

FACTORS AFFECTING ECONOMIC GROWTH IN CENTRAL JAVA

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Abstract

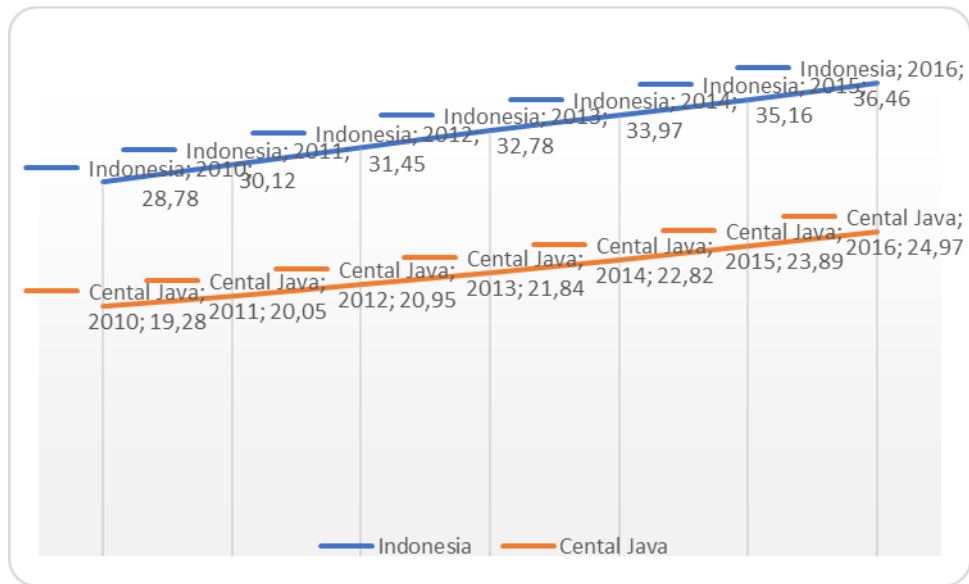
Economic growth is an indicator of the success of the development. Increasing economic growth in Central Java will be realized if the government can implement the right policies. Research on factors that influence economic growth can be used as a reference in making government policies in the economic field. The results of the study using multiple regression in 2008.Q1-2016.Q4 are Foreign Direct Investment (FDI), Domestic Investment (DI), Consumer Price Index (CPI), Health Index (HI), Education Index (EI), and the Gross Regional Domestic Product previous year (GRDP (-1)) was able to explain economic growth in Central Java by 99.9 percent. FDI and GRDP (-1) have a positive and significant effect on economic growth. HI, negative and significant effect on economic growth. DI, CPI, and EI are not significant for economic growth.

Keywords: *Economic Growth, Foreign Direct Investment, Domestic Investment, Consumer Price Index, Health Index, Education Index, and Gross Regional Domestic Product*

1. Introduction

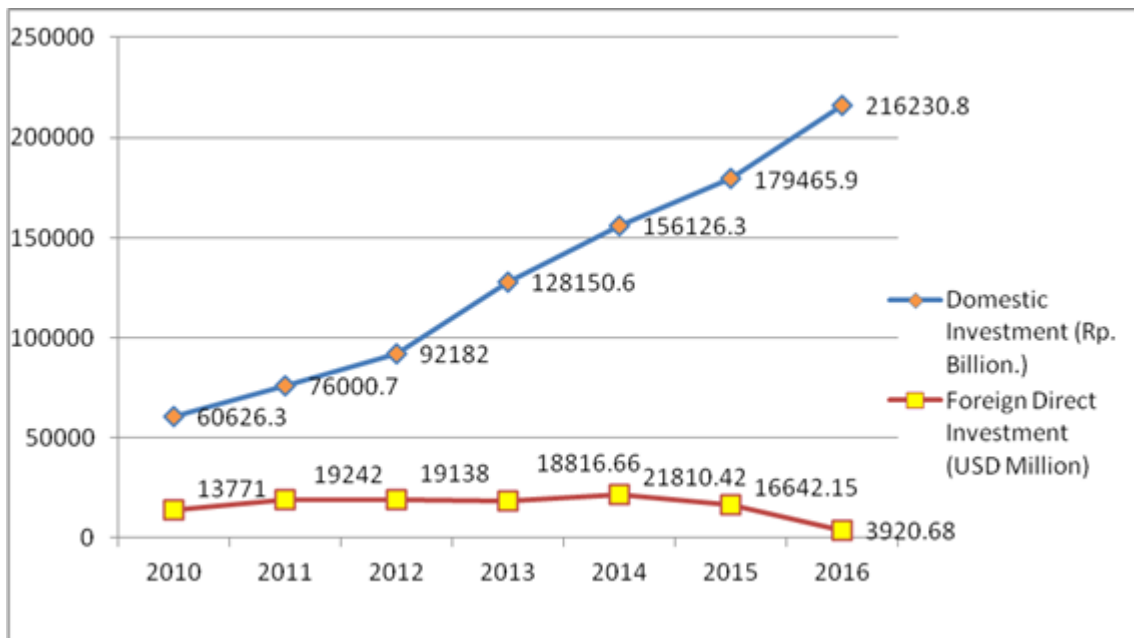
Indonesia is one country that has a large area and is an archipelago. This situation can be an opportunity or even an obstacle to the development of its economy. It can be said that, if the government has the right strategy in development with its potential, it will produce extraordinary development. This was also done by the government, which had carried out development policies through centralization for 40 years in the old order and new order era, then changed to decentralization in the reform era.

Java Island is one of the largest islands in Indonesia, which is densely populated, which is divided into several provinces. The existence of the province of Central Java has been quite long and has a unique condition, namely its relatively stable economic condition. But what is unfortunate is that economic growth is still below the national level. This happens because the available resources and capital are still dominated by the central government (Figure 1).



Source: BPS

Economic development in Indonesia will have an impact on the region. Moreover, to support development, a number of investment funds are needed, both from within the country and abroad. With the presence of investors, it will absorb labor in its area, and the welfare of its people will increase, which will ultimately increase regional income. The development of Domestic Investment (PMDN) in Indonesia has continued to increase, but Foreign Investment (PMA) has complained that the increase is not so significant and then decreases (Figure 2).



Source: BKPM

Inflation is an important support in the macroeconomy to increase production and consumption. Thus, low and stable inflation is needed to facilitate economic growth. The inflation condition in Central Java is very supportive of regional development. Moreover, inflation is still below the national level (Figure 3). This situation will benefit his blood because, in production, it will be efficient and, at a stable price, will increase the demand of the people.

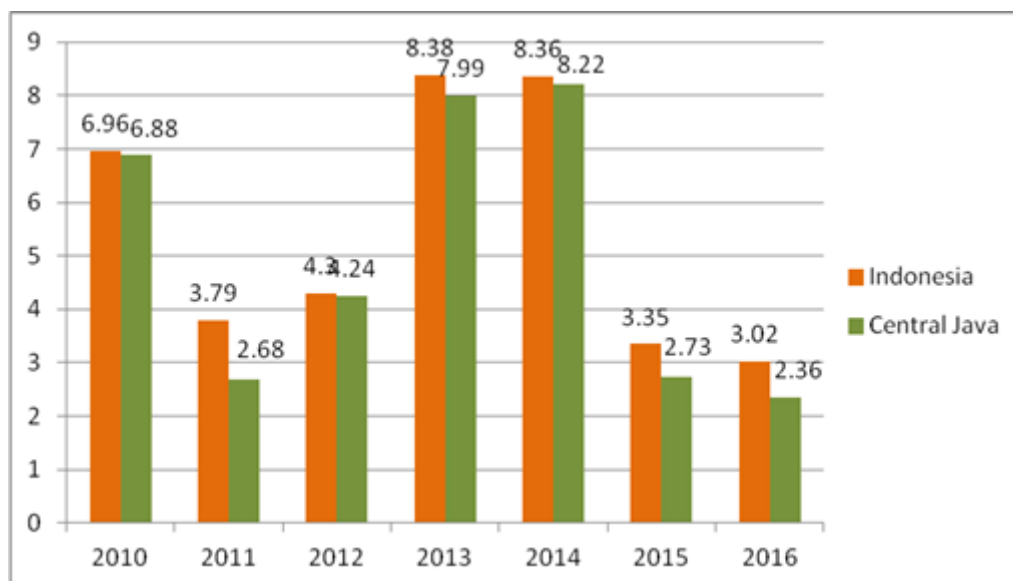


Figure 3.
Inflation in Indonesia and Central Java, in 2010-2016
(Percent)
Source: BPS

Besides good funding and conducive macroeconomic conditions, there are actually other elements that are not less important in supporting economic growth. This is not different from other developed countries, namely human resources. Reliable HR can carry out efficient and effective work so that it will accelerate economic growth. The Human Development Index (HDI) is one indicator of the strength of a country's human resources. The HDI from Central Java is good, although there is a slight difference below the national level (Figure 4). The dimensions of the health index, education index, and expenditure index are elements that exist in the HDI. However, to support reliable human resources, good education and health are needed.

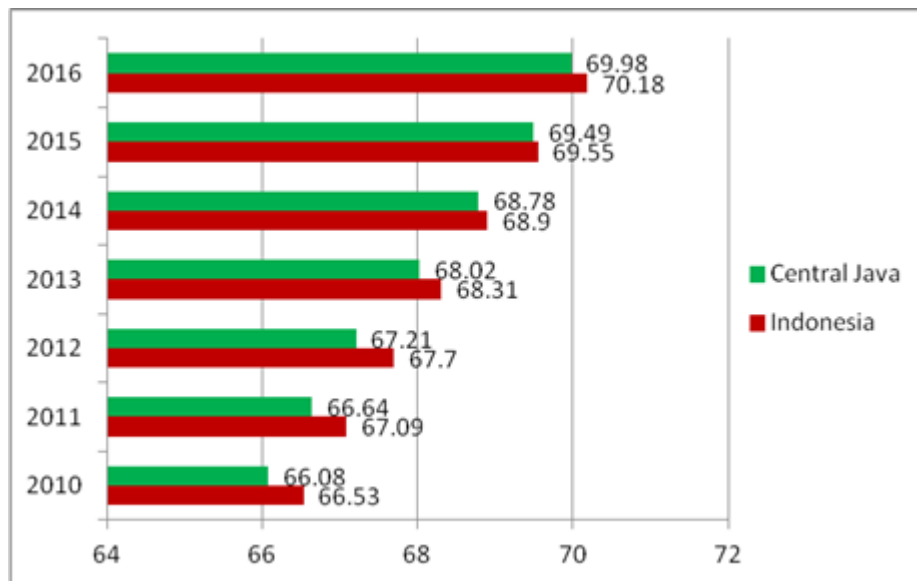


Figure 4.
IPM Indonesian and Central Java (Percent)
Source: BPS

The economic growth of a region is one indicator that can be used to see the success of its development. This indicator, also used in the province of Central Java. By knowing the factors that influence economic growth, policies can be made that support the success of regional development.

2. Literature Review

Economic development, according to Azariadis & Drazen (1990) and Soeharjoto (2018), can occur because of the ability of humans to save and invest capital, which at the end of the process is stationary. However, in line with the time, the profits will decrease, which is due to business competition and low-interest rates. In the process, economic growth can occur from two aspects, namely the growth of total output (natural resources, human resources, and stock of capital goods) and the presence of growth agents (farmers, producers, and entrepreneurs).

Economic growth, according to Dewi et al., (2020), Soekapdjo et al., (2019), and Solow, 1956), is very dependent on the existence of additional factors of production (population, labor, and capital accumulation) and technological progress. In many ways, with the existence of a market mechanism, balance can occur, so that government intervention is limited to fiscal and monetary policies. However, if the capital per capita has reached a stable level, there will be a long-term balance,

Thesis backwardness in developing countries (cumulative causation) from Rudra (2002) stated that their economic relations developed countries and not would lead to international imbalances, especially in per capita income and poverty in countries that are not developed. The causes are the inequality of progress in the field of science and technology, and the existence of a broad market and concentration of capital in developing countries.

Setterfield (1998), rejects the assumptions of neo-classical and considers it unrealistic with the existence of general equilibrium and constant return to scale. As for his opinion, that in the production process will lead to increasing returns to scale, in situations of imbalance (disequilibrium), which will arise endogenously, within an economic system. Besides that, thinking from neoclassical is considered excessive, especially in terms of the importance of the role of prices formed in free markets, which can be used as a guide to determine the level of output (allocation of economic resources). In fact, according to him, the company has other objectives besides seeking profits,

According Romer (1986), the growth of gross national products is more determined by the system of the production process and not from outside the system. Besides that, according to him, there is no decrease in the scale of production. So, basically, the growth occurs because of the presence of endogenous factors. He also explained the

peculiarities of international capital flows, which would exacerbate the inequality of developed countries and developing countries, due to the low level of complementary investment, especially human resources (education), infrastructure, research, and development.

Krugman (1991) considers that there will be an impact of free trade and the determinants of global migration. This happens because the location of the factors of production and economic activity can be analyzed in an integrated manner, in a framework of equilibrium models, which are often used in economic analysis. The analysis focuses on the impact of economies of scale on the trade sector and business location. He found that the more goods and services produced in the same factory, the lower the production costs. As a consequence, the market will not compete perfectly as stated by the creators of previous international trade theories. According to him, the theory of comparative advantage cannot answer the phenomenon of international trade at this time. In fact, world trade in the 20th and 21st centuries was dominated by only a handful of countries, which turned out to trade the same product.

3. Previous Research

Mulyadi (2017), revealed economic growth in the city of Semarang. Domestic capital growth and foreign capital are not significant for economic growth. Hussin et al., (2013), revealed economic growth in Pakistan. Foreign Direct Investment (FDI) has a negative and significant influence on economic growth for the long term. Pambudi & Miyasto (2013), revealed economic growth in Central Java Province. Investment has a positive and significant effect on economic growth. Human capital investment is not significant for economic growth.

Lenka & Sharma (2013), revealed economic growth in developing countries. Education and FDI have a positive and significant influence on economic growth. Inflation has a negative and significant effect on economic growth. Loana & Mihaela (2014), revealed economic growth in 12 new EU member countries. Human resources have an influence on economic growth. Suparno (2014), revealed economic growth in East Kalimantan. The government expenditure on the education sector has an effect on economic growth.

Maharani & Isnowati (2014), revealed economic growth in Central Java. Regional private investment, government investment, and labor have a positive and significant effect on economic growth. Udeaja & Onyebuchi (2015), revealed economic growth in Nigeria. Expenditures for education have a positive and significant effect on economic growth, and FDI is not significant for economic growth. Pribadi et al., (2015), revealed economic growth in Gresik Regency. Investment, labor, and inflation have a positive and significant effect on economic growth. Tabassam et al., (2016), revealed economic growth in Pakistan. The previous year's gross domestic product has a positive and significant influence on economic growth.

4. Research Methods

In this study, using quarterly time-series data, during the period 2008-2016. Testing data with estimation methods of regression equation models (Sekaran & Bougie, 2016). The independent variables used are GRDP (-1), PMA, PMDN, CPI, health index, and education index, while the dependent variable is GRDP.

4.1. Description of Research Variable

GRDP growth in Central Java has an average of 1.31 percent. The maximum investment value is 1.61 percent in 2016 in the third quarter, and the minimum value is 1.61 percent in 2009 quarter 1. This situation, supported by a small standard deviation, is 0.077861 percent.

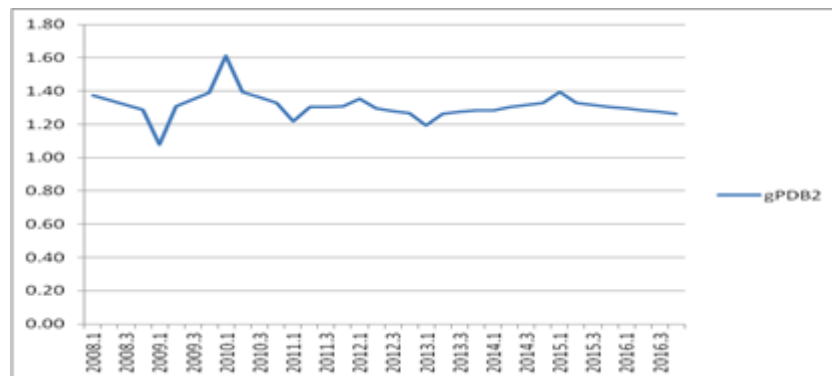


Figure 5.
GRDP Growth in Central Java, in 2008.1-2016.6
(Percent)
Source: BPS

CPI in Central Java has an average of 102.166 percent. The maximum inflation value is 124.307 percent in 2016 in the fourth quarter, and the minimum value is 79.404 percent in 2008 quarter 1. This situation is supported by a significant standard deviation of 13.73711 percent.

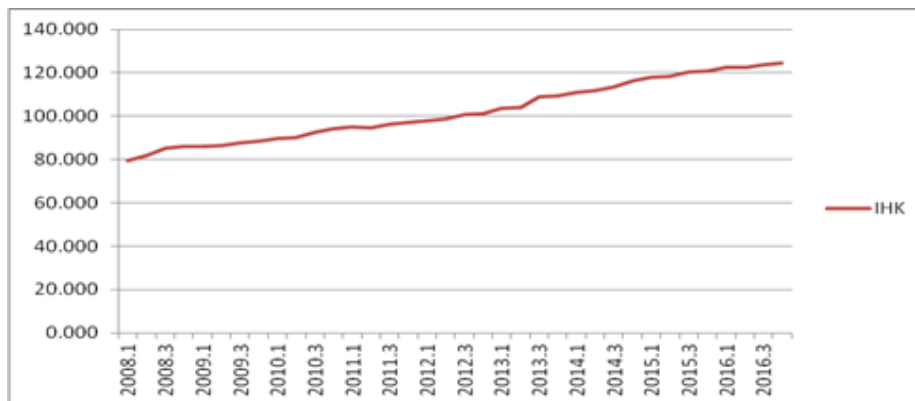


Figure 6.
Consumer Price Index in Central Java, in 2008.1-2016.4
(Percent)
Source: BPS

PMA in Central Java has an average of Rp. 1,128,622 billion. The details of the maximum investment value are Rp3,492.253 billion in 2016 in the third quarter and the minimum value was Rp83,829 billion in 2009 quarter 1. This situation is supported by a significant standard deviation of Rp1,197,797 billion.

Domestic investment in Central Java has an average of Rp2,366.75 billion. The details of the maximum investment value are Rp9,710.18 billion in 2016 in the fourth quarter, and the minimum value was Rp53.86 billion in the first quarter of 2008. This situation was supported by a significant standard deviation of Rp2,379,598 billion.

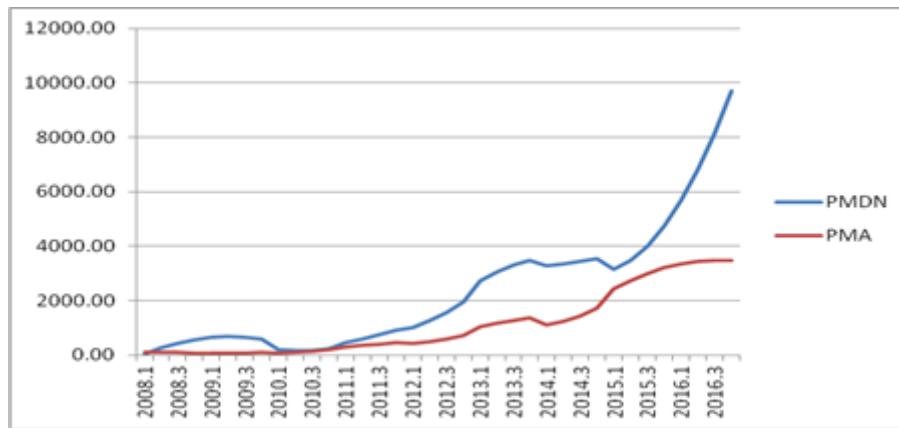


Figure 7.
PMA and PMDN in Central Java, in 2008.1-2016.4
(Rp. Billion)
Source: BKPM

The education index in Central Java has an average of 51.78 percent. The details of the maximum investment value are 58.06 percent in 2016 in the first to fourth quarters, and the minimum value is 46.73 percent in 2009 quarter 1 up to 4. This situation, supported by a moderate standard deviation, is 4,592362 percent. The health index in Central Java has an average of 32.14 percent. The details of the maximum investment value are 35.52 percent in 2011 in the first quarter and the minimum value of 28.72 percent in 2010 quarter 1 up to 4. This situation, supported by a moderate standard deviation, is 1.811896 percent.

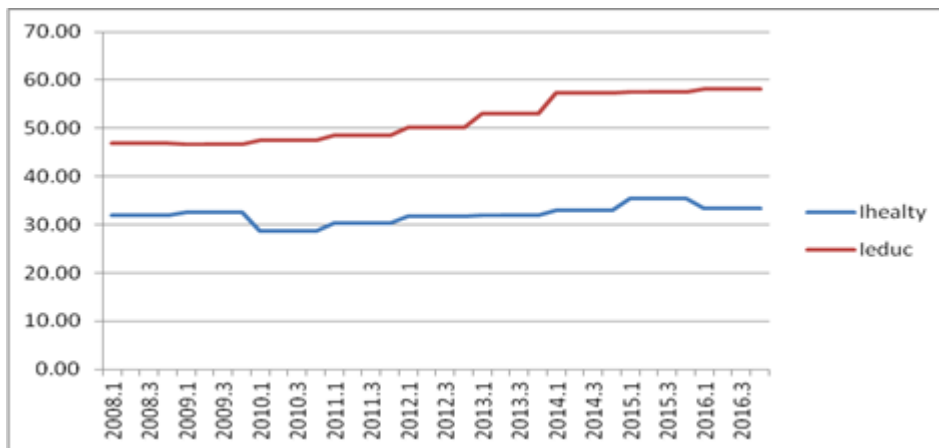


Figure 8.
Education Index and Health Index in Central Java, in 2008.1-2016.4
(Percent)
Source: BPS

4.2. Testing of Research Hypotheses

In testing the hypothesis, the research needs to do data processing. The results are in table 1

Table 1 Results of Processing Economic Growth Regression

Variable	You are expected	Coefficient	t-Statistic	Prob.	Conclusion
DI	(+)	-0.053	-2.081	0,023	Ho accepted
FDI	(+)	0.136	1.837	0,038	Ho rejected
CPI	(-)	-3.659	-0.158	0,437	Ho accepted
IHEALTH	(-)	-36.749	-1.934	0,031	Ho rejected
IEDUC	(+)	24.619	1.081	0,144	Ho accepted
GRDP(-1)	(+)	1.009	91.689	0,000	Ho rejected
R-squared	0.999		F-statistic		223772,1
Adjusted R-squared	0.999		Prob(F-statistic)		0.000000
Jarque Berra	14,134		LM Test		4,9789
Prob	0,000		Prob		0.0257
White test	29,765				
Prob	0.3724				

From the results of processing R² is obtained adjusted amounted to 0,999, which means that the variation or the behavior of the independent variables are DI, FDI, CPI, iHealth, IEDUC, GRDP (-1) was able to explain the variation of the dependent variable, namely its economic growth which is proxied by the GDP price constant at 99.9 percent, while the remaining 0.1 percent is a variation of another independent variable yang affect the economic growth of Central Java province, but not included in the model. These results indicate that the resulting model has good goodness of fit.

Individual testing is done to examine the effect of each of the independent variables that influence Central Java's economic growth. The findings of data processing can be explained as follows:

- Testing the effect of domestic investment on economic growth in Central Java is indicated by an estimated coefficient of -0.053, which means that domestic investment has a negative effect on economic growth in the province of Central Java. Increasing domestic investment will reduce economic growth in Central Java, and conversely, the decline in domestic investment will increase economic growth in Central Java. These findings indicate that domestic investment is not proven to have a positive effect on economic growth in the province of Central Java.
- The results of processing for testing the effect of FDI on economic growth in Central Java are indicated by an estimated coefficient of 0.136, which means that an increase in FDI will increase economic growth in Central Java, and conversely, a decline in FDI will reduce economic growth in Central Java. With the p-value of t statistics of 0.038 < 0.05, Ho is rejected, and Ha is accepted, so it can be concluded that the hypothesis that PMA has a positive effect on economic growth in Central Java is proven.
- The processing results for the inflation variable proxies through CPI are indicated by an estimated coefficient of -3.659, which means increasing the CPI will reduce economic growth in Central Java, and preferably a decline in the CPI will increase economic growth in Central Java. The prob value of t statistic is

- 0.437 > 0.04, indicating that H_0 is accepted, so it can be concluded that the negative effect of the CPI on economic growth in Central Java province is not proven.
- d) To test the effect of the health index, which is proxied from the percentage of the population experiencing health problems (IHEALTH), it produces an estimated coefficient of -36,749, which means an increase in the percentage of residents experiencing health problems will reduce economic growth in Central Java province, and preferably the declining percentage of the population experiencing disruption will increase economic growth in the province of Central Java. With a prob value of t statistic of $0.031 < 0.05$, then H_0 is rejected, and H_a is accepted, so it can be concluded that the negative effect of the percentage of the population experiencing health problems on the economic development of the province of Central Java proved significant.
- e) The test results from the influence of the education index (Ieduc) on economic growth in the province of Central Java are indicated by an estimated coefficient of 24.619, which means increasing the education index will increase economic growth in the province of Central Java, and in fact, the declining education index will reduce economic growth in the province Central Java. The prob value of t statistic is $0.144 > 0.05$, indicating that H_0 is accepted so that it can be concluded that the positive effect of the education index on economic growth in the province of Central Java is not proven.
- f) Test results for GRDP (-1) on economic growth in the province of Central Java are indicated by an estimated coefficient of 1.009, which means increasing GRDP (-1) will increase economic growth in the province of Central Java, and as a result, the decline in GRDP (-1) will reduce economic growth in the province of Central Java. The prob value of t statistic is $0.00 > 0.05$, indicating that H_0 is rejected, so it can be concluded that the positive effect of GRDP (-1) on economic growth in Central Java province is proven.

5. Conclusion

PMA, PMDN, IHK, Ihealth, ideas, and GRDP (-1) are able to explain the economic growth in Central Java at 99.9 percent. PMA and GRDP (-1) have a positive and significant effect on economic growth. Health has a negative and significant effect on economic growth. PMDN, CPI, and ideas are not significant for economic growth. Nevertheless, the implication of the research as follows:

- The government needs to take policies that can improve the quality and quantity of PMA and PMDN, such as the ease of licensing procedures, tax relief, and levies, legal certainty, the use of local raw materials, export-oriented, technology transfer, and others;
- The government needs to make breakthroughs and strategies to increase GRDP without reducing justice and public welfare;
- The government and regional officials and the community need to maintain a conducive atmosphere so that prices are stable;
- The government and regional officials and communities need to maintain good health with a healthy lifestyle and maintain the environment and provide health facilities optimally;
- The government and regional officials and the community need to improve the process and carry out education, both formal and non-formal education.

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