IJEMS
International Journal of Economics and Management Sciences
E-ISSN: 3046-9279
P-ISSN: 3048-0965

Research Article

Analysis of the Effect of Labor, Domestic Investment, and Inflation on GRDP in Lampung Province 1991 – 2020

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Abstract: The purpose of this study was to determine the effect of labor, domestic investment, and inflation on GRDP in Lampung Province in 1991 – 2020. Data analysis was carried out descriptively quantitatively using the (OLS) Multiple Linear Regression method. Secondary data were obtained from the Central Statistics Agency of Lampung Province. The results of this study indicate that labor has a positive and significant effect on GRDP in Lampung Province. Meanwhile, domestic investment has a positive but insignificant effect and inflation has a negative and insignificant effect on GRDP in Lampung Province.

Keywords: GRDP, Labor, Domestic Investment, Inflation

1. Introduction

Economic development is a process of changing the economic structure of an undeveloped country through investment and human investment aimed at improving the welfare of the population or increasing per capita income. The purpose of the economy is not only to increase productivity. Economic growth is an important indicator in analyzing economic development that occurs in a country. Economic growth shows the history of which economic activities will generate additional income for the community in a certain period. Because basically economic activity is a process of using production factors to produce output which is measured using changes in Gross Regional Domestic Product (GRDP) in a region (Andriyani et al., 2023).

Tadoro (2001) stated that the factors that influence the growth of GRDP in Indonesia are Regional Original Income (ROI), General Allocation Fund (GAF), Revenue Sharing Fund (RSF), Inflation, Foreign Investment (FI), Domestic Investment (DI), Regional Government Expenditure, and Labor. The success of increasing GRDP growth cannot be separated from the increasing investment, where investment is the key to determining the rate of economic growth (Hastin, 2022).

Increasing the number of workers can increase economic growth if the workforce can be properly absorbed in the job market. The workforce working in lampung Province in 1991 – 2020 showed the highest workforce value in 2020 of 4,280,109 million people and the lowest value in 1992 of 2,539,342 million people, this shows that the trend of the workforce consistently increases every year.

Received: June 01 , 2025
Revised: June 15, 2025
Accepted: June 29, 2025
Online Available: July 01, 2025
Curr. Ver.: July 01, 2025

One of the important variables that drives economic growth is investment. According to Harrod – Domar, in order to grow, investment is needed which is a net addition to the capital stock (Todaro & Smith, 2011). The value of Domestic Investment in Lampung Province in 1991 – 2020 showed the lowest investment value in 2003 of 81.9 billion rupiah and the highest value was in 2018 of 12,314.7 billion rupiah, showing a fairly fluctuating trend.

Several indicator that can effect economic growth include inflation. Inflation is a tendency for the price of goods and services to increase continuously. Inflation is very important because the higher the inflation, the lower the rate of economic growth. Next is investment, investment will increase the amount of capital goods and technology used to develop (Sukirno, 2016).

2. Research Methods

This study uses multiple linear regression analysis with the least squares method or Ordinary Least Square (OLS). This study uses secondary data sourced from the Central Statistics Agency of Lampung Province from 1991 – 2020. This data processing uses Eviews v. 12 software. This analysis is used to determine the effect of independent variables on the dependent variable. The equation model can be formulated as follows (Suliyanto, 2011).

GRDP = β0 + β1L + β2DI + β3INF + e

Where :

GRDP = Gross Regional Domestic Product (Billion Rupiah)

β0 = Constant

β1, β2, β3 = Regression Coefficients

L = Labor (Million People)

DI = Domestic Investment (Biliion Rupiah)

INF = Inflation rate (%)

e = Disturbing Parameters

The OLS estimation results can be presented in the following table.

Table 1. OLS Estimation Results

Dependent Variable : GRDP
Estimation Method : Least Square
Sampel : 1991 2020
Included observations : 30

	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.93E+08	29415609	-9.959458	0.0000
L	128.6391	9.442759	13.62305	0.0000
DI	339.0062	1585.887	0.213764	0.8324
INF	-120958.1	218226.2	-0.554279	0.5841

R-squared	0.933430	Mean dependent var	1.27E+08
Adjusted R-squared	0.925749	S.D. dependent var	62719931
S.E. of regression	17090600	Sum squared resid	7.59E+15
Durbin- Watson stat	1.417587		
F-statistic	121.5220		
Prob(F-statistic)	0.000000		

Sorce : processed data (2025), Eviews v.12

Based on the estimation results, the following equation model is formed :

GRDP = (-2.93E+08) + (128.6391L) + (339.0062ID)+ (-120958.1INF) + e

Based on the regression results in table 1. The R-Squared value of 0.933430 can be obtained. This figure indicates that 93.34% of the variation in the gross regional domestic product variable of labor, domestic investment, and inflation. While the remaining 7.66% of other variations are outside the regression model.

Based on the regression results in tabel 1. Above, the calculated F value of 121.5220 can be obtained > the F table value of 0.000000, which means that statistically the variables of labor, domestic investment, and inflation together have a significant effect on the gross regional domestic product in Lampung Province in 1991 – 2020.

The test results show that the coefficient value for the labor variable (L) is 128.6391 with a probability level of 0.0000 < 0.05, this means that H0 is rejected and Ha is accepted so that the labor variable (L) has a positive and significant effect on gross regional domestic product in Lampung Province 1991 – 2020.

The test results show that the coefficient value for the domestic investment variable (DI) is 339.0062 with a probability level of 0.8324 > 0.05, this means that H0 is accepted and Ha is rejected so that the domestic investment variable (DI) has a positive and insignificant effect on gross regional domestic product in Lampung Province 1991 – 2020.

The test results show that the coefficient value for the inflation variable (INF) is -120958.1 with a probability level of 0.5841 > 0.05, this means that H0 is accepted and Ha is rejected so that the inflation variable (INF) has a negative and significant effect on gross regional domestic product in Lampung Province 1991 – 2020.

3. Discussion

The influence of labor (L) on GRDP. The coefficient value for the labor variable (L) of 128.6391 and the probability level of 0.0000 < 0.05 indicates that this variable has a positive and significant effect on GRDP. This means that every 1 unit increase in the number of workers (in thousands or unit used) will increase the GRDP of Lampung Province by 128.6391 units of GRDP value. Because the influence is significant, it can be concluded that an increase in the number of workers can actually drive regional economic growth. This is in line with classical economic theoory which states that labor is one of the main production factors in driving output. If it is assumed that labor data is expressed in thousands of people and GRDP in millions of rupiah, the every additional 1,000 workers will increase GRDP by Rp.128.64 million.

The Effect of Domestic Investment (DI) on GRDP. The coefficient value for the DI variable is 339.0062 with a probability level of 0.8324 > 0.05, which indicates that this variable has positive but insignificant effect on GRDP. Theoretically, every 1 unit increase GRDP by 339.0062 GRDP units, but because the effect is not statistically significant, this relationship is not strong enough to be used as a basis for policy making. There is an indication that the allocation of PMDN has not been effectively directed to productive sectors, or its impact on economic output is only seen in the long term. In other words, although DI has a positive relationship with economic growth, its contribution has not been directly significant to GRDP in Lampung Province during the study period.

The effect of Inflation on GRDP. The inflation coefficient value is -120958.1 with a probability of 0.5841 > 0.05, indicating that inflation has a negative and insignificant effect on GRDP. The negative coefficient means that every 1% increase in inflation is estimated to reduce GRDP by 120,9581.1 GRDP units, but because the effect is not significant, the impact of inflation on economic growth is not statistically strong enough during the study period. This indicates that the inflation rate in Lampung Province during 1991 – 2020 did not directly effect the level of regional output significantly, although the direction of the relationship shows that high inflation tends to reduce GRDP.

4. Conclusion And Suggestions

Based o the results of the data analysis and discussion that have been carried out, the following conclusions are obtained :

1. Labor has a positive and significant effect on Lampung's GRDP, indicating its role as a key factor in regional economic growth.
2. Domestic Investmetn has a positive but insignificant effect, indicating that its contribution to GRDP is still weak, possibly due to inappropriate investment allocation.
3. Inflation has a negative but insignificant effect on GRDP, allegedly because Lampung's economic structure is less sensitive to price fluctuations.

Based on the results of the data analysis and discussion that have been carried out, the following suggestions are obtained :

1. Improve the quality and quantity of the workforce through education, training, and expansion of employment in leading sectors.
2. Optimize Domestic Investment by iproving investment direction, simplifying licensing, and government-business collaboration.
3. Maintain inflation stability by strengthening the supply chain, price monitoring, and regional spending efficiency.
4. Use advanced analysis methods and add other variables in subsequent studies for more comprehensive results.

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