Determinant of Economic Factors on Economic Growth in West Kalimantan Province 2011-2019

Firdaus Budhy Saputro[1], Musa Hubeis[2], Machfud Sidik[3], Heru Subiyantoro[4]
{ovier2008@gmail.com}

Students of Doctoral Program at University of Borobudur[1], Lecturer at University of Borobudur[234]

Abstract. This study aims to prove the opinion of classical economists about the effect of investment, population as proxied by the number of workers who work and the development of technological advances on economic growth. The method used in this study is a quantitative method using panel data regression analysis techniques, namely a combination of cross-sectional and time series data. The results of the study simultaneously state that investment, labor absorption and technology implementation have a positive and significant impact on economic growth in the province of West Kalimantan. The results of the study prove that investment has a positive and insignificant effect on economic growth, labor absorption has a positive and significant effect on economic growth, while technology implementation has a negative and insignificant effect on economic growth in the province of West Kalimantan.

Keywords: Investment; Labor Absorption; Technology Implementation; Economic Growth

1 Introduction

Indonesia's economic growth has increased in the last ten years. Until 2019, the world economy, including Indonesia, continued to experience an increase both in terms of the nominal value of Gross Domestic Product, as well as in terms of the percentage growth. Based on Gross Regional Domestic Product, West Kalimantan Province is only able to contribute 1.26 percent of Indonesia's Gross Domestic Product. This is very small when compared to the GRDP generated by the Province of East Kalimantan which is able to contribute 5.14% to Indonesia's GDP (BPS, 2020).

Many factors can affect economic growth. Economists differ on the factors that can affect economic growth. Natural resources, capital accumulation, labor, market expansion and labor productivity can affect economic growth (Smith, 1950). Economic growth can be influenced by limited natural resources, capital accumulation, labor that is always available, technological advances and the dominant agricultural sector (Ricardo, 1951). The economy of a country is basically divided into two economic structures, namely the traditional agricultural sector and the modern industrial sector. These two sectors greatly affect the number of workers and the level of wages (Lewis, 1954).

The opinion of classical economists on economic growth is very similar to the situation in the province of West Kalimantan. Based on statistical data, 49% of business fields are still

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dominated by the agricultural, food crops, plantation and livestock sectors. While the modern industrial sector that uses technological advances is still very minimal, the number is only 6% industry, 19% trade, 6% construction, 9% services, and 11% other businesses (BPS, 2021).

Population growth is determined by culture, age and level of education of the community. Residents who live in rural areas tend to marry off their children at a young age on the grounds that they are of sufficient age, it is not uncommon for children who have graduated from high school education (aged 18-20 years) to get married without paying attention to workers as a source of income. As much as 41.39% of the married population aged over 21 years, while the population who married under the age of 21 years amounted to 58.61%. In rural areas there are people who are married at the age of 16 years, the number is 14.25% (BPS, 2020). The large number of workers used will affect economic growth, but if the number of workers used is too much, there will be a decrease in the value added (Ricardo, 1951). Labor productivity partially has a positive and significant effect on economic growth and GDP per capita (Firman, et al, 2019).

The increase in investment has not been able to increase the number of labor absorption. In 2018 the realization of PMA was $. 491,938,000 (1$ = 13,400) can absorb a workforce of 14,835 people and the realization of PMDN is Rp. 6,591,384,000,000 can absorb a workforce of 14,428 people, economic growth of 5.07%. In 2019 the realization of FDI increased by 8.25% to $. 532,540,000 (1$ = Rp. 15,000) can absorb 13,263 workers, employment decreased by 10.60%, and PMDN increased by 16.76% to Rp. 7,695,834,000,000 can absorb 11,563 workers, employment decreased by 19.86%, economic growth increased by 0.02% to 5.09%. (DPMPTSP, 2019).

Investments are only made by entrepreneurs who get profits, who are reinvested. This fact is in accordance with the opinion of economists (David Ricardo, 1951), (Schumpeter, 1961), (Harrod-Domar, 1948) proving that capital accumulation and additional investment can only be carried out by entrepreneurs. Entrepreneurs make additional investments and investments derived from profits to produce innovative goods and services.

With this background, this study aims to analyze economic growth in the province of West Kalimantan. Considering the investment variable can have a positive effect on economic growth as long as the required number of workers is available in sufficient quantities. The role of investment and technology followed by market expansion can increase labor productivity and affect economic growth. Previous research has proven different empirical results.

Literature Review

Investment and Economic Growth

Classical and neoclassical economists agree that the accumulation of invested capital can increase economic growth. Investment can have a direct effect on economic growth, if the increase in investment is followed by an increase in the number of workers. Investment can have an indirect effect, if investment followed by market expansion can increase labor productivity and then increase economic growth (Adam Smith, 1950). If the number of factors of production (land) remains constant, while the amount of labor increases and the accumulation of capital increases, the marginal product initially increases, but if the increase in the number of labor and capital accumulation is too much, the marginal product will decrease. (Ricardo, 1951).

Neoclassical economists (Robert Solow, 1956) proved that the factors of production consist of population, labor, capital accumulation, and technology. The growth of these factors of production can affect economic growth, and the most important is technological progress. (Harrod-Domar, 1948) proved that economic growth is positively influenced by the ratio of

savings and capital output ratio. Meanwhile (Schumpeter, 1961) proves that economic growth is influenced by innovation and reinvested capital accumulation.

The empirical evidence conducted by Imene Debbiche (2020), Anita Fikri Utami, et al (2020) proves that the influence of foreign investment and other investments is not significant and positive on economic growth, but portfolio investment has a significant and negative effect on economic growth. Faten Al-Jabsheh, et al, (2021) prove that investment is very responsive to changes in non-oil GDP with a long-term income elasticity of around 0.9 (0.895 to be exact). Elwasila Saeed Elamin Mohamed (2020) proves that GDP and investment do not exactly match the balance in the long run.

Hefrizal Handra and Budi Kurniawan (2020) prove that investment has a significant and negative relationship to the variable of economic growth. Elvira da Costa Ribeiro and Bing Wang (2020), Khalid Najeh Al-Tanbour, et al (2021) prove that the investment variable has a significant and positive relationship to economic growth, changes in foreign investment will affect Gross Domestic Product, Tourism and Exchange Rates. Lorena Cakerri, et al (2020) prove that there is a long-term Granger cointegration relationship originating from foreign investment on economic growth. Salamatu Bellah Conteh, et al (2021) prove that investment in physical capital, human capital and labor is an important factor for the performance of economic growth.

Labor Absorption and Economic Growth

Manpower as the entire population of working age (15 years and over) who have the potential to produce goods and services (BPS, 2020). Manpower is everyone who is able to carry out work both inside and outside the employment relationship in order to produce goods and services to meet the needs of the community. Manpower planning and employment information includes: Job opportunities, Job training, Labor productivity, Industrial relations, Working environment conditions, Wages and Welfare of the workforce. Employment issues continue to receive attention from various parties, such as the government, educational institutions, communities and families (Law No. 13 of 2003).

Good economic growth, one of which is marked by high labor productivity where output growth always comes from one or more of three factors, namely an increase in the quality and quantity of labor, additional capital (savings and investment) and technological improvements (Todaro and Smith, 2011).

Previous research has proven different results regarding labor absorption, Hefrizal Handra and Budi Kurniawan (2020) proved that in the long-term labor absorption has a significant and negative relationship to economic growth variables. Khalid Najeh Al-Tanbour, et al (2021) prove that the population growth rate and the economic openness index show a significant and positive relationship with economic growth. Shoaib Imtiaz, et al (2020) prove that the relationship between political instability and youth unemployment is significant and positive, Firman, et al (2019) proves that labor productivity partially has a positive and significant effect on economic growth and GDP per capita.

Technology Implementation and Economic Growth

Technological advances can increase labor productivity as well as capital productivity. If technological progress is fast enough, then the law of diminishing returns can be inhibited or neutralized. The growth process is a race between the law of diminishing returns that can reduce the level of the economy, with technological advances that can improve the economy (David Ricardo, 1951). In the long term, technology implementation has an insignificant and positive relationship with economic growth. This means that technological developments are not

sufficient to affect long-term economic growth (Lorena Cakerri, et al, 2020). Meanwhile (Robert Solow, 1970) proves that advances in technology, skills and skills of the workforce can affect economic growth.

2 Research Methods

This study uses panel data for a sample of 14 regencies/cities taken in West Kalimantan Province using secondary data that has been published during the 2011 – 2019 period. The sample selection is based on data available at the Central Statistics Agency of West Kalimantan Province.

Investment data (measured in Rp.) is taken from data on Gross Fixed Capital Formation on Gross Domestic Product at constant prices according to expenditure. Data on labor absorption (measured in souls) is taken from the number of workers who work at the age of 15 years and over. Technology Implementation Data (measured in Rp.) is taken from the investment ratio and the number of workers working. All data are transformed into natural logarithm form. Economic growth data (measured in percentage) is taken from the growth rate of Gross Regional Domestic Product at constant prices by expenditure. Stationary test unit root test is used to determine the stationarity of the data used. Then panel data regression is used to test, select and analyze research data.

3 Results and Discussion

Table 1. Stationary Test Results of the First Different level

Variable	First Different Level		
	ADF-Fisher Chi-square	Max Lag	description
Economic Growth	0,0000	1	Stasioner
Investment	0,0001	1	Stasioner
Labor Absorption	0,0000	1	Stasioner
Technology Implementation	0,0007	1	Stasioner

Source: Data processed

From the results of the stationary unit root test using the ADF-Fisher Chi-square, it was found that all the variables were stationary at the first different level, so the model could be continued by using panel data regression.

Table 2. Multiple Linear Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.384306	2.289155	0.604723	0.5466
Ln_Invesment	0.048381	0.035073	1.379422	0.1706
Ln_Labor Absorption	0.721649	0.132493	5.446707	0.0000
Ln_Technology Implementation	-0.000924	0.001874	-0.493364	0.6227

Source: Data processed

Economic Growth = 1.384306 + 0.048381 X1 + 0.721649 X2 – 0.000924 X3 (1)

The interpretation of the regression equation is as follows:

a. Constant value = 1.384306 means that statistically if all ceteris paribus variables (economic factors) have a constant value, then the regional economic growth value is 1.384306 %.
b. The value of the coefficient 2 = 0.048381, meaning that the elasticity value of investment to regional economic growth is E = 0.048381. The value of E < 1 indicates that the increase in investment is inelastic to regional economic growth.
c. Coefficient value 4 = 0.721649, meaning that the elasticity value of Labor Absorption on Regional Economic Growth is E = 0.721649. The value of E < 1 indicates that the increase in labor absorption is inelastic to regional economic growth.
d. The value of the coefficient 5 = – 0.000924, meaning that the elasticity value of Technology Implementation on Regional Economic Growth is E = – 0.000924. The value of E < 1 indicates that the increase in technology implementation is inelastic to regional economic growth.

The results of the F-test in this study have an F-statistical value of 33.52105 > F table of 0.177, a positive F-statistical value indicates a unidirectional relationship and a probability value (F-statistics) of 0.0000 < = 0.05 which means it has an effect significantly, this shows that the variables of Investment, Labor Absorption and Technology Implementation simultaneously have a significant and positive effect on the economic growth of the province of West Kalimantan.

The results of the t test show that investment has an insignificant and positive effect, labor absorption has a significant and positive effect, and technology implementation has an insignificant and negative effect on economic growth in the province of West Kalimantan.

The magnitude of the influence of investment, labor absorption and technology implementation simultaneously has a significant and positive effect on the economic growth of the province of West Kalimantan as shown by the results of Adjusted R Square = 0.585743 or 58.57%, meaning that investment, labor absorption and technology implementation are simultaneously Simultaneous can explain 58.57% of changes in economic growth in the province of West Kalimantan, the remaining 41.43% is influenced by other factors outside the model studied.

4 Conclusion

The conclusion is first, employment has a significant and positive effect on economic growth, Second, investment has an insignificant and positive effect, while technology implementation has an insignificant and negative effect on economic growth in West Kalimantan Province. The results of this study do not represent the theory as a whole, the variables of economic factors, especially investment and the implementation of the technology used can affect economic growth. Investment data is measured by Gross Fixed Capital Formation, while technology implementation data is measured by the investment ratio and the number of employed workers.

Suggetions

The author suggests for further research, when examining economic factors related to investment, labor, technology and economic growth.

a. It is better to use other research objects so that they can distinguish the results of their research from previous research.
b. Variable development also needs to be done to determine other factors that can affect economic growth.
c. Can develop data on the number of observations (number of observations) so that the data used can better describe the actual situation in the population and sample being studied.

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