International Journal of Business and Applied Economics (IJBAE)
Vol. 4, No. 4, 2025: 1595-1604

Analysis of the Influence of Life Expectancy, Average Length of Schooling, Per Capita Expenditure, and Population Size on Economic Growth in Kediri City

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A R T I C L E I N F O

Keywords: Economic Growth, Life Expectancy, Average Years of Schooling, Per Capita Expenditure, Total Population

Received : 1, June
Revised : 19, June
Accepted: 21, July

A B S T R A C T

This study aims to analyze the effect of life expectancy, average years of schooling, per capita expenditure, and population on economic growth in Kediri City in the period 2013-2024. The method used is multiple linear regression with SPSS software version 27. The results show that life expectancy has a negative effect on economic growth, while the average length of schooling has a positive effect. Per capita expenditure also has a negative effect, and population is not significant. These findings are important for the formulation of regional development policies.

DOI: https://doi.org/10.55927/ijbae.v4i4.165
ISSN-E: 2963-6124
https://nblformosapublisher.org/index.php/ijbae

INTRODUCTION

Development is a process of change aimed at improving various aspects of society through systematic planning. Economic growth is an important indicator in assessing the success of development because it reflects an increase in national production capacity that impacts the welfare of society. This growth can be measured through an increase in Gross Domestic Product (GDP) or Gross Regional Domestic Product (GRDP).

Economic growth is not only related to quantitative figures, but also to improvements in the quality of life. Investments, both from the private sector and the government, have been proven to contribute significantly to economic growth in various provinces in Indonesia. Education and health also have a positive correlation, where higher levels of education and better health services increase labor productivity and quality of life.

A case study of Kediri City shows that despite improvements in various socio-economic indicators such as life expectancy (from 73.51 years in 2013 to 75.94 years in 2024), average years of schooling (increasing to 10.92 years), and per capita expenditure (reaching 13,670 rupiah in 2024), the city's economic growth remains low, at only 1.92% in 2023. This indicates that improvements in quality of life have not been fully matched by strong economic growth.

MSMEs play a central role in driving local economic growth. In addition to providing employment, MSMEs also help reduce poverty. Inclusive economic activities, such as MSMEs, contribute significantly to increasing people's income and strengthening the local economic structure.

The population of Kediri City, which increased from 276,619 people in 2013 to 301,326 people in 2024, is also an important factor in regional economic dynamics. A large population has the potential to increase demand for goods and services and provide an abundant labor force. However, it can also put pressure on infrastructure and public services if not matched by adequate economic growth. In terms of policy, there is a need for a development strategy that is more focused on utilizing local potential, increasing the productivity of the industrial and trade sectors, and improving the quality of human resources. This approach is important so that economic growth is not only sectoral, but also comprehensive and inclusive.

The research used in the document shows that indicators such as HDI, per capita expenditure and life expectancy are closely related to economic growth. However, the disparities that still exist in some regions indicate the need for development policies that are tailored to local conditions so that the economic growth achieved actually has an impact on improving community welfare in an equitable and sustainable manner.

LITERATURE REVIEW

Economic Growth

According to the perspective of (Sadono Sukirno, 2015), economic growth refers to a situation where there is an increase in the production of goods and services when compared to the previous year. Economic growth is one of the main aspects in assessing the progress of an economy. Economic growth reflects the extent to which economic activity succeeds in creating additional income and

improving people's welfare over a period of time. In general, economic activity involves the use of various factors of production to produce output. Economic growth also provides reciprocal economic benefits to the owners of production factors. It is expected that economic growth is able to increase the income of the community as the owner of the production factor.

Life Expectancy

Life Expectancy (AHH) is an indicator used to assess the extent to which the government has succeeded in improving people's welfare, especially in the aspect of health. The Human Capital Theory proposed by Todaro explains that individuals make investments to increase future consumption, especially in the fields of education and health. Higher education is believed to influence the way individuals think in making better decisions, while health is directly related to productivity. Thus, an overall improvement in people's health will have a positive impact on productivity, which in turn can increase people's income. Therefore, high AHH has the potential to drive economic growth (Todaro & S.C Smith, 2015).

H1: It is suspected that there is a positive effect of life expectancy on economic growth in Kediri City.

Average Years Of Schooling

Education has a very important role in shaping the future of a nation. When the national education system is not well developed, the impact will be widely felt on the progress of the country. According to Todaro, education functions fundamentally in adopting technology and contributes to the development of human quality, which in turn promotes economic growth and sustainable development. The concept of Human Capital in this theory emphasizes the importance of investment in education, which will produce graduates with high levels of productivity. The higher a person's level of education, the greater the possibility of increasing his or her productivity. This increase in productivity will have a positive impact on increasing income, both at the individual and national levels.

H2: It is suspected that there is a positive effect of average years of schooling on economic growth in Kediri City.

Per Capita Expenditure

Real adjusted per capita expenditure is an indicator that reflects the potential purchasing power of the community. The level of expenditure in a region can be analyzed through the economic capabilities of the population in it. Per capita expenditure describes the total expenditure of each individual in a household over a period of one month or one year. Based on the Harrod-Domar theory, an increase in public expenditure is one of the key factors in increasing production and public income (Sadono Sukirno, 2015). Therefore, an increase in production capacity will not have a significant effect on the growth of national income and the economy if it is not matched by an increase in public expenditure.

Thus, economic growth will be easier to achieve when there is an increase in public expenditure.
H3: It is suspected that there is a positive effect of per capita expenditure on economic growth in Kediri City.

Total Population

Sukirno in his theory of economic growth states that population growth can have a dual impact, namely positive and negative, on the development of a region or country. An increase in population can serve as a driver of development progress by increasing the availability of labor, which in turn can expand markets. This shows that population has the potential to contribute positively to economic growth, provided that individuals in the population have sufficient productive capabilities in creating and producing goods (Didu & Fauzi, 2016).

H4: It is suspected that there is a positive effect of population on economic growth in Kediri City

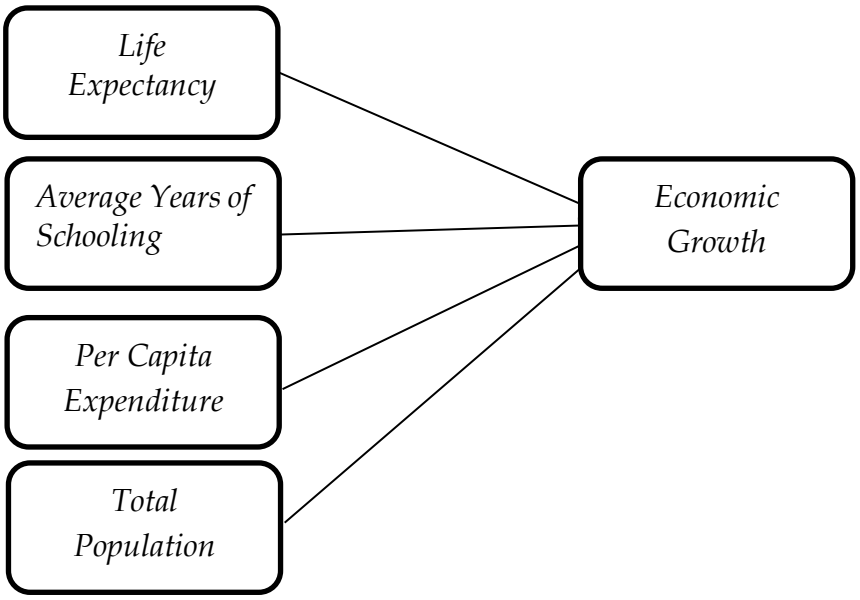

Figure 1. Conceptual Framework

METHODOLOGY

This research approach uses quantitative with secondary data from the Central Bureau of Statistics (BPS) of Kediri City and East Java Province. The purpose is to analyze the effect of Life Expectancy, Average Years of Schooling, Per Capita Expenditure, and Total Population on Economic Growth in Kediri City. This research was conducted in Kediri City for 12 years from 2013 to 2024. the analysis method used is multiple linear regression analysis with the help of SPSS software.

RESEARCH RESULT

Normality Test

Table 1. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		12
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.85504083
Most Extreme Differences	Absolute	.123
	Positive	.123
	Negative	-.078
Test Statistic		.123
Asymp, Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal		
b. Calculated from data		
c. Lilliefors Significance Correction		
d. This is a lower bound of the true significance		

Source: Data processed

Based on the table presented, the outcomes of the One-Sample Kolmogorov-Smirnov test demonstrate that the Asymp.Sig. (2-tailed) values for each variable are greater than the threshold of 0.05, in accordance with the predetermined significance level. This result suggests that the dataset employed in the research exhibits a distribution pattern that aligns with the characteristics of a normal distribution.

Multikolinieritas Test

Table 2. Multikolinieritas Test

	Tolerence	VIF
AHH	.343	2.917
Average Years Of Schooling	.136	7.346
Percapita expendicture	.192	5.200
Total population	.756	1.324

Source: Data processed

Referring to Table 4.2, the results of the multicollinearity test reveal that all independent variables possess Variance Inflation Factor (VIF) values below the critical threshold of 10. It is known that AHH is 2,917, Average years of schooling is 7,346, Percapita expendicture is 5,200, and Total population is 1,324. Because all VIF values < 10 and tolerance values > 0.01, it can be concluded that there is no multicollinearity problem in the regression model used in this study.

Heteroscedasticity Test

Table 3. Glejser Test Results

	Sig
AHH	0,166
Average Years Of Schooling	0,453
Percapita expendicture	0,736
Total population	0,372

Source: Data processed

Based on the Glejser test results presented in Table 4.3, all independent variables exhibit significance values (Sig.) greater than 0.05. This implies the absence of a systematic association between the independent variables and the absolute residual values. Consequently, these findings indicate that the applied regression model is free from heteroscedasticity issues.

Autocorrelation Test

Table 4. Runs Test Results

Runs Test	
	Unresd
Nilai Sig	0,762

Source: Data processed

Referring to Table 4.4, the test results show an Asymp. Sig. (2-tailed) value of 0.762. This value serves to assess whether the residuals in the regression model are distributed randomly or follow a specific pattern. In the run test, an Asymp. Sig. (2-tailed) greater than the 0.05 significance level indicates that the residuals are randomly distributed. Given that the value of 0.762 exceeds 0.05, it can be inferred that the residuals in this study are random in nature. Thus, the regression model does not exhibit autocorrelation issues, and the assumption of residual independence is considered to be satisfied.

Multiple Linear Regression Test

Table 5. Multiple Linier Regression Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std,Error	Beta		
(Constant)	225.423	30.285		7.443	.000

X1	-4.399	.496	-1.468	-8.864	.000
X2	14.297	2.160	1.740	6.620	.000
X3	-.002	.001	-.734	-3.321	.013
X4	-3.530E-5	.000	-.096	-.861	.418

Source: Data processed

The results of the multiple linear regression equation are as follows:
Y = 225.423 - 4.399X1 + 14.297X2 - 0.002X3 - 3.530X4 + e
From the multiple linear regression equation above, it can be explained with the following explanation:
βα = Constant value of 225.423 which means that if all independent variables are considered constant, then Economic Growth will be 225.423.
β_1 = -4.399 which means that Life Expectancy has a negative and significant effect on economic growth. If the Life Expectancy Rate increases by 1 percent, then Economic Growth will decrease by 4.399 percent.
β_2 = +14.297 which means that the Average Years of Schooling has a positive and significant effect on Economic Growth. If the Open Unemployment Rate increases by 1 percent, then Economic Growth will increase by 14.297
β_3 = -0.002 which means that Per Capita Expenditure has a negative effect on Economic Growth. If the increase in per capita income is 1 percent, then economic growth will decrease by 0.002 percent
β_4 = -3.530 which means that population has a negative effect on economic growth. If the increase in population is 1 percent, then economic growth will decrease by 3.530 percent.

DISCUSSION

The Effect of Life Expectancy on Economic Growth

From the test results that have been carried out, it can be seen that the life expectancy variable partially has a significant negative effect on economic growth in Kediri City from 2013 to 2024. This shows that a high life expectancy rate that is not accompanied by an increase in population skills can actually be a burden for regional development. Based on the research results, life expectancy has a regression coefficient value of 0.000 (0.000 > 0.05).
This is exacerbated by the lack of availability of employment opportunities for the elderly who actually still have the potential to work. Increasing age is not always directly proportional to an increase in life expectancy. This is because with age, individual productivity tends to decline, one of which is caused by the decline in cognitive ability to think optimally. The findings of this study are consistent with those of Siska Utari Swastika and Zainal Arifin, who found that life expectancy has a negative and significant impact on economic growth in DKI Jakarta from 2016 to 2022. (Utari Swastika & Arifin, 2023)

The Effect of Average Years of Schooling on Economic Growth

Based on the results of the analysis, it is evident that the variable representing average years of schooling has a partially positive and statistically significant influence on economic growth in Kediri City during the period 2013 to 2024. This outcome suggests that an increase in the average duration of formal education contributes to enhancing labor productivity and capacity. The regression analysis indicates that the average years of schooling variable holds a significance value of 0.000, which is below the 0.05 threshold, thereby confirming its substantial effect. Higher levels of education are instrumental in strengthening individuals' capacity to adopt and utilize technological advancements, ultimately supporting the improvement of human capital quality and promoting both economic growth and sustainable development. These findings are in line with the research conducted by Siska Utari Swastika and Zainal Arifin, who concluded that life expectancy had a negative and significant effect on economic growth in DKI Jakarta during the 2016–2022 period (Utari Swastika & Arifin, 2023).

The Effect of Per Capita Expenditure on Economic Growth

The test results indicate that the per capita expenditure variable exerts a partially negative and statistically significant influence on economic growth in Kediri City during the 2013–2024 period. This condition reflects a decline in household income levels and disparities in income distribution, which are key factors contributing to reduced purchasing power for essential needs. A decrease in income limits the community's ability to meet basic necessities. The inequality in income distribution is attributed to several contributing factors, including rapid population growth, inflation that is not balanced by an increase in the supply of goods and services, and uneven regional development.

The Effect of Total Population on Economic Growth

From the test results that have been carried out, it is revealed that the population variable partially has no effect on the economic growth of Kediri City in 2013 to 2024. This condition is caused by population growth that is not accompanied by an increase in labor productivity. In Kediri City, the imbalance between population growth and productivity can be explained by two main factors, namely the low level of public education and the high unemployment rate. These two aspects contribute significantly to the low quality and productive capacity of the available labor force. This finding is in line with the results of research conducted by Ryantama Suryana, which states that population has no effect on the economic growth of West Java Province for the period 2012-2022 (Ryantama Suryama, 2024).

CONCLUSIONS AND RECOMMENDATIONS

Data management in this test is carried out using a multiple linear regression method approach aimed at knowing the effect of Life Expectancy, Average Years of Schooling, Per Capita Income Expenditure, and Total Population on Poverty Level in Kediri City during the period 2014-2024. Based on the analysis and results of data testing above, it can be concluded as follows:

1) Life Expectancy has a significant negative effect on the poverty rate. This shows that the higher the life expectancy, the lower the economic growth in Kediri City. This is due to the lack of availability of employment for the elderly who actually still have the potential to work.
2) Average Years of Schooling has a significant positive effect on the poverty rate. This shows that the higher the average years of schooling, the higher the economic growth in Kota Kediri. This statement states that a long education successfully increases economic growth.
3) Per capita expenditure has a significant negative effect on the poverty rate. This shows that the higher the per capita expenditure, the lower the economic growth in Kota Kediri. The relationship explains that an increase in people's economic capabilities contributes less to economic growth.
4) Population has no effect on the poverty rate. This shows that an increase in population does not affect economic growth. This can occur because the increase in population is not matched by the availability of adequate employment opportunities.

Recommendations

1. Based on the research results, the Government of Kediri City is advised to focus on improving the quality of life of the community. The quality of life of the elderly needs to be improved with health services and social security. Access and quality of education should be improved, and financial literacy improved. Development should focus on the quality of human resources and employment.
2. For future researchers who are interested in researching similar topics, it is recommended to consider the use of other more diverse variables and adjust them to the actual conditions in Kediri City, so that the research results obtained are more representative and relevant to the ongoing situation.

ADVANCED RESEARCH

This study provides a foundation for advanced research exploring the complex interplay between socio-economic indicators and poverty dynamics in Kediri City. Future research could adopt a longitudinal and spatial econometric approach to investigate how changes in infrastructure development, digital economy adoption, labor market shifts, and demographic transitions—particularly aging populations—interact with education and health investments to influence poverty alleviation. Additionally, incorporating qualitative data or using mixed-methods analysis could uncover latent socio-cultural factors influencing economic behavior and poverty persistence. Expanding the dataset beyond 2024 and including regional comparisons with similar cities could further enhance policy relevance and contribute to a more holistic understanding of poverty reduction strategies in the context of local economic resilience and inclusive development.

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