

## Determinants of Economic Growth in Kalimantan

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### ABSTRACT

This study aims to analyze the effect of banking credit, labor, domestic investment, and foreign investment on economic growth in Kalimantan. The data used are secondary data obtained from Bank Indonesia and Badan Pusat Statistik (BPS). Data processing uses panel data analysis with a fixed effect regression model. Partially, the results of the analysis show that the realization of banking credit, labor, domestic investment, and foreign investment has a positive and significant impact on Kalimantan's economic growth during the study period.

**JEL** : E00, E24

**Keywords**: *economic growth, banking credit, labor, domestic investment, foreign investment*

### 1. INTRODUCTION

High and sustainable economic growth is a condition for sustainable development and increasing welfare. Economic growth without expanding job opportunities will result in income inequality and poverty. Investments made by the private sector are called domestic investments and foreign investments are always accompanied by banking support. Banks play an important role in the economy as an intermediary institution that converts public savings into investments that are distributed to productive assets in the real sector, capital accumulation, and aggregate output growth.

**Table 1. Average GRDP, Banking Credit, Labor, Foreign Investment dan Domestic Investment in Kalimantan 2014-2018**

Year	2014	Δ	2015	Δ	2016	Δ	2017	Δ	2018	Δ
GRDP (billion Rp)	171,951	6.5%	181,788	5.7%	188,966	3.9%	195,186	3.3%	197,736	1.3%
Banking Credit (billion Rp)	36,351	43%	44,718	23%	54,435	22%	59,722	10%	61,620	3%
Labor (people)	1,633,673	3.0%	1,687,531	3.3%	1,682,771	-0.3%	1,731,482	2.9%	1,757,763	1.5%
Domestic Investment (billionRp)	3,366.85	-8%	4,184.93	24%	7,185.90	72%	5,354.88	-25%	5,001.75	-7%
Foreign investment (million US\$)	479.73	-5%	802.15	67%	693.38	-14%	1,168.40	69%	1,460.75	25%

Source: Badan Pusat Statistik (BPS) processed data

Based on table 1 for 2014-2018, the distribution of bank credit, labor, domestic investment and economic growth showed a downward trend, while foreign investment showed an increase. Domestic investment experienced a sharp contraction, up to -7%, on the other hand, foreign

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investment gradually showed a significant increase until it could grow by 25%. Another interesting thing is that the growth of labor, which is proxied by the number of the working workforce, has decreased every year. This means that the ability of jobs to absorb labor is decreasing. This condition is also related to banking credit that is channeled also decreasing every year, this is related to the sluggish business world and regional economic conditions. Based on the contradictory state of the data, this study aims to examine and analyze the effect of bank credit, labor, domestic investment, and foreign investment on economic growth in Kalimantan.

## **2. EMPIRICAL STUDIES**

According to Kuznets, economic growth is an increase in the long-term capacity to provide various economic goods to the population. The increase in capacity is determined by technological, institutional, and ideological progress or adjustment to the demands of the existing situation. There are three main factors in the economic growth of any country, namely capital accumulation, population growth, and technological progress. Meanwhile, Solow argues that economic growth depends on the availability of production factors such as population, labor, capital accumulation, and the level of technological progress. Todaro (2011) says that the resources that will be used to increase income and consumption in the future are called investment, which will determine the level of output, and the rate of output growth.

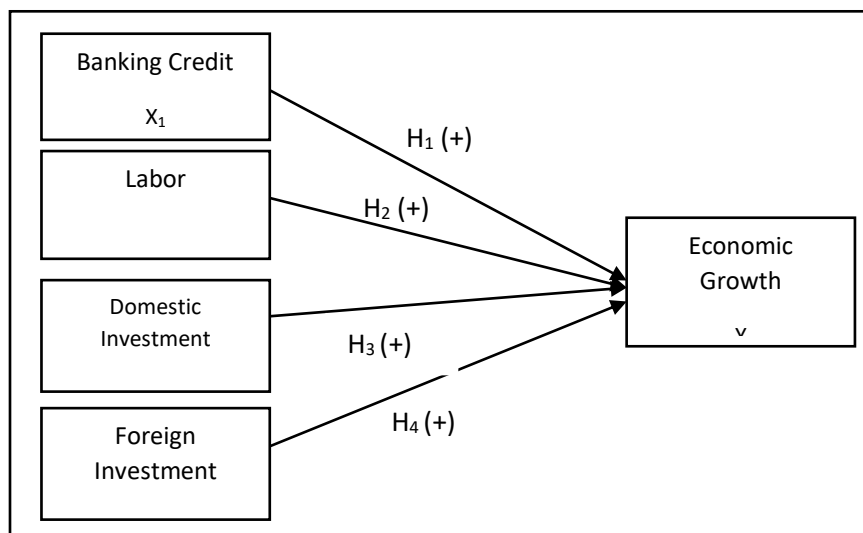
Several previous research results from Boreinsztein, et al (1998), Aizenman, et al (2013), Kurtishi-Kastrati (2013), Feeny, et al (2014), and Hapsari (2016) concluded that foreign investment contributes to economic growth when the ability to absorb technological sophistication in the country. Study results Ghani, et al (2006), Cheteni (2013) concluded that economic growth was largely driven by private sector investment. And Gymah, et al (2012), Murty, et al (2012), Sassi, et al (2014) concluded that the development of the business financing sector, both by bank financing institutions, encourages the development of financial structures that can increase economic growth. However, there are also different study results, for example, the study of Kholis (2012) and Bado (2015) found that foreign investment growth has a negative impact on Indonesia's economic growth.

Labor is the population of working age (15-64 years) or the total population in a country who can produce goods and services. According to Solow, to produce a certain number of outputs, different combinations of capital and labor can be used. If more capital is used, less labor is needed, and vice versa. With this flexibility, an economy has unlimited freedom in determining the combination of capital and labor that will be used to produce a certain level of output. Several studies from previous researchers revealed the same results as the labor theory above, including Ranis, et al (2000), Pambudi et al (2013), and Bado (2015) who concluded that economic growth developed and continued with an increase in quality and quantity of labor. However, there are different study results from Asari, et al (2011), and Leshoro (2013) which conclude that labor has a negative effect on GDP and in the short term there is no direct relationship between labor and GDP.

The distribution of banking credit has a significant effect on economic growth in Kalimantan. Entrepreneurs need additional working capital and investment to purchase merchandise or supplies of raw materials and complementary materials, purchase production machinery and labor wages. The use of business capital through banking credit will increase the amount of production so as to increase company profits.

Labor has a significant effect on economic growth in Kalimantan. Labor is seen as a factor of production that is able to increase the usability of other production factors so that companies view labor as an investment and many companies provide education and training to their employees to increase productivity.

The realization of domestic investment has a significant effect on economic growth in Kalimantan. Domestic investment has several benefits including saving foreign exchange, reducing dependence on foreign products, encouraging the progress of domestic industry, and helping to absorb labor.



**Figure 1. Conceptual Framework**

The realization of foreign investment has a significant effect on economic growth in Kalimantan. Every country needs capital to finance its development projects, one way to get a capital injection is to attract foreign investment. The benefits of foreign investment include the transfer of production technology, the creation of new jobs, the improvement of the quality of the workforce and the transfer of management skills as well as access to international trade networks so as to increase GDP.

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### **3. RESEARCH METHODS**

This study is a quantitative study using panel data which is a combination of cross section data from four provinces on the island of Kalimantan, namely West Kalimantan, East Kalimantan, South Kalimantan and Central Kalimantan and time series data from 2006 to 2015. Secondary data were obtained from various government agencies. such as the Regional Development Planning Agency, the Central Statistics Agency, and Bank Indonesia. The regression equation model used:

$$Y = \alpha + b_1X_{1it} + b_2X_{2it} + b_3X_{3it} + b_4X_{4it} + e$$

Note:

Y = Economic Growth

$\alpha$  = Constant

X1 = Kredit Perbankan

X2 = Labor

X3 = Domestic Investment

X4 = Foreign Investment

b(1....2)= regression coefficient

e = error term

i = province i

t = time

The regression model estimation method using panel data can be done in three approaches, namely: (1) Common Effect Model, (2) Fixed Effect Model, (3) Random Effect Model. Then to determine the right model of the three approaches above, the Chow Test, Hausman Test and Lagrange Multiplier Test are carried out. After that, the classical assumption test is carried out which includes the normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. Hypothesis testing is the main component needed to be able to draw conclusions from a study, hypothesis testing is also used to determine the accuracy of the data. Hypothesis testing is divided into several tests including the F test (overall) and t test (partial).

### **4. RESULT AND DISCUSSION**

To ensure that the estimation results are not biased, the classical assumption test is carried out. The normality test is used to determine whether the residuals are normally distributed or not. From the results of the normality test in table 4.6, it is known that the probability value is 0.3422. Because  $0.3422 > 0.05$  then  $H_0$  is accepted, meaning that the residuals are normally distributed. To find out whether there is multicollinearity, it can be seen from the correlation value between the four independent variables. The correlation value between independent variables is less than 0.8 ( $r < 0.8$ ) meaning that the model does not contain multicollinearity problems. To determine the presence or absence of heteroscedasticity, the White test was used. From the test, the probability value of  $obs * R\text{-squared}$  is  $2.5677 > 0.05$ . So it can be concluded that there is no heteroscedasticity problem in the model. To determine whether there is autocorrelation, the LM Correlation test is used. From the test, the probability value of  $obs * R\text{-squared}$  is  $6.7615 > 0.05$ . So it can be

concluded that there is no autocorrelation problem in the model. Based on the results of the Eviews test, the following results were obtained:

**Table 2. Dependent Variables Test Results**

Variable	Coefficient	t-Statistik	Prob
C	-6.012	-2.287	0.029
X <sub>1</sub>	0.461	3.506	0.001
X <sub>2</sub>	1.344	2.725	0.010
X <sub>3</sub>	0.113	2.335	0.026
X <sub>4</sub>	0.081	3.353	0.002
R Squared	0.960		
Adjusted R squared	0.952		
F-Statistic	110.55		
Prob (F-Statistic)	0.000		

Source : processed data

The regression equation that reflects the relationship between the variables is:

$$\text{LogY} = -6,012 + 0,461 \text{ LogX}_1 + 1,344 \text{ Log X}_2 + 0,113 \text{ LogX}_3 + 0,081 \text{ LogX}_4 + e$$

Note:

Y = Economic Growth

X<sub>1</sub> = Banking Credit

X<sub>2</sub> = Tenaga Kerja

X<sub>3</sub> = Domestic Investment

X<sub>4</sub> = Foreign Investment

In table 2, the coefficient of determination (adjusted R<sup>2</sup>) of 0.9516 means that the overall variables of banking credit, labor, domestic investment and foreign investment are able to explain variations in Kalimantan's economic growth of 95.16% during the time period studied, while 4.84 % is explained by other variables that are not included in the estimation model.

The F test was conducted to see the significance of the influence of the independent variables simultaneously on the dependent variable. Based on the F test in table 2, the calculated F value is 110.55 > F table (2.6060) with a probability F value of 0.000 < 0.05. This means that banking credit, labor, domestic investment and foreign investment simultaneously have a significant effect on economic growth in Kalimantan.

The t-test was conducted to determine how far the influence of one independent variable individually on the dependent variable. Based on the results of data processing with the fixed effect model, it is known that the t-statistic value of the Banking Credit variable (X<sub>1</sub>) is 3.5058 > t-table 2.0301 with a probability of 0.0014 < 0.05. This means that hypothesis 1 which states that banking credit has a significant effect on economic growth in Kalimantan is accepted. Based on the results of data processing with the fixed effect model, it is known that the t-statistic value of Labor (X<sub>2</sub>) is 2.7247 > t-table 2.0301 with a probability of 0.0103 < 0.05. This means that hypothesis 2 which states that labor has a significant effect on economic growth in Kalimantan is accepted.

Based on the results of data processing with the fixed effect model, it is known that the t-statistic value of the domestic investment variable (X<sub>3</sub>) is 2.3347 > t-table 2.0301 with a probability of 0.0260 < 0.05. This means hypothesis 3 which states that domestic investment has a significant effect on economic growth in Kalimantan is accepted. Based on the results of data processing with the fixed effect model, it is known that the t-statistic value of foreign investment (X<sub>4</sub>) is 3.3534 > t-table 2.0301 with a probability of 0.0021 < 0.05. This means that hypothesis 4 which states that foreign investment has a significant effect on economic growth in Kalimantan is accepted.

Economic growth always fluctuates due to the activities of producers to innovate and invest so as to increase output. Manufacturers need investments to increase the supply of raw materials and complementary materials, and maintain or add production machines. The use of this business capital will increase the amount of production. If the company's profits increase, the company can survive in the midst of competition, it can increase incentives to the workforce, so that there is an increase in employee welfare. The resulting multiplier process can lead to faster economic growth.

In general, during 2014-2018, banking credit disbursed in Kalimantan was still relatively slow in line with regional economy condition which was still contracting as a result of the sluggish coal mining sector as well as the slowdown in palm oil production which has been the mainstay of the regional economy. This condition illustrates that currently banks in Kalimantan are more cautious in lending and there has been no significant business expansion from business players amid the economic contraction in Kalimantan.

There is a positive relationship between labor and economic growth because it increases production inputs so that aggregate productivity also increases. The labor absorption rate in Kalimantan has decreased due to a slowdown in labor absorption. This is due to the decline in economic performance in key sectors such as the mining sector and the manufacturing sector, as well as the slowing performance of the agricultural sector so that public welfare also declines.

Increasing domestic investment has several benefits, including saving foreign exchange, reducing dependence on foreign products, encouraging the progress of domestic industry, and absorbing labor. Investment in various strategic sectors will encourage economic growth. Infrastructure development originating from domestic investment accelerated in 2016-2018 in Kalimantan, including property development such as hotels, restaurants, shopping centers and the operational support service sector for the primary business sector. A number of business actors from industrial groups continue to invest for business continuity. A number of palm oil companies are still doing replanting related to regulations regarding Indonesian Sustainable Palm Oil/ISPO and infrastructure improvements such as roads and docks that support upstream to downstream businesses. Meanwhile, larger companies make investments that are more forward looking, such as the development of biodiesel infrastructure. However, the provinces of South Kalimantan and East Kalimantan experienced a slowdown at the end of 2018.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

The distribution of banking credit has a positive and significant impact on economic growth in Kalimantan. This is because banking credit is used as additional funds to purchase capital goods so as to increase output. Labor has a positive and significant impact on economic growth in Kalimantan. This is because labor as a production input can increase the usability of other production factors, such as cultivating land, using machines and utilizing technology in the production process. Domestic investment has a positive and significant impact on economic growth in Kalimantan. This is because domestic business actors from strategic sector groups such as the electricity, water, paper/processed sawdust and food crops industries continue to carry out maintenance and business expansion with the aim of increasing output so as to encourage regional economic growth. The realization of foreign investment has a positive and significant impact on economic growth in Kalimantan. This is due to the large investment contribution in several sectors such as the metal mineral industry, cement industry, food industry and processing industry which have an impact on increasing output and encouraging regional economic growth.

This study recommends the need for realignment of banking credit so that it is more directed at developing and labor-intensive producers, for example by determining a low interest rate. The limitation of this study is that it does not include all variables that affect economic growth. In this regard, further research can add other variables that affect economic growth such as consumption variables and net exports, so that the resulting model becomes better.

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