ABSTRACT

This study aims to analyze the effects of investment, education, labor force, and energy consumption on economic growth in Central Java Province during 2021–2024, both partially and simultaneously. This study employs a quantitative approach with an explanatory research design. The data used are secondary data obtained from the Central Bureau of Statistics (BPS) of Central Java Province. The population and unit of analysis comprise all 35 regencies and cities in Central Java Province, consisting of 29 regencies and 6 cities, observed over four years, resulting in 140 balanced panel observations. The variables analyzed include economic growth as the dependent variable and investment, education, labor force, and energy consumption as independent variables. Data were analyzed using panel data regression with EViews, while model selection was conducted through the Chow, Hausman, and Lagrange Multiplier tests. Hypothesis testing was performed using the t-test and F-test at a 5% significance level, while the coefficient of determination was used to assess the explanatory power of the model. The results show that investment has no significant effect on economic growth, with a coefficient of 0.062304 and a probability value of 0.4635. Education has a positive and significant effect on economic growth, with a coefficient of 2.719457 and a probability value of 0.0000. The labor force has a negative but statistically insignificant effect on economic growth, with a coefficient of -0.722275 and a probability value of 0.1081. Energy consumption has a positive and significant effect on economic growth, with a coefficient of 8.415663 and a probability value of 0.0000. Simultaneously, investment, education, labor force, and energy consumption significantly affect economic growth, as indicated by an F-statistic of 84.47134 with a probability value of 0.0000. The model has an R-squared value of 0.714519, indicating that approximately 71.45% of the variation in economic growth can be explained by the four independent variables, while the remaining 28.55% is explained by other factors outside the model.

***Keywords**: Economic Growth, Investment, Education, Labor Force, Energy Consumption, Panel Data*

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