International Conference on Sustainable Economics, Management, and Accounting (ICSEMA 2025)
Proceedings
Vol. 01 No.01 Year 2025, Page 2273-2284

ANALYSIS OF SOCIOECONOMIC FACTORS ON ECONOMIC GROWTH IN CENTRAL JAVA: PANEL DATA 2021-2023

Riska Widiasiska[1]*, Pahrul Fauzi[2], Indrawan Firdauzi[3], Arif Budianto[4]

[1-3] Faculty of Economics and Business, Jenderal Soedirman University, Indonesia
[4] Regional Office of the Directorate General of Treasury, Central Java Province, Indonesia
*Email corresponding author: icsema@unsoed.ac.id

Abstract

Economic growth is one of the key indicators used to measure the development of a country's economy. Various factors can act as drivers or barriers to economic growth, such as the challenges faced in Central Java Province, including a large labor force, lengthy schooling periods, and suboptimal capital expenditure, which have prevented a reduction in poverty levels and, in turn, hindered economic growth. This study is titled "The Influence of Socioeconomic Factors on Economic Growth in Central Java Province: Panel Data 2021-2023." The objective of this study is to analyze the influence of socioeconomic factors on economic growth in Central Java Province during the period 2021-2023. Using panel data from 35 districts/cities, this study examines average years of schooling, labor force, and poverty levels as social factors, and regional capital expenditure as an economic factor. A descriptive quantitative approach with multiple linear regression was used in this study, and the data was analyzed using EViews 12. The results of the study indicate that average years of schooling have a positive and significant effect on economic growth. However, labor force and poverty rate have a negative and significant effect, while regional capital expenditure has a negative and insignificant effect on economic growth in Central Java Province during the period in question. The implications of this study are the importance of sustainable investment in education to improve human resource quality through compulsory education programs, teacher and curriculum improvements, and scholarships, which are key to development. Local governments need to evaluate strategies related to job creation, poverty alleviation, and the effectiveness of local capital expenditure for better labor absorption and positive economic impacts. Additionally, it is important to maintain collaboration between the government and the active role of the community in supporting and implementing education and employment initiatives to achieve inclusive and sustainable economic growth.

Keywords: Economic Growth, Average Years of Schooling, Labor Force, Poverty Rate, and Regional Capital Expenditure

INTRODUCTION

Economic activity in a country is an important parameter for assessing economic growth. Economic growth is measured in percentage terms and aims to illustrate whether a country's economic dynamics are experiencing growth (positive) or contraction (negative). In this context, economic development encompasses various aspects, one of which is economic growth, which plays a crucial role in the national development process to maximize societal prosperity.

According to the official report from the Indonesian Central Statistics Agency (Badan Pusat Statistik, 2025) Indonesia experienced economic recovery, reaching 5.31% in 2022. However, over time, the economic growth rate declined to 5.05% in 2023. Meanwhile, the island of Java also serves as the economic hub of Indonesia, contributing to the national GDP. This is evidenced by the achievement of a value of 5.02% in 2022, indicating a positive trend, which then declined to 4.96% in 2023.

The pressure of COVID-19 in 2020 showed interesting dynamics regarding economic performance. Based on information (Badan Pusat Statistik, 2025), Central Java ranked third with fairly good economic growth in Java. This illustrates a fairly good recovery, although there are

dynamics that need to be analyzed further regarding the influence of socio-economic factors that caused a decline in the economic development of Java.

Although Central Java has great potential for economic development, there are still several challenges to overcome. Low human resource productivity, particularly in the education sector, has led to a shortage of labor, resulting in high unemployment rates that hinder economic growth. This is further compounded by the still-high poverty rate. Additionally, it is noted that the provincial government's capital expenditure in Central Java is relatively high compared to other regions on Java Island and has not been fully optimized to enhance economic performance. Therefore, the factors mentioned above are the primary causes of the economic decline.

The allocation of the budget for regional capital expenditure is vital for economic growth, as these funds are allocated for infrastructure development or physical facility improvements. The aim is to enhance connectivity, productivity, and community welfare, which will ultimately result in an increase in the Regional Domestic Product (RDP). According to information from (DJPK, 2023), Central Java Province ranks third in terms of regional capital expenditure, with an amount of Rp12,464.46 billion in 2023, following East Java and West Java regions. Unlike other regions that experienced an increase, Central Java showed a declining trend in 2023. This situation highlights the government's efforts to improve capital expenditure efficiency to drive development and enhance public services. However, regional differences indicate variations in geographical area, population size, and development priorities.

In 2023, there was an improvement in the average length of schooling in Central Java Province. However, the achievement has not yet reached the national average of 8.5 years. This situation is significant because the low average length of schooling is a barrier to human resource development. Furthermore, education is closely linked to labor quality, yet the labor force in Central Java remains limited. This is evident in the number of workers and their roles, which have not been fully optimized to drive economic growth in the region. Despite a decrease in recent years, particularly in 2022, there are only approximately 19,565,248 active workers in Central Java. Compared to other regions, the labor force in Central Java remains relatively low. Therefore, in the case of Central Java Province, the number of workers can be a determining factor in the pace of economic growth.

In addition, Central Java still faces challenges regarding its high poverty rate, which reached 10.77% in 2023. The high number of poor people can reduce purchasing power, which in turn can affect domestic demand and the ability to invest in various sectors. In 2021, the poverty rate was recorded at 4,109,750 people, which decreased to 3,791,500 people in 2022. However, challenges remain.

People who lack access to adequate education, as measured by the length of schooling, often lack the skills and knowledge needed to secure employment. As a result, there are groups of people who are unemployed and lack sufficient income or resources to meet their basic needs, while daily necessities must still be fulfilled. This is exacerbated by limitations in labor availability, which hinder productivity, and the high number of poor people trapped in the poverty cycle. However, this remains one of the key barriers to economic development in Central Java.

Unfortunately, to date, Central Java Province has stated that the allocation of capital expenditure for infrastructure, both in terms of education and labor quality, has not been optimal in reducing poverty and promoting economic growth in 2021-2023. The expected improvement in labor quality from the increase in average length of schooling (ALS) has not been accompanied by a decrease in poverty rates in Central Java. This means that an increase in schooling time and the number of workers does not necessarily lead to a tangible reduction in poverty. This study aims to

examine the barriers to economic development in Central Java resulting from the lack of optimization of capital expenditure in the process of improving ALE, labor quality, and reducing poverty levels.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Economic Growth:

Economic growth generally refers to a country's capacity to optimize the production of goods and services within a certain period of time in order to assess economic development. Common parameters for measuring economic growth are average income per individual and total Gross Domestic Product (GDP). These indicators describe quantitative changes in production output and the extent to which these increases impact the welfare of citizens.

Smith's theory states that economic growth includes the development of total production output and population growth. Furthermore, Adam Smith identified several core components of production output development, namely natural resources, labor, and capital accumulation. Meanwhile, according to Paul Romer, a country's economic growth over a long period of time is influenced by internal elements within the country's economic structure, not solely by external factors. Meanwhile, Solow identified that economic growth is influenced by capital accumulation, labor growth, and technological development as explanatory factors in long-term output growth.

Average Length of Schooling

The average length of schooling is the number of years completed by people who seek to complete formal education. In this context, the average duration of education is an important indicator in reflecting efforts to improve human capacity in the concept of human capital, as in Garry Becker's Human Capital theory. However, Becker states that it is not only the length of schooling that is important, but also the quality of education. A population with higher standards will produce high human capital, which will ultimately lead to higher productivity and income.

Labor Force

According to Law Number 11 of 2020 concerning Job Creation, the definition of labor force refers to an individual who possesses the ability to perform work in order to produce goods and services, whether for personal needs or for the public interest (Ketenagakerjaan, 2020) In this context, work aims to generate income and profit with a minimum of one hour (Ningrum, 2023). In the modern era, individuals tend to invest in formal education and practical work training as part of the process of investing in human capital. An individual with skills and knowledge can, in turn, generate a steady income stream through various forms of assets (Don Bellate and Mark Jackson, 1983).

Poverty Level

Poverty is a situation where an individual cannot meet their basic needs, particularly in terms of consumption and income (Jacobus et al., 2019). The well-being of a society includes the fulfillment of food needs as well as needs in the fields of health and education (Fikri et al., 2019). An individual is considered poor if they have limited education, work efficiency, income, health, and nutritional intake, accompanied by limited prosperity, which reflects a cycle of inability.

Regional Capital Expenditure

Regional capital expenditure refers to financing expenditures made to acquire and increase fixed assets and/or other assets that provide benefits over more than one accounting period, and exceed the minimum capitalization threshold for fixed assets or other assets as stipulated by the government (Hadisaputra & Muda, 2024). Regional capital expenditure includes investments in land,

buildings, structures, equipment, and intangible assets. This allocation aims to improve facilities and infrastructure that support public services and encourage economic development.

Hypothesis

Average length of schooling has a positive effect on economic growth

Average length of schooling is the number of years spent by the community to complete formal education. In a study by (Ramadhan Satria & Muzakki Naufal Alif, 2024) it is explained that average years of schooling has a positive effect on economic growth. Therefore, the hypothesis is written as follows:

H1: Average years of schooling has a positive effect on economic growth

Labor force has a positive effect on economic growth

The population aged 15 years and above who are actively engaged in economic activities and are currently employed are referred to as the labor force, provided they are not in the status of job seekers. In the study by (Prameswari et al., 2021) it is stated that the labor force has a positive impact on economic growth. Therefore, the hypothesis is written as follows:

H2: The labor force has a positive impact on economic growth

Poverty rate has a negative effect on economic growth

Poverty is a condition where an individual or group of people cannot meet their basic needs, including food, clothing, and housing. In a study (Amanullah & Hendarto Robertus, 2023) it was stated that poverty has a negative effect on economic growth in Central Java. Therefore, the hypothesis is written as follows:

H3: Poverty has a negative effect on economic growth

Regional Capital Expenditure has a positive effect on economic growth

Regional capital expenditure refers to the regional budget used to acquire fixed assets and other assets that provide benefits over more than one accounting period. In their (Winarni et al., 2020) the authors state that the capital expenditure variable has a positive effect on economic growth. Therefore, the hypothesis is written as follows:

H4: The level of capital expenditure has a positive effect on economic growth.

RESEARCH METHODS

Quantitative methods are used in research that applies data in numerical form to answer research questions. In this study (Waruwu et al., 2025) the research is classified as descriptive research based on a quantitative approach, with the aim of describing or illustrating phenomena in a population using a quantitative approach. The research focuses on economic growth in Central Java, covering thirty-five regencies and cities in Central Java Province, Indonesia. The panel data regression method was chosen because it combines cross-sectional data covering 35 regencies/cities in Central Java with time series data for the period 2021-2023. This analysis is used to examine the impact of independent variables, namely Average Length of Schooling, Labor Force, Poverty Rate, and Regional Capital Expenditure, on the dependent variable, namely Economic Growth, using E-Views 12.

The secondary data in this study were obtained from official documents available on government websites, such as the Indonesian Central Statistics Agency and Central Java Province, which provided information on economic growth, average length of schooling, labor force, and poverty rate. Additionally, data on regional capital expenditure were obtained from the Directorate General of Fiscal Balance (DJPK) of the Ministry of Finance. Furthermore, data was collected through documentation methods, namely by gathering and recording relevant information from various sources. The data analysis method in the study includes descriptive statistics, classical assumption

tests including normality test, multicolinerity test, heteroscedasticity test, to ensure the regression model meets the appropriate statistical test. Furthermore, multiple linear regression test analysis is carried out to test the relationship between the independent variable and the dependent variable which includes the t test and F test and the coefficient of determination.

RESULTS AND DISCUSSION

The results of descriptive statistical analysis obtained using EViews 12 software. The data states that the average economic growth rate of Central Java for the 2021-2023 period is 4.59%, then the highest limit is 6.33%. Furthermore, the average value of the average length of schooling is 8.12 years with a maximum value of 11.24 years. The average value of the workforce is 538.62 thousand people with a maximum value of 994.09 thousand people. Then, the average value of the poverty rate is 10.78% with a maximum value of 17.83%. while the average value of regional capital expenditure amounts to Rp737.28 billion rupiah with a maximum value of Rp313.68 billion rupiah.

Tabel 1. Descriptive Statistical Analysis

Variabel	N	Rerata	Terendah	Tertinggi	Standar Deviasi
PE	105	4.5929	-1.5400	6.3300	1.2057
RLS	105	8.1250	6.2200	11.2400	1.2678
TK	105	538.6235	60.3170	994.0910	215.8605
TKM	105	10.7911	4.2300	17.8300	3.3643
BMD	105	737.2825	75.1900	31368.00	3347.495

Source: (Data Yang Diolah, 2025)

The use of the Chow test is carried out to determine the most appropriate model between the Common Effect Model (CEM) or the Fixed Effect Model (FEM).

Tabel 2. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	6.470269	(34,66)	0.0000
Cross-section Chi-square	153.961412	34	0.0000

Source: (Data Yang Diolah, 2025)

The test that has been carried out states that the probability value is 0.0000 (smaller than 0.05), so the model chosen is the Fixed Effect Model (FEM). Next, proceed with conducting the Hausman test.

The use of the Hausman test is carried out to determine the most appropriate model between the Commont Effect Model (CEM) or the Random Effect Model (REM).

Tabel 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq.d.f	Prob.
Cross-section random	99.897603	4	0.0000

Source: (Data Yang Diolah, 2025)

The test that has been carried out states that the probability value is 0.0000 (less than 0.05), so the model chosen is the Fixed Effect Model (FEM).

Lagrange Multiplier Test

LM testing is carried out to find the most appropriate model between the Fixed Effect Model (FEM) & Random Effect Model (REM). After testing using the Chow Test and Hausman Test, this study determined that the most appropriate model used was the Fixed Effect Model (FEM), so Lagrange Multiplier testing was not required.

Based on the selection of the data model that has been obtained, the function equation of the data regression model is as follows:

PE = -2.7356 + 2.5514RLS - 0.0036TK - 1.0575TKM - 3.9794BMD ..... (1)

This test aims to ensure that the regression coefficients obtained are consistent and free from bias and precise estimation. The following are the steps taken:

a. Normality Test

This test is conducted to determine whether the residual data is normally distributed or not.

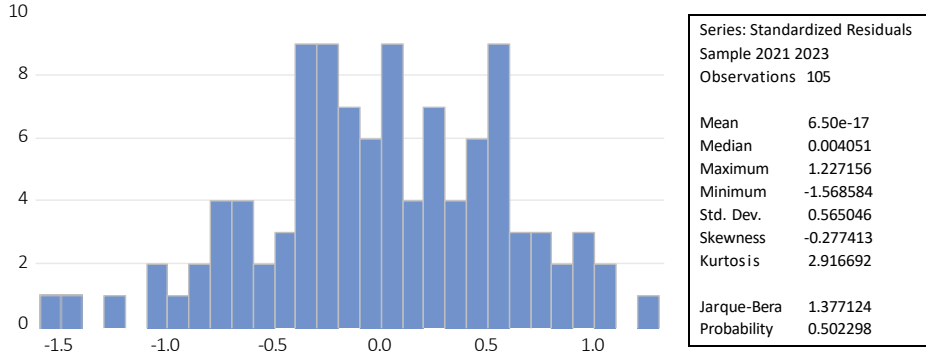

Figure 1. Normality Test Results

Figure 1 states that the Prob. Jarque Bera value of 0.5022 (more than 0.05), thus, it can be concluded that the data is normally distributed or passes the normality test.

b. Multicollinearity Test

This test is useful for identifying the existence of a strong relationship or high level of correlation between independent variables in the regression model. Data can pass the multicollinearity test if the correlation value is less than 0.80 statistically, and vice versa.

Tabel 4. Multicollinearity Test Results

	PE	RLS	TK	TKM	BMD
PE	1.000000	0.165921	0.046105	-0.102601	-0.058586
RLS	0.165921	1.000000	-0.456733	-0.684230	-0.102818
TK	0.046105	-0.456733	1.000000	0.188823	0.055249
TKM	-0.102601	-0.684230	0.288823	1.000000	-0.043561
BMD	-0.058586	-0.102818	0.055249	-0.43561	1.000000

Source: (Data Yang Diolah, 2025)

The test that has been carried out states that the correlation value is less than 0.80, thus, it can be concluded that the multicollinearity test assumption has been fulfilled, it can also be said that this regression model is free from multicollinearity problems.

c. Heteroscedasticity Test

This test is carried out to ensure that the residuals in the regression are constant, if they are not constant then heteroscedasticity symptoms occur.

Tabel 5. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.880183	3.333190	0.864092	0.3907
RLS	-0.096290	0.315920	-0.304793	0.7615

TK	-0.001062	0.000721	-1.473988	0.1452
TKM	-0.098670	0.092057	-1.071842	0.2877
BMD	-1.14E-05	7.71E-06	-1.482903	0.1429

Source: (Data Yang Diolah, 2025)

Table 5 explains that all independent variables (RLS, TK, TKM, BMD) have a value of more than 0.05, thus, it can be concluded that the independent variables do not experience symptoms of heteroscedasticity or pass the heteroscedasticity test.

Coefficient of Determination (R^2)

This test shows the proportion of changes in the dependent variable that can be explained by the independent variable. The model is considered better if the R2 value is higher and closer to lift 1.

Tabel 6. Coefficient of Determination

R-squared	0.780376	Mean dependent var	4.592952
Adjusted R-squared	0.653927	S.D. dependent var	1.205714
S.E. of regression	0.709298	Akaike info criterion	2.429468
Sum squared resid	33.20479	Schwarz criterion	3.415225
Log likelihood	-88.54708	Hannan-Quinn criter.	2.828916
F-statistic	6.171427	Durbin-Watson stat	3.152274
Prob(F-statistic)	0.000000		

Table 6 explains that the regression results that have obtained the Adjusted R-Squared value or R2 value is worth 0.65, thus the conclusion is that the contribution of the influence of the independent variables (RLS, TK, TKM, BMD) to the dependent variable (PE) is only able to explain 65%, while the remaining value of 35% is affected by other factors that are not included in the scope of the study.

Hypothesis Testing

Hypothesis testing is useful for testing the theory in research. At this stage, researchers used the Partial Test (t test) and Simultaneous Test (F test):

a. Partial Test (t Test)

This test is useful for testing the effect of independent variables individually on the dependent variable, thus the partial test determines the significant effect on the dependent variable.

Tabel 7. Results of the t-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.735656	7.930899	-0.344936	0.7312
RLS	2.551470	0.751692	3.394304	0.0012
TK	-0.003687	0.001715	-2.150307	0.0352
TKM	-1.057592	0.219037	-4.828378	0.0000
BMD	-3.98E-06	1.83E-05	-0.216951	0.8289

Source: (Data Yang Diolah, 2025)

Information from the regression results with an alpha value or significance level of 0.05 obtained t table is 1.660. The following is the effect caused by each independent variable on the dependent variable:

Average Years of Schooling Variable

Based on the regression results, the t-statistic value is 3.3943 with a significance value of 0.05 and a t table of 1.660. It can be concluded that the null hypothesis (H_0) is rejected and

the alternative hypothesis (H_a) is accepted, because the calculated t value exceeds the t table value, it can be said that the hypothesis of the average length of schooling variable has a positive effect on economic growth in Central Java is accepted.

It can be seen from the test results that have been carried out previously that the average length of schooling has a positive and significant effect on economic growth for the 2021-2023 period. This finding is also in accordance with research (Ramadhan Satria & Muzakki Naufal Alif, 2024) which explains that the average length of schooling has a positive effect on economic growth. The better the quality of education, which is reflected in the length of school time, will in turn have a good effect on economic growth. Quality education reflected in the length of school time can produce individuals with better knowledge, skills, and abilities.

The same thing with this finding supports the results of research conducted by (Purba et al., 2024) that education is considered an important and strategic sector that can encourage capital accumulation, especially in supporting the pace of economic activity aimed at producing quality human resources to achieve human capital development. A longer duration of education provides opportunities for individuals to develop skills and knowledge that are in accordance with the demands of today's world of work, so as to generate innovation, encourage efficiency, and increase labor productivity. Adaptive and tech-savvy skills can ensure that the workforce remains relevant and competitive so that it can actively participate in the digital economy and strengthen the foundation to drive economic growth in Central Java.

Labor Variable

Based on the regression results, the t-statistic value is -2.1503 with a significance level of 0.05 and a t table of 1.660. It can be concluded that the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected, because the calculated t value is smaller than the t table value, it can be said that the hypothesis that the labor variable has a positive effect on economic growth in Central Java is rejected.

The tests that have been carried out show that labor has a negative and significant effect on economic growth in 2021-2023. This fact is in accordance with the results of research conducted by (Arisma & Robertus, 2024) explaining that labor has no effect on economic growth. This condition can occur due to an imbalance between the quantity and available jobs in Central Java. Although the number of workers increases, the number of jobs or job opportunities available does not grow proportionally, so there is an imbalance in the labor market. As a result, not all new workers can be absorbed by businesses or industries.

Recorded information from (Badan Pusat Statistik Provinsi Jawa Tengah, 2024) the number of industries in Wonosobo, Magelang, and Purworejo districts has a large number of industries accompanied by a balanced number of workers, while in other areas the number of industries is small and the number of workers is large, such as in Brebes district which has 440 industries with a total workforce of 31,814 people.

This causes the excess part of the labor force that is not absorbed in the labor market to be unemployed or work in the informal sector which is less productive, so that productivity and economic output decrease. In other words, the increase in the labor force is not followed by adequate absorption of labor by industry, thus negatively affecting economic growth. The direct impact is a decline in overall productivity and a reduced contribution of labor to economic growth. In addition, economic growth does not only depend on the number of workers, but is strongly influenced by the ability of industries and business sectors to absorb labor effectively.

Furthermore, the Covid-19 pandemic has had a major impact on the business sector and labor force, where many companies have been forced to close their businesses or reduce production capacity, leading to layoffs and increased unemployment. As in the information from (Badan Pusat Statistik Provinsi Jawa Tengah, 2024) the Open Unemployment Rate (TPT) in 2021-2023 has a high value. Cilacap and Tegal districts had a TPT value of 9.97%, which was the highest value in the Central Java region at that time. As well as information from (Finance, 2021), social restriction policies and a decrease in people's purchasing power have hampered economic

activity, worsening labor market conditions and causing worker productivity to decline and contributing to Central Java's economic growth. This situation also worsens the condition of Micro, Small, and Medium Enterprises (MSMEs), which cannot maximize the production of goods because they have limited ability to absorb labor and increase productivity. Therefore, the negative effect of labor on economic growth in Central Java for the 2021-2023 period is caused by an imbalance in the number of workers with the availability of jobs, the influence of the Covid-19 pandemic and the weakening role of MSMEs so that they are not optimal in the process of economic growth in Central Java.

Poverty Level Variable

Based on the regression results, the t-statistic value is -4.8283 with a significance level of 0.05 and a t table of 1.660. It can be concluded that the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected, because the calculated t value is smaller than the t table value, it can be said that the hypothesis that the poverty level variable has a positive effect on economic growth in Central Java is rejected.

It can be seen that the tests that have been carried out state that the poverty rate contributes negatively and significantly to economic growth for the 2021-2023 period. This fact is in accordance with the results of research conducted by (Amanullah & Hendarto Robertus, 2023), the poverty rate has a negative effect on economic growth. This situation can occur due to limited access to education, it is noted from (Data Yang Diolah, 2025) that the Central Java region consistently shows that there are areas with high poverty rates that tend to have school enrollment rates, which are reflected in the average length of schooling, which tend to be low.

In addition, the limited access to adequate health services exacerbates this condition. Lower middle class families struggle to get proper nutrition and medical care, which in turn degrades their physical and mental condition. These poor health conditions directly affect labor productivity. As found by (Agustin Puspasari & Retno Handayani, 2020) that poor nutrition and health conditions are caused by minimal income.

Furthermore, limited access to business capital makes it difficult for people to start and develop small and medium enterprises (MSMEs) which actually have great potential to create jobs as an effort to drive the local economy. Based on information from (Fajar, 2023) the local government has provided business capital assistance totaling Rp1.8 billion rupiah for 741 people, but it has not been evenly distributed throughout all regions in Central Java. In line with this, according to the findings of (Artiza et al., 2022) that limited capital will not be able to support small and medium enterprises in the process of meeting community needs so that it will encourage poverty.

In addition, the Covid-19 pandemic exacerbated this condition by causing disruption of economic activity, especially in the informal sector who lost their jobs. The impact can be felt directly on the decline in people's purchasing power and the increase in poverty in that period. This decline is also influenced by the uneven economic recovery period after the pandemic, where the underprivileged family groups still face limited access to employment, low wages, especially in the agricultural and informal sectors.

Thus, the negative effect of the poverty rate on economic growth in Central Java for the 2021-2023 period is due to limited access to education, health, and business capital as well as the influence of the Covid-19 pandemic which increases the poor population resulting in low labor productivity. Therefore, the higher the poverty rate, the more it will hinder economic growth.

Regional Capital Expenditure Variable

Based on the regression results, the t-statistic value is -0.2169 with a significance level of 0.05 and a t table of 1.660. It can be concluded that the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted, because the calculated t value is smaller than the t table value, it can be said that the hypothesis that the regional capital expenditure variable has

a positive effect on economic growth in Central Java is rejected.

It can be seen from the test results that have been carried out, regional capital expenditure has a negative and insignificant effect on economic growth for the 2021-2023 period. This finding is similar to research by (Anggreani Dwi & Rochmatullah Rosy, 2024), which states that regional capital expenditure contributes negatively to economic growth. One of the reasons this condition occurs is due to a shift in budget priorities in 2021-2022, where the available budget is used for handling public health and social assistance. The Covid-19 pandemic has caused economic uncertainty and socio-economic restrictions, so that the realization of regional capital expenditure, which is usually used for infrastructure investment and regional development, is delayed and becomes less effective in driving economic growth in the short term.

The effectiveness of local spending is key in the economic recovery process by prioritizing capital expenditures that support public services and infrastructure development. However, spending on infrastructure investment is highly dependent on the efficiency and timing of projects. During the Covid-19 pandemic, various infrastructure projects experienced delays and bottlenecks, such as information from (Progresifnew, 2025) that there were stalled district road projects in Rembang. This condition not only slows down economic growth, but also causes financial losses due to budget wastage and increased project costs. The postponement of infrastructure projects during the pandemic shows the importance of efficient and responsive management so that local capital expenditure can have the maximum positive impact on development and recovery in Central Java.

Furthermore, the findings by (Gustie Berizky & Kurniawan, 2024) state that the financial fluency ratio of the Central Java Regional Government shows that the majority of funds spent are used for operational expenditure with an average of 74%, while the average regional capital expenditure fund is 8%. This illustrates that regional capital expenditure is limited even though these funds are still needed for infrastructure development and improving public services.

So, the negative effect of regional capital expenditure on economic growth in Central Java for the 2021-2023 period is caused by a combination of Covid-19 pandemic factors that interfere with the implementation of capital expenditure, budget limitations, and shifting budget priorities which are the main reasons why regional capital expenditure in Central Java in the 2021-2023 period has a negative and insignificant effect on economic growth.

CONCLUSION

The results of this study indicate that the average length of schooling has a positive and significant effect on economic growth, while labor and poverty levels have a negative and significant effect on economic growth, while regional capital expenditure has a negative and insignificant effect on economic growth in Central Java for the 2021-2023 period. Implications obtained from this research: The importance of sustainable investment in education as an effort to improve the quality of human resources with the compulsory education extension program, improving the quality of teachers and curriculum as well as providing scholarships and educational assistance for students, curriculum as well as providing scholarships and educational assistance for students from underprivileged families. Local governments need to evaluate and reformulate strategies related to the number of jobs in Central Java related to employment, poverty reduction, and the effectiveness of regional capital expenditure. The focus should shift to increasing the creation of adequate jobs for the available workforce and better employment absorption, more targeted poverty alleviation programs, and ensuring more productive regional capital expenditures that have a positive impact on the economy.

This study uses secondary data that was not collected specifically for research purposes, so some important variables are incomplete and lack detail. For example, the average length of schooling variable only measures the duration of education without considering the quality or skills acquired, while the labor force variable only reflects quantity without quality or productivity. In

addition, poverty levels are measured only by income and consumption, without taking into account aspects of health, education, and living standards that vary between regions. The regional capital expenditure variable only measures the amount of physical expenditure without assessing the efficiency or quality of investment management. These measurement limitations mean that the research results may not fully describe the complex relationship between socioeconomic factors and growth.

Further research is recommended using more detailed and comprehensive data, such as indicators of education quality, labor productivity, multidimensional poverty indices, and measures of public investment efficiency. By openly acknowledging these limitations, research will be more credible and able to provide a stronger basis for further studies and more targeted policies.

BIBLIOGRAPHY

Agustin Puspasari, D., & Retno Handayani, H. (2020). ANALISIS PENGARUH PENDIDIKAN, KESEHATAN, DAN UPAH TERHADAP PRODUKTIVITAS TENAGA KERJA DI PROVINSI JAWA TENGA. *Jurnal Dinamika Ekonomi Pembangunan (JDEP)*, *Vol. 3 No.*, 65–76. https://ejournal.undip.ac.id/index.php/dinamika_pembangunan/index

Amanullah, F., & Hendarto Robertus, M. (2023). Pengaruh Jumlah Penduduk, Pengangguran, dan Kemiskinan terhadap Pertumbuhan Ekonomi Provinsi Jawa Tengah Tahun 2010 - 2020. *Diponegoro Journal of Economics*, *12 No. 1*(2963 1688), 10–21.

Anggreani Dwi, R., & Rochmatullah Rosy, M. (2024). Determinan Pertumbuhan Ekonomi Pemerintah Daerah (Studi Kasus Provinsi Jawa Tengah tahun 2019 – 2022). *SEIKO : Journal of Management & Business*, *Volume 7*(2), 12–20.

Arisma, M., & Robertus, M. H. (2024). PENGARUH INDEKS PEMBANGUNAN MANUSIA, TENAGA KERJA, DAN TABUNGAN TERHADAP PERTUMBUHAN EKONOMI KAB/KOTA DI PROVINSI JAWA TENGAH TAHUN 2017 – 2021. *Diponegoro Journal of Economics*, *Vol. 13*, *N*, 51–29. https://ejournal3.undip.ac.id/index.php/jme/article/view/42737

Artiza, S., Meliza, R., & Dermawan, D. (2022). Analisis Pengaruh Tingkat Pengangguran dan Tingkat Kemiskinan Terhadap Pertumbuhan Ekonomi Provinsi Jawa Tengah Tahun 2012-2021e. *Jurnal Manajemen Akuntansi (JUMSI)*, *Vol. 2 No.*(2774–4221), 564–569. https://jurnal.ulb.ac.id/index.php/JUMSI/article/view/3261/2601

Badan Pusat Statistik. (2025). *Laju Pertumbuhan Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2010 Menurut Provinsi (persen)*. Badan Pusat Statistik Indonesia. https://www.bps.go.id/id/statistics-table/3/WnpCcmNtcE1ibkF5VjFSelJHMUVhRE52WjNWSVp6MDkjMw==/laju-pertumbuhan-produk-domestik-regional-bruto-atas-dasar-harga-konstan-2010-menurut-provinsi--persen---2022.html?year=2023%0A%0A

Badan Pusat Statistik Provinsi Jawa Tengah. (2024). *Tingkat Pengangguran Terbuka (TPT) Menurut Kabupaten/Kota di Provinsi Jawa Tengah (Persen)*. https://jateng.bps.go.id/id/statistics-table/2/NjQjMg==/tingkat-pengangguran-terbuka--tpt--menurut-kabupaten-kota-di-provinsi-jawa-tengah.html

Data yang diolah. (2025).

DJPK. (2023). *Portal Data APBD*. Djpk.Kemenkeu. https://djpk.kemenkeu.go.id/portal/data/apbd Don Bellate and Mark Jackson. (1983). *Ekonomi Ketenagakerjaan* (P. Raharja (Ed.)).

Fajar. (2023). *Gubernur Serahkan Bantuan Modal Usaha Produktif kepada 741 Warga*. Humas.Jateng. https://humas.jatengprov.go.id/detail_berita_gubernur?id=8080

Fikri, K., Apriansyah, R., & Triyono, A. (2019). *Esensi pada Ekonomi Makro* (D. Puspa & H. I. Astrarina (Eds.); I). Deepbulish Publisher.

Gustie Berizky, K., & Kurniawan, R. (2024). ANALISIS KINERJA KEUANGAN PEMERINTAHAN PROVINSI JAWA TENGAH TAHUN ANGGARAN 2019-2022. *Jurnal Ilmiah Manajemen, Ekonomi Dan Akuntansi*, *Vol. 8 No.*(2621–5306), 246–259.

Hadisaputra, M. T., & Muda, A. W. (2024). *BELANJA BARANG & JASA DAN BELANJA MODAL DALAM*

PEROLEHAN DAN PEMELIHARAAN BARANG MILIK NEGARA (Bagian II). Baiai Diklat Keuangan Makasar. https://bppk.kemenkeu.go.id/balai-diklat-keuangan-makassar/artikel/belanja-barang-jasa-dan-belanja-modal-dalam-perolehan-dan-pemeliharaan-barang-milik-negara-bagian-ii-166714

Jacobus, E. H., Kindangen, P. ., & Walewangko, E. N. (2019). Analisis Faktor-Faktor Yang Mempengaruhi Kemiskinan Rumah Tangga Di Sulawesi Utara. *Jurnal Pembangunan Ekonomi Dan Keuangan Daerah*, *19*(7), 86–103. https://doi.org/10.35794/jpekd.19900.19.7.2018

Ketenagakerjaan, U. (2020). *UU Ketenagakerjaan Versi Omnibus Law*. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://disnakerpmptsp.malangkota.go.id/wp-content/uploads/2020/11/UU-13-2003-Penyesuaian-UU-11-2020.pdf

Ningrum. (2023). *Mengenal Konsep Dasar Ketenagakerjaan BPS*. Badan Pusat Statistik Kabupaten Brebes. https://brebeskab.bps.go.id/id/news/2023/10/04/635/mengenal-konsep-dasar-ketenagakerjaan-bps.html

Prameswari, A., Pembangunan, E., Ekonomi, F., Bisnis, D., Universitas, /, Nasional, P., Veteran, ", Timur, J., Muljaningsih, S., & Asmara, K. (2021). ANALISIS PENGARUH KEMISKINAN, INDEKS PEMBANGUNAN MANUSIA (IPM) DAN TENAGA KERJA TERHADAP PERTUMBUHAN EKONOMI DI JAWA TIMUR. In *Jurnal Ekonomi Pembangunan* (Vol. 7, Issue 2).

Progresifnew. (2025). *Proyek Mangkrak di Rembang, Polda Jateng Telusuri Enam Kontrak yang Diputus*. Progresif.Com. https://43justitia.progresif.co/proyek-mangkrak-di-rembang-polda-jateng-telusuri-enam-kontrak-yang-diputus/

Purba, D., Tarigan, I., Simamora, N., & Pardede, N. (2024). PENGARUH TINGKAT PARTISIPASI ANGKATAN KERJA(TPAK) DAN PENDIDIKAN TERHADAP PERTUMBUHAN EKONOMI DI PROVINSI SUMATERA UTARA. *Journal of Economic, Business and Engineering (JEBE)*, *Vol. 5 No.*(2716– 2583), 275–283.

Ramadhan Satria, D., & Muzakki Naufal Alif, M. (2024). DAPATKAH KESEHATAN DAN PENDIDIKAN MEMPENGARUHI PERTUMBUHAN EKONOMI DI JAWA TENGAH? *Jurnal EK&BI*, *7 No 2*, 356–363. https://doi.org/10.37600/ekbi.v7i2.1868

Waruwu, M., Pu'at Natijatul, S., Utami Rahayu, P., Yanti, E., & Rusydiana, M. (2025). Metode Penelitian Kuantitatif: Konsep, Jenis, Tahapan dan Kelebihan. *Jurnal Ilmiah Profesi Pendidikan*, *Volume 10*(2502–7068), 917–932.

Winarni, E., Ahmad, A. A., & Suharno. (2020). Pengaruh Investasi dan Belanja Modal terhadap Pertumbuhan Ekonomi di Provinsi Jawa Tengah. *Jurnal Ilmiah Universitas Batanghari Jambi*, *20 (2)*(1411 8939), 447–450. https://doi.org/10.33087/jiubj.v20i2.946