

## The influence of labor and population on economic growth in south Sulawesi

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### Abstrak

Economic growth is the process of changing the economic conditions of a country gradually towards a better condition over a certain period of time. The economy is said to experience change when the level of economic activity is higher than that achieved in the previous period. One indicator of the success of economic development is economic growth itself. The aim of this research is to determine the effect of labor and population on economic growth in South Sulawesi. The data used in this research is data (time series) over a period of 10 years using the SPSS 25 application to process multiple regression data. The results of this research show that the labor variable has a sig value for economic growth of  $0.008 < 0.05$ , so it can be concluded that there is a significant influence of the labor variable on economic growth. The population variable has a sig value for the influence of population on economic growth of  $0.005 < 0.05$  so it can be concluded that there is a significant influence of population on economic growth. The variables of labor and population simultaneously have a significant effect on economic growth.

Keywords: Labor. Total population. Economic growth

### 1. Introduction

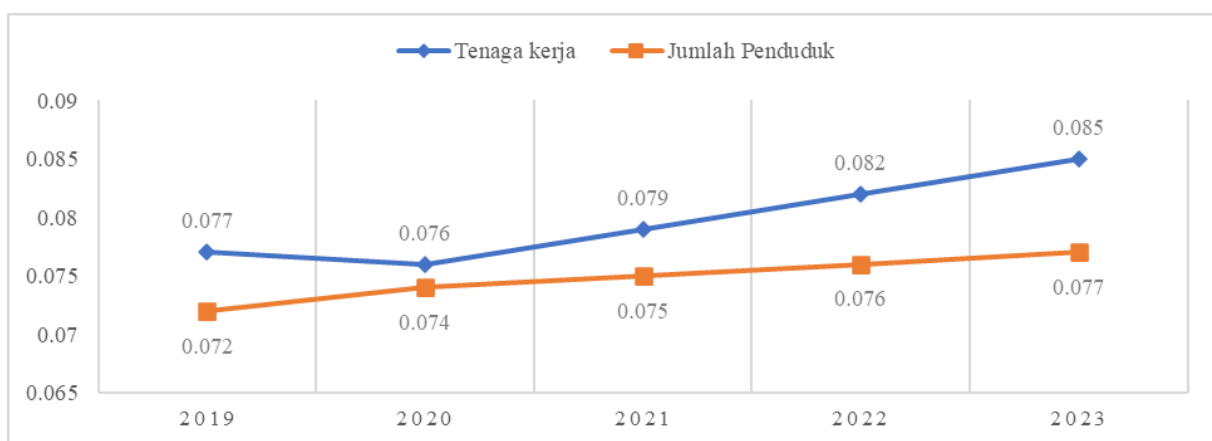
Economic growth is a very interesting topic. This is because regional autonomy was implemented in Indonesia, which was seen with the passing of Laws Number 32 and 33 of 2004 which regulate regional government and financial balance between the central and regional governments. Regional government underwent revisions until it became regional government law 2014 number 23.

Economic growth is the process of changing the economic conditions of a country gradually towards a better condition over a certain period of time. The economy is said to experience change when the level of economic activity is higher than that achieved in the previous period. One indicator of the success of economic development is economic growth itself. The difference between the success of the two economic growths is more quantitative in terms of income standards and increased levels of production output, but economic growth is quantitative and not only, although production increases, structural changes also occur. Production and distribution of inputs across various economic sectors including institutional, social, technical, and knowledge-based.

UU no.0.13 of 2003 defines labor as anyone who is able to work to produce goods or services for society or for their own needs. Meanwhile, according to the ILO (International Hunting Organization), those between the ages of 15 and 64 who work are considered

workers. The number of employees serves as an indicator of market and job opportunities. The number of jobs available will directly increase Indonesian production as a whole. Anyone who has been domiciled or living in the territory of a country for a long time is generally considered a resident. Stating that population represents the total number of individuals or residents living in an area during a certain period of time, Malthus argued about the relationship between inflation, real wages and population. Real income decreases when the workforce population increases faster than the amount of food produced because population growth increases the cost of living, especially food prices when the actual wages of a region are high and after Jakarta, East Java is the most populous region in Indonesia.

To see the development over the last 5 years of the variables of labor, population and economic growth as follows:



source: BPS South Sulawesi based on constant prices 2019-2023

Based on the graphic results in 2019, the workforce in South Sulawesi was 0.077% while the population was 0.072%. Then in 2020 the number of workers decreased by 0.076%, while the number of residents increased by 0.074%. Meanwhile, in 2021 the number of workers increased by 0.079%, as did the population which also increased by 0.075%. In 2022, the number of workers will increase by 0.082%, which is also similar to the population increasing by 0.076%. Then in 2023 the number of workers will continue to increase by 0.085%, as will the population which will continue to increase by 0.077%.

Labor influences the output of a region. A large workforce will come from a large population, but it is feared that population growth will have a negative impact on economic growth. According to Todaro (2000), labor force growth and population growth are usually considered positive components that can encourage economic growth. Greater labor force growth indicates increased levels of production, and population growth indicates an increase in the size of the domestic market. Rapid population growth causes problems of underdevelopment and makes development prospects increasingly limited. Furthermore, it is said that population problems arise not because of the large number of family members, but because the rapid migration from villages to cities makes them concentrated in urban areas [1].

Based on research Fitriani, 2018 [2] In his research entitled "The influence of labor and government spending on economic growth" it can be concluded that the Labor variable has a significant effect on economic growth. This means that increasing the number of workers has the ability to increase productivity, which in turn has an impact on economic growth. One factor that can influence economic growth is population growth or population addition. A larger population means more available labor. One of the problems that exists is that apart from the production factors of land, capital, and management/skill, labor is a very important production factor in supporting economic growth. Therefore, workforce potential must be maximized.

If the number of existing residents is not balanced with the quality of the population, this will actually become a burden on the economy of a region. Economic growth will slow down if the number of workers cannot be absorbed properly into employment. The quality of the population, in this case the workforce, must be improved to spur economic growth in a region.

According to research results Yuniato, 2021 [3] in his research entitled "analysis of population growth and density on economic growth" shows that economic growth is influenced positively and significantly by the value of the population growth variable, while population density is influenced negatively and significantly by the value of the population growth variable. while uneven distribution is a problem with population density. Population density can affect the quality of life of the community. In areas with high population density, it will be more difficult to make efforts to improve the quality of life. This causes socio-economic problems, welfare, security, availability of clean water, food needs and land availability. Environmental damage is the biggest consequence. Because the environment is a natural resource that is used to fulfill human needs.

Based on the background that has been described and the inconsistencies in the results of previous studies regarding the factors that influence economic growth, it is interesting for researchers to take themes related to economic growth. The aim of this research is to determine the influence of labor on economic growth and how much influence population has on economic growth.

## **2. Methodology**

### **Data Types and Sources**

The type of data used is secondary data and time series obtained through data publications issued by the Central Statistics Agency (BPS) of South Sulawesi Province in 2010-2023 on the basis of 2010 constant prices.

### **Data analysis method**

To solve the problem the author carried out data analysis using quantitative methods, namely a method of analyzing data obtained in the form of numbers and will then be discussed and analyzed using statistical tools, namely the SPSS program in the form of the Multiple Linear Regression (RLB) method. Namely, multiple linear regression analysis is an analysis used to determine the close relationship between the independent variable (Free) and the dependent variable (Bound).

The regression equation is:

$$Y = \alpha + b_1X_1 + b_2X_2 + E$$

Where:

Y = Economic Growth

$\alpha$  = Constant

X1= Labor

X2= Population

b1, b2= Regression coefficients

### 3. Result and Discussion

#### 3.1. Result

##### Multiple Linear Regression Test Results

In analyzing the influence of labor and population growth on economic growth in North Luwu Regency in 2010-2023 with the independent variables being labor and population growth, multiple linear regression analysis was used to select this model because there are two independent variables.

Table.1 Results of Statistical Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	3266.799	867.894		3.764	0.003
tenaga_kerja	0.001	0.000	0.758	3.250	0.008
jumlah_penduduk	-4.982005	0.000	0.322	-1.380	0.005

Source: spss output

Based on the SPSS Statistics 22 calculation results in table 1, the following multiple linear regression equation is obtained:

$$Y = a + b_1X_1 + b_2X_2 + e$$

$$Y = 3266.799 + 0.001X_1 - 4.982X_2 + e$$

The interpretation of the regression equation above is as follows:

From the multiple linear regression equation above, a constant value of 3266.799 This means that if the labor and population growth variables are equal to zero, then economic growth is equal to 3266.799%

The labor variable regression coefficient of 0.001 indicates that economic growth is 0.001% for every one percent increase.

The regression coefficient for the population growth variable is -4,982 shows that for every one percent increase, economic growth is equal to -4,982% will occur

### Significant partial regression coefficient test (t-test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
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Source: spss output

From the table above, it is known that the sig value for the influence of labor on economic growth is  $0.008 < 0.05$ , so it can be concluded that there is a significant influence of the labor variable on economic growth. If the labor variable increases by 1%, it will cause economic growth to increase by 3,25%. It is known that the sig value for the influence of population on economic growth is  $0.005 < 0.05$  so it can be concluded that there is a significant influence of population on economic growth. If the population increases by 1%, it will result in economic growth of -1,38%.

### Simultaneous Regression Significance Test (f-Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	663608.576	2	331804.288	5.289	0.002 <sup>b</sup>
Residual	690044.312	11	62731.301		
Total	1353652.888	13			

Source: spss output

Based on the table above, the influence of labor and population on economic growth in South Sulawesi in 2010 - 2023 using a significant level (5%). Showing that the significance value is  $0.002 < 0.05$ , it can be concluded that the independent variables X1 and X2 simultaneously (simultaneously) have an effect on the dependent variable Y

### Coefficient of determination test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.700 <sup>a</sup>	0.490	0.398	250.46217

Source: spss output

From the table above, the value (R-Square) for the labor and population variables is 0.490, this shows that all independent variables simultaneously have quite a large influence, namely 49.0% on economic growth, while the remaining 51% is influenced by other variables. not tested in this study.

### 3.2. Discussion

#### a. The Influence of Labor on Economic Growth in South Sulawesi

From the results of the partial first hypothesis test (H1) that has been carried out between the labor variable on economic growth, it shows that the  $t_{\text{Count}} 3,250$  with a regression coefficient value of 0.001 and a significance of  $0.008 < 0.05$ , so it can be concluded that the labor variable has a positive and significant effect on economic growth in South Sulawesi. . The larger the population, the more labor is used. This is in line with the research conducted [1] And [4] states that the most dominant factor influencing economic growth is labor, so increasing the number of workers in Indonesia is one alternative for increasing economic growth. This research is also supported by Solow's theory which assumes that economic growth is influenced by an increase in labor. This research is also in line with research [5] states that the number of workers has a positive and significant effect on economic growth in Bojonegoro Regency.

#### b. The Influence of Population on Economic Growth in South Sulawesi

The results of the partial second hypothesis test (H2) which has been carried out between the population growth variable and economic growth show that the calculated  $t$  value is -1,380 with a regression value of -4.982 and a significant value of  $0.005 < 0.05$  so it can be concluded that the number variable population has a negative and significant effect on economic growth in South Sulawesi. This research is also in line with [6] States that Population size directly has a significant effect on economic growth. This research is also in line with David Ricardo's theory which argues that population actually increases as a result of excess labor so that wages given decrease. This is contrary to research (Novi Sri Handayani, I KG Bendesa 2016) state states that population size directly has a positive and significant effect on economic growth, which means that an increase in population can accelerate economic growth. This research contradicts Adam Smith's theory which states that population growth will have an impact on economic growth and development.

### 4. Conclusion

1. The labor variable has a  $t$  value for economic growth of  $0.008 < 0.05$  so it can be concluded that there is a significant influence of the labor variable on economic growth.
2. The population variable has a  $t$  value for the influence of population on economic growth of  $0.005 < 0.05$  so it can be concluded that there is a significant influence of population on economic growth.

### 5. Acknowledgement

1. In making their contribution to economic growth, the South Sulawesi government pays more attention to the quality of the human workforce. High quality human resources can encourage further economic growth and increase the value of economic growth. The government can provide support by considering birth, death and population migration rates. Population birth, death and migration factors are influenced by the health, education and welfare of the population.

2. It is hoped that the government will increase the number of workers through the implementation of government policies in all economic sectors to increase the number of jobs, which in turn will result in faster economic growth.
3. This research still has many shortcomings, it is hoped that further research will expand and perfect this research.

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