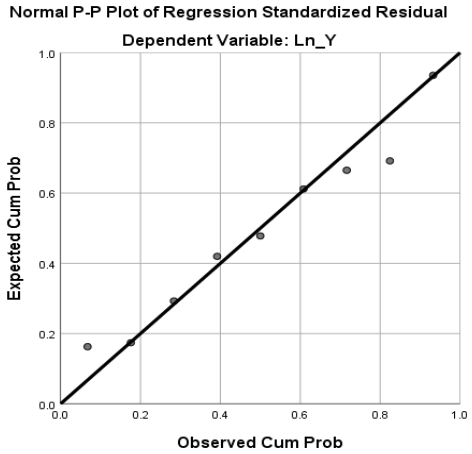

Figure 1. Normality Test

source: processed data (2025)

Multicollinearity Test

Table 1. Multicollinearity Test

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Ln_X1	.189	5.281
	Ln_X2	.291	3.437
	Ln_X3	.241	4.158

a. Dependent Variable: Ln_Y

source: processed data (2025)

Heteroscedasticity Test

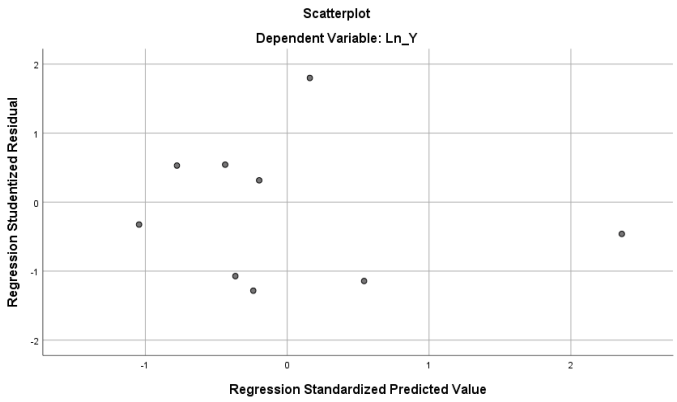

Figure 2. Heteroscedasticity Test

source: processed data (2025)

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Autocorrelation Test

Table 2. Autocorrelation Test

Model Summary[b]

Model	Durbin-Watson
1	2.300

a. Predictors: (Constant), Ln_X3, Ln_X2, Ln_X1

b. Dependent Variable: Ln_Y

source: processed data (2025)

Hypothesis Testing

Model Feasibility Test (R Test) and Model Feasibility Test (R2)

Table 3. Model Feasibility Test (R Test) and Model Feasibility Test (R2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887[a]	.787	.660	.06763

a. Predictors: (Constant), Ln_X3, Ln_X2, Ln_X1

b. Dependent Variable: Ln_Y

source: processed data (2025)

Model Feasibility Test (F Test)

Table 4. Model Feasibility Test (F Test)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.085	3	.028	6.166	.039[b]
	Residual	.023	5	.005		
	Total	.107	8			

a. Dependent Variable: Ln_Y

b. Predictors: (Constant), Ln_X3, Ln_X2, Ln_X1

source: processed data (2025)

Partial Test (t-Test)

Table 5. Partial Test (t-Test)

Coefficients[a]

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.

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		B	Std. Error	Beta		
1	(Constant)	-8.014	12.895		-.622	.561
	Ln_X1	-.228	.860	-.125	-.265	.802
	Ln_X2	-.120	.138	-.333	-.872	.423
	Ln_X3	1.272	.438	1.222	2.904	.034

a. Dependent Variable: Ln_Y

source: processed data (2025)

Analysis of Employment Opportunity Elasticity

Elasticity of Job Opportunities in the Agricultural Sector in East Kutai

Table 6. Elasticity of Employment Opportunities in the Agricultural Sector in East Kutai 2016-2024

Tahun	Sektor pertanian,			
	Pertumbuhan Ekonomi (%)	Pertumbuhan Kesempatan Kerja (%)	Elastisitas	Kategori Elastisitas
2016	0,00	-0,20	Tidak Terdefinisi	Elastis Sempurna
2017	0,05	0,25	5	Elastis
2018	0,06	-0.00	- 0	Inelastis
2019	0,05	-0,11	- 2,2	Elastis
2020	-0,01	-0,03	3	Elastis
2021	-0,01	0,04	-4	Elastis
2022	0,03	-0,01	0,33	Inelastis
2023	0,02	0,10	5	Elastis
2024	0,01	0,08	8	Elastis

source: processed data (2025)

Elasticity of Job Opportunities in the Mining and Quarrying Sector in East Kutai

Table 7. Elasticity of Job Opportunities in the Mining and Quarrying Sector in East Kutai 2016-2024

Tahun	Sektor Pertambangan dan Penggalian			
	Pertumbuhan Ekonomi (%)	Pertumbuhan Kesempatan Kerja (%)	Elastisitas	Kategori Elastisitas
2016	-1,57	0,37	-0,24	Inelastis
2017	0,03	-0,39	- 13	Elastis
2018	0,02	0,15	7,5	Elastis
2019	0,09	0,10	1,11	Elastis
2020	-0,03	0,06	-2	Elastis
2021	-0,01	0,06	-6	Elastis
2022	0,05	-0,18	-3,6	Elastis
2023	0,08	0,11	1,38	Elastis
2024	0,10	0,20	2	Elastis

source: processed data (2025)

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Elasticity of Employment Opportunities in the Manufacturing Industry Sector in East Kutai

Table 8 Elasticity of Employment Opportunities in the Manufacturing Industry Sector in East Kutai 2016-2024

Tahun	Sektor Industri Pengolahan			
	Pertumbuhan Ekonomi (%)	Pertumbuhan Kesempatan Kerja (%)	Elastisitas	Kategori Elastisitas
2016	0,07	-0,26	-3,71	Elastis
2017	0,05	1,60	32	Elastis
2018	0,06	0,25	4,17	Elastis
2019	0,06	-0,30	-5	Elastis
2020	-0,03	-0,06	2	Elastis
2021	-0,02	1,17	-58,5	Elastis
2022	0,05	0,72	14,4	Elastis
2023	0,02	0,11	5,5	Elastis
2024	0,21	0,21	1	Uniter

source: processed data (2025)

DISCUSSION.

The Agricultural Sector on Employment Opportunities

Based on multiple linear regression analysis, the t-test value was obtained at 0.802. This result indicates that the agricultural sector (variable X) partially does not have a significant influence on employment opportunities (variable Y). This means that the agricultural sector does not have a significant influence on employment opportunities in East Kutai Regency in 2016-2024. While the agricultural sector experienced an increase in sector income, it was not followed by an increase in employment opportunities in the agricultural sector. In other words, although the agricultural sector is growing, the number of workers absorbed has not increased significantly, even though this sector is known to be labor-intensive.

The Mining and Quarrying Sector on Employment Opportunities.

Based on multiple linear regression analysis, the t-test value was 0.423. This result indicates that the mining sector (variable X) partially has no significant effect on employment opportunities (variable Y). This means that the mining sector does not significantly influence employment opportunities in East Kutai Regency from 2016 to 2024. Therefore, while the mining sector experienced an increase in sector revenue, this was not followed by an increase in employment opportunities in the mining sector.

The Processing Industry Sector on Employment Opportunities

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Based on multiple linear regression analysis, the t-test value was 0.034. This result indicates that the industrial sector (variable X) partially has a significant influence on employment opportunities (variable Y). This means that the industrial sector has a significant positive influence on employment opportunities in East Kutai Regency from 2016 to 2024. Therefore, when the industrial sector experiences an increase in sector income, it will be followed by an increase in employment opportunities in the industrial sector.

Elasticity of Employment Opportunities in the Agricultural Sector

Based on the research results, it shows that the elasticity of employment opportunities in the agricultural sector in East Kutai from 2016-2024 is more in the elastic category (E> 1), which means that the greater the change in GRDP growth, the employment opportunities in East Kutai will increase by more than 1%. Only in 2018 and 2022 it is in the Inelastic category (E <1), which means that the greater the change in GRDP growth, the employment opportunities in East Kutai will increase by less than 1%.

Elasticity of Employment Opportunities in the Mining and Quarrying Sector

Based on the research results, it shows that the elasticity of employment opportunities in the mining and quarrying sector in East Kutai from 2016-2024 is more in the elastic category (E > 1), which means that the greater the change in growth, the greater the...

Elasticity of Employment Opportunities in the Manufacturing Industry Sector

Based on the research results, it shows that the elasticity of employment opportunities in the processing industry sector in East Kutai from 2016-2024 is mostly included in the elastic category (E> 1), which means that the greater the change in GRDP growth, the employment opportunities in East Kutai will increase by more than 1%, but in 2024 the value of the elasticity of employment opportunities in the processing industry sector is 1 where E = 1 and is included in the unitary category, which means that the greater the change in GRDP growth, the employ-yment opportunities in East Kutai will be comparable to 1%, namely 1%.

CONCLUSIONS

Based on the analysis and discussion, the following conclusions can be drawn the agricultural sector did not significantly influence employment opportunities in East Kutai Regency from 2016 to 2024. The mining sector did not significantly influence employment opportunities in East Kutai Regency from 2016 to 2024. The industrial sector significantly

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influenced employment opportunities in East Kutai Regency from 2016 to 2024. The elasticity of employment opportunities in the agricultural sector in East Kutai from 2016 to 2024 was predominantly elastic (E > 1). The elasticity of employment opportunities in the mining and quarrying sector in East Kutai from 2016 to 2024 was predominantly elastic (E > 1). The elasticity of employment opportunities in the manufacturing industry sector in East Kutai from 2016 to 2024 was predominantly elastic (E > 1).

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