



The Influence Of Investment On Economic Growth In Sumbagsel

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How to Cite :

Adnyani, S.A. G. I., Azansyah, A. (2024). The Influence Of Investment On Economic Growth In Sumbagsel. EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis, 12(1). doi: <https://doi.org/10.37676/ekombis.v12i1>

ARTICLE HISTORY

Received [03 October 2023]

Revised [12 November 2023]

Accepted [05 December 2023]

KEYWORDS

Investment, Economic Growth

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ABSTRACT

This study aims to find out how SUMBAGSEL investment affects economic growth. Panel data regression using the Eviews-12 program is the tool used in this study. Panel data covering 10 provinces in Sumatra over a period of 11 years with time series from 2012 to 2022 was used to generate the study. Overall, the results of this study indicate that investment affects economic growth positively and significantly, this study seeks to ascertain how SUMBAGSEL investment affects economic growth. Overall, the results show that. The result of F-statistic value of 251.8980 is greater than F table which is 2.578739. This means that investment affects economic growth in SUMBAGSEL .

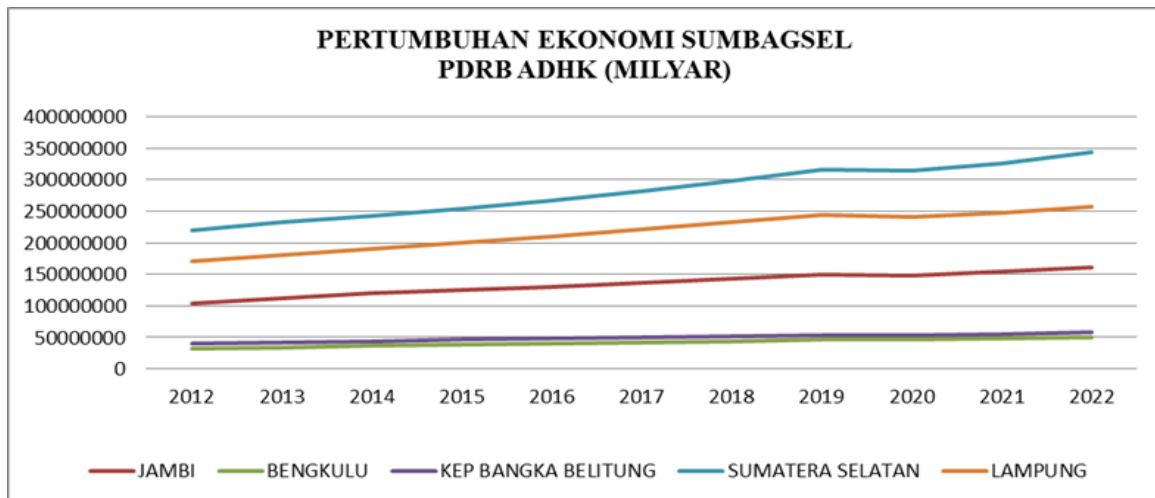
INTRODUCTION

Economic growth can be used as a benchmark to measure the progress of a developing region over time. (Patriamurti & Septiani, 2020) . Increase in per capita income and annual growth rate of gross domestic product (GDP) are two indicators of economic growth. GDP measures an economy's overall income and expenditure over time. (Sudirman & Alhudhori, 2018) . One of the goals of strengthening a country's economy is to have a balanced economy.

To find out whether the economic condition of a region is good or not, you can see how the region's economic growth is (Fauzan & Rahman, nd) . The success of a country in controlling its economic development and performance over time can be assessed by looking at its growth rate at that time (Kurniawati & Islami, 2022) . With sophisticated and modern industry, it can be seen how the development of national and regional economic structures will accelerate towards a balanced economy (Asiyan, 2013) .

Each region, especially in Indonesia, has a different rate of economic growth. One factor that is often experienced is regional development that is not evenly distributed or has not been able to manage the potential that exists in the region effectively (Arlintang et al., 2020) . Positive economic growth is indicated by a region's economy increasing, and negative economic growth

is indicated by a region's economy experiencing a decline. If a region experiences faster economic growth, then the region is said to have a fast economy.



Source: Badan Pusat Statistik

The image above shows the rate of regional economic growth in Sumbagsel. It can be seen that every year, starting from 2012-2022, the economic growth of each region has increased, which means it shows positive growth. South Sumatra Province has the highest economic growth compared to 4 other regions. The economic development of South Sumatra has changed every year, and is now able to compete with other provinces in Sumatra. Therefore, the more activities a region develops, including production, consumption and investment activities, the better the economic growth of that region. (A. Akbar et al., 2022)

Several factors, including investment, natural resources, and human resources, impact economic growth. Investment is one of the factors that influences how fast a region's economy grows. Where this investment is expected to generate income for more advanced economic growth (Muryanto et al., 2022).

Investments that can make a good contribution to economic growth are Foreign Investment (PMA) and Domestic Investment (PMDN) which are the most important financing for a developing region. (Kambono & Marpaung, 2020). It is hoped that investment in a region will be able to increase output and income from production factors so that it can accelerate the rate of economic growth. (Rofii & Ardyan, 2017)

In the context of regional development in Indonesia, the influence of investment on economic growth in Jambi, South Sumatra, Bengkulu, Bangka Belitung Islands and Riau Islands (Sumbagsel) is an important issue. This region has significant economic potential, and the role of investment in spurring economic growth is very crucial. In this article, we will look at the impact of investment, both Domestic Investment (PMDN) and Foreign Investment (PMA), on the economic development of South Sumatra.

We can see that investment is an important driver for economic progress in regions or provinces in Indonesia, especially Sumbagsel, by looking at its impact in creating jobs, increasing productivity and driving the main sectors of the economy. Through this research, we can detail the challenges, opportunities and policies that need to be implemented to ensure sustainable economic growth in Sumbagsel, as well as making a positive contribution to overall national development. This research is rarely researched in the Sumbagsel region, therefore the aim of this research is to see the influence of investment on economic growth in Sumbagsel for the 2012-2022 period.

LITERATURE REVIEW

According to the Harrod-Domar theory, capital formation is necessary to increase the capital stock and help the economy develop. Capital formation is seen as an investment that will increase the economy's ability to produce something. The ability of an economy to produce something and increasing spending will increase the actual demand of society as a whole. The basic principle of the Harrod-Domar theory is that every economy can set aside a certain percentage of its national income if only to replace damaged capital goods (buildings, infrastructure, etc.) (Todaro, 2006: 96) in (Rumalutur et al., 2022)

Harrod Domar's hypothesis tries to explain the conditions that must be met so that an economy can experience stable growth in the long term when evaluating economic growth. Harrod and Domar's analysis is based on the following assumptions: 1. Capital goods capacity has been reached (full employment). 2. Savings are inversely correlated with income. 3. Capital output ratio (COR) is the established ratio between capital and production. 4. According to the Harrod-Domar analysis, capital goods have reached full employment levels. 2. Savings are inversely correlated with income. 3. Capital output ratio (COR) is a determined ratio between capital and production. 4. In the Harrod -Domar analysis it can be seen that:

1) To achieve long-term economic growth, a sustainable increase in aggregate expenditure must be achieved.

2) $I + G + (XM)$ must continue to increase rapidly for stable economic growth to occur.

The Solow-Swan growth theory was developed by Robert Solow (Massachusetts Institute of Technology) and Trevor Swan (The Australian National University) creating the Solow-Swan growth theory. This theory states that the level of technological progress as well as an increase in the supply of production components (population growth, labor accumulation, and capital accumulation) determines economic growth. According to this theory, which is based on classical analysis, the economy will continue to have full employment and equipment capacity will continue to be fully utilized. This theory also states that the capital output ratio (COR) is dynamic and can change.

There are several capital requirements that can be met to produce a certain amount of production. Less labor is needed when more capital is used, and vice versa when less capital is used. With this adaptability, an economy has complete freedom over the allocation of capital and labor needed to produce a certain level of output. (Sutawijaya, 2010)

According to development economic theory, the rate of economic growth and investment is inversely correlated because, on the one hand, a country's economic growth influences how much income it can save, which in turn influences how much investment it can make. In this case, investment is the result of economic expansion. On the other hand, a country can achieve a higher level of economic growth if the country makes greater investments. Therefore, growth depends on investment.

Theoretically, through various channels, FDI foreign direct investment has a good impact on economic development or growth, especially in the host country. through the construction of new factories, resulting in increased output, or GDP, total exports, and possibly employment. This has an immediate effect. Export growth generates more foreign exchange reserves, which increases the recipient country's capacity to pay for imports and foreign debt (Ain, 2019) .

METHODS

Five provinces on the island of Sumatra-Jambi, Bengkulu, Bangka Belitung Islands, South Sumatra and Lampung were the targets of this research. Descriptive and quantitative research methods were used to collect data in this research. In this research, economic growth is the dependent variable, which is measured using GRDP data from ADHK SUMBAGSEL, while

investment is the independent variable, which is measured using domestic and international investment, as well as population and export controls. By combining five provinces in Sumatra for a period of 11 years with a time series from 2012 to 2022, secondary data - also known as panel data - in the form of time series and cross sections are used in this research. Random Effect Model (REM), which has been tested using the Chow, Hausman, and Lagrange tests using EViews 12, is the best estimation model used in this research. The data source for each variable used is Investment which is divided into Domestic Investment (PMDN) X1, and Foreign Investment (PMA) X2, Exports X3, Population X4 and Economic Growth Y obtained from the Central Statistics Agency (BPS). The basic model used in this research is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + e_{it}$$

Note

B = Intercept coefficient

X1 = Domestic Investment

X2 = Foreign Investment

X3 = Population

X4 = Export

i = Province in SUMBAGSEL

t = Time series units for 2012-2020

Eit = Error terms

Investment

Investments are made with the aim of generating future financial profits from various economic activities (output). The terms "financial investments" and "non-financial investments" are used to broadly classify investments. While non-financial investments are realized as physical (or real) investments in the form of capital commodities such as inventories or "capital" or capital goods, financial investments focus more on cash, savings, deposits, capital and shares, securities, bonds, and the like. However, financial investments can also turn into tangible assets over time. However, over time, financial investments can also become tangible investments. In this research, investment is divided into 2, namely Domestic Investment (PMDN) in billions and Foreign Investment (PMA) in USD, data taken directly from the Central Bureau of Statistics. (BPS).

Economic growth

Economic growth is the process of continuous improvement in a country's economic situation over time. Another definition of economic growth is an increase in the production capacity of an economy which causes an increase in national income. Economic expansion is an effective indicator of economic progress. In addition, the level of economic growth in a country can be used to measure the depth of that country's development. Economic growth in this research uses billions of data taken from the Central Statistics Agency (BPS).

RESULTS

Test Chow

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	67.527723	(4,46)	0.0000
Cross-section Chi-square	106.009842	4	0.0000

Prob > 0.05 then the model chosen is the fixed effect model (FEM)

Hausman test

Correlated Random Effects - Hausman Test
 Equation: Untitled
 Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	4	1.0000

Prob < 0.05 then the model chosen is the Random Effect Model (REM)

Lagrange Multiplier (LM) Test

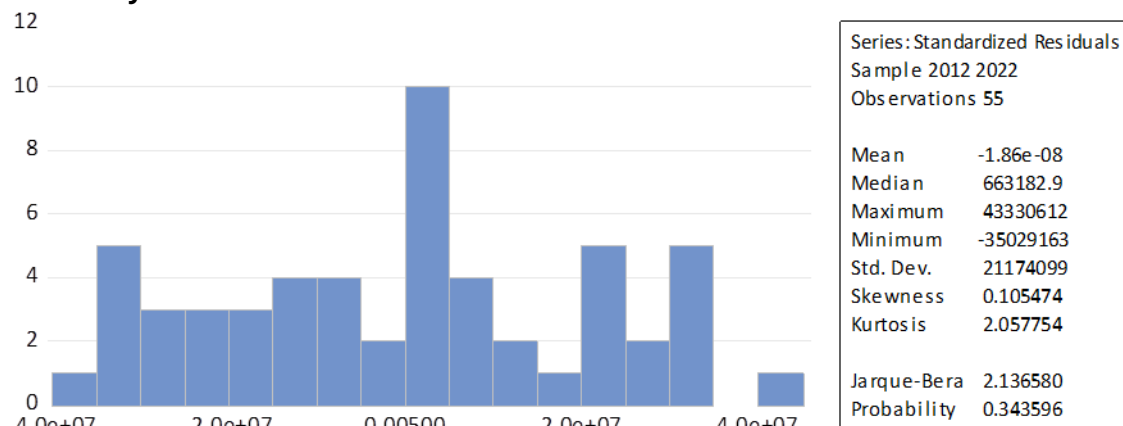
Lagrange Multiplier Tests for Random Effects
 Null hypotheses: No effects
 Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	91.90443 (0.0000)	3.637201 (0.0565)	95.54163 (0.0000)

Prob < 0.05 then the selected model is Random Effect Model (REM)

From the results of the Chow test, Hausman test and Lagrange Multiplier (LM) test, the best model is the REM model because judging from the final test decision, namely the LM test, the best model decision in this research is REM.

Normality test



It can be seen from the probability value of 0.343596 > 0.05, which means the data is normally distributed

Multicollinearity Test

X1	1.000000	0.596715	0.579676	-0.104419
X2	0.596715	1.000000	0.556470	-0.332760
X3	0.579676	0.556470	1.000000	0.307710
X4	-0.104419	-0.332760	0.307710	1.000000

The coefficients X1 and X2 are 0.596715 < 0.85, the correlation coefficients X1 and < 0.85, the correlation coefficient X2 and X4 is -0.332760 < 0.85, the correlation coefficient X3.

Panel Data Regression Equation

$$Y = -137244505.056 + 2440.28039391 \cdot X1 + 914.888026295 \cdot X2 + 58919.741523 \cdot X3 - 0.0042450981797 \cdot X4 + [CX=F]$$

1. The constant value obtained is -137244505.056, meaning that if economic growth is constant (zero) then the variables for PMDN, PMA, exports and population are -137244505.056 billion .
2. The Regression Coefficient value of the variable
3. The Regression Coefficient value of the variable
4. The Regression Coefficient value of variable X3 has a positive value of 58919.741523, so it can be interpreted that if
5. The value of the Regression Coefficient for the variable

F test

R-squared	0.952723
Adjusted R-squared	0.948941
S.E. of regression	22004688
F-statistic	251.8980
Prob(F-statistic)	0.000000

F-statistic value of 251.8980 is greater than the F table, namely 2.578739 with prob value. (F-statistic) 0.000000 then it can be concluded that the independent variable (X) has a significant effect simultaneously or together on the dependent variable (Y) .

T test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2293265.	4901422.	0.467877	0.6419
X1	4911.118	823.3909	5.964504	0.0000
X2	26397.20	9288.190	2.842017	0.0065
X3	22427.13	1620.250	13.84177	0.0000
X4	0.002927	0.002494	1.173534	0.2461

- 1) The PMDN variable (X1) has a sign value of 0.0000 < 0.05, meaning that H0 is rejected and Ha is accepted. The PMDN variable has a significant positive relationship influencing Economic Growth of 4911,118. If PMDN increases by 1 billion, economic growth will increase by 4911,118 billion
- 2) The PMA variable (X2) has a sign value of 0.0065 < 0.05, meaning that H0 is rejected and Ha is accepted. The PMA variable has a significant positive relationship influencing Economic Growth of 26397.20. If PMA increases by 1 USD then economic growth will increase by 26397.20 USD
- 3) The population variable (X3) has a sign value of 0.0000 < 0.05, meaning that H0 is rejected and Ha is accepted. The population variable has a significant positive relationship influencing economic growth of 22,427.13 thousand. If the population increases by 1 thousand, economic growth will increase by 22,427.13 thousand
- 4) The Export Variable (X4) has a sign value of 0.2461 > 0.05, meaning that H0 is accepted and Ha is rejected. The Export variable has a significant negative relationship affecting Economic Growth of 0.002927. If exports decrease by 1 USD, economic growth will decrease by 0.002927 USD

Coefficient of Determination Test

R-squared	0.952723
Adjusted R-squared	0.948941
S.E. of regression	22004688
F-statistic	251.8980
Prob(F-statistic)	0.000000

The R square value of 0.948941 or 94.8941% indicates that the independent variables consisting of PMDN, PMA, Population and Exports are able to explain the economic growth variable in SUMBAGSEL of 94.8941%, the remaining 5.1059% is influenced by other variables that are not included in this study.

DISCUSSION

Using the Random Effect (REM) model, regression testing is based on panel data analysis. In SUMBAGSEL, PMA and PMDN simultaneously (F test) have a big influence on economic growth. Then, from the results of the PMDN variable determination coefficient test, PMA was able to explain the economic growth variable in SUMBAGSEL by 94.8941%, the remaining 5.1059% was influenced by other variables not included in this research.

The Influence of PMDN on Economic Growth in SUMBAGSEL 2012-2022

The research results of the PMDN variable are from the T test results with a probability of $0.0000 < 0.005$, which shows that PMDN has a big impact on SUMBAGSEL's economic growth. The results of this research are in accordance with previous research conducted by Yunita & Sentosa (2019), Arif (2023) and Yuliani (2023) said that investment (PMDN) has a significant effect on economic growth. The significance of investment in economic growth shows that investment is able to control economic growth and decline. Due to the large amount of capital creation and the limited allocation of government spending to consumption rather than capital formation, the significance of domestic investment in economic growth increases as the level of investment increases.

This is proven by the Solow theory developed by Robert Solow, stating that investment in physical capital (such as infrastructure and equipment) is one of the key factors that drives economic growth. The Solow growth model emphasizes the importance of investment in the capital formation process. The rate of capital accumulation per worker will determine the rate of economic growth. In addition, Adam Smith's classic view on this issue states that the theory of capital accumulation, which seeks to generate wealth is equivalent to welfare economics. Neo-Classical economic growth theory emphasizes the importance of a country's capital stock. Capital from domestic and foreign sources is beneficial to a country's economy. Because greater investment supports faster economic expansion, domestic investment, also known as domestic investment (PMDN), is considered very beneficial in growing the economies of developing countries.

The Influence of PMA on Economic Growth in SUMBAGSEL 2012-2022

Based on the regression results in the T test with a Prob value of $0.0065 < 0.05$, which means that foreign investment (PMA) has a significant effect. The PMA variable has a significant positive relationship influencing Economic Growth of 26397.20. If PMA increases by 1 USD then economic growth will increase by 26397.20 USD. This is supported by research conducted by

Luluk Fadliyanti (2021) , Zabilla Buciarda (2021) and Akbar (2022) showing that the Foreign Direct Investment (PMA) variable has a positive relationship to Economic Growth.

The Harrod-Domar theory, which states that investment is essential for economic growth and that investment functions as a new type of capital stock, supports the findings of this research. For developing countries, the benefits of foreign investment include job creation, development of technology and practical skills, and the ability to use it as a source of savings or foreign currency . With foreign investment, it is possible to create jobs and reduce unemployment, and also bring new discoveries to developing countries. Because foreign investment drives economic growth, it is also a source of savings.

CONCLUSION

From the results of the analysis that has been carried out, as well as the economic interpretation, several conclusions can be drawn as follows: Analysis of the Effect of Investment on Economic Growth in SUMBAGSEL for the 2012-2022 Period

1. With a probability value of 0.0000, Domestic Investment (PMDN) has a positive and significant influence on SUMBAGSEL's economic growth from 2012 to 2022.
2. From 2012 to 2022, SUMBAGSEL's economic growth will be influenced positively and significantly by foreign investment (PMA), with a probability value of 0.0065 .
3. From 2012 to 2022, PMDN and PMA simultaneously or together have a significant effect on economic growth in SUMBAGSEL, with a calculated F value of 251.8980 which is greater than the F table of 2.578739.

Suggestion

In this research, Domestic Investment (PMDN) and Foreign Investment (PMA) influence economic growth in SUMBAGSEL. It is hoped that the government in each of the 5 provinces can keep investors investing by not making investment permits difficult. Then Investments in infrastructure such as roads, ports and fast internet connections are key factors in creating an attractive business environment for investors. The government must work to improve infrastructure that supports various economic sectors. Apart from that , the government can encourage international cooperation and profitable trade agreements can open access to global markets and create expansion opportunities for local investors and the government can launch investment promotion camp.

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