Elasticity of Labor Absorption in Industry and Service Sectors in East Kalimantan Province

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ABSTRACT

The purpose of this study is to analyze and determine the number of workers absorbed in the industrial and service sectors. Elasticity of employment opportunities in the industrial and service sectors. Comparing the magnitude of the influence of employment opportunities in the industrial and service sectors in East Kalimantan. The variables used in this study consist of variables of labor influence and GRDP (Gross Regional Domestic Product) on the production unit, in this case the industrial sector and the service sector which later can compare the elasticity of employment opportunities in the industrial and service sectors. In this study, the type of data used is secondary data from 2013-2022. The analytical tool used is a two-step structure model and analyzed using SPSS (statistical package for service solution) software version 26. From the analysis, it is obtained that the elasticity of employment in the industrial sector is positively inelastic. The elasticity of labor absorption in the service sector is positively inelastic. The elasticity of service sector labor absorption is greater than the elasticity of industrial sector labor absorption in East Kalimantan in 2013-2022. Thus, the development of the industrial sector and the service sector has good prospects and is expected to attract investors so that it can open new jobs that can increase the number of employment in East Kalimantan.

Keywords: Labor Absorption, GRDP, Industrial Sector, Service Sector

INTRODUCTION

The role of the industrial and service sectors has fluctuated in recent years in almost all districts/cities. This condition is caused by a change in the role of other sectors, in the situation of a long economic crisis. Some economists argue that the sector that is directly affected is the industrial sector, because in terms of raw materials and some spare parts of capital goods used come from imports. As is known, with the depreciation of the rupiah against foreign currencies, the price of imported goods has risen sharply. In the current era of globalization, the agricultural sector, which is a traditional sector, is slowly moving towards the processing industry sector, which uses and applies sophisticated technology and large capital but only uses a small workforce.

While the service sector is slowly also starting to deteriorate due to the lack of the role of investors in developing the service sector, so that with the increasing role of the industrial and service sectors, it is expected to spur the national and regional economies, especially in labor absorption and opening up new jobs as widely as possible, so that the direct impact is to reduce the unemployment rate. Efforts to improve

people's welfare include several factors and aspects such as economic, social, political, and cultural. Almost all regions in East Kalimantan have the same problem, namely in the employment sector where this sector has not been able to accommodate the large number of workers due to lack of opportunities to work. In addition, to create high employment, there must be an increase in production in economic activities.

Labor productivity is inseparable from the right of every worker to obtain employment opportunities for a decent life as a human being (1945 Constitution, Article 27 paragraph 2). The right to be able to enjoy a decent life for labor cannot be obtained without the guarantee of sufficient income/wages supported by high labor productivity. Seeing how much the comparison of the industrial and service sectors in East Kalimantan is able to absorb labor, so that in the absorption of this labor will create an employment opportunity.

Dornbusch, et al (2001: 89) state that national output (as a representation of economic growth) is a function of physical capital, labor and technological progress achieved. An important factor affecting the procurement of physical capital is investment, in the sense that high economic growth is expected to have a positive impact on the level of employment. The relationship between economic growth and employment is also theoretically shown through Okun's Law. According to Mankiw (2007: 249-251), Okun's Law is a negative relationship between unemployment and GDP. Okun's Law is a reminder that the factors that determine the business cycle in the short run are very different from the factors that shape long-term economic growth.

Okun's law is a negative relationship between unemployment and GDP, which refers to a decrease in unemployment of one percent being associated with additional growth in GDP of close to two percent. In other words, Okun's law illustrates that if GDP increases by two percent, there will be an increase in the application of labor which then reduces the unemployment rate by one percent. Economic growth is closely linked to an increase in the production of goods and services, which, among others, is measured by a quantity called Gross Domestic Product (GDP) at the national level and Gross Regional Domestic Product (GRDP) for regions, both provincial and district / city. With this background, the author is interested and tries to examine the "Elasticity of Labor Absorption in the Industrial and Service Sectors in East Kalimantan".

Theoretical Basis and Hypothesis Development

The elasticity of labor absorption is the ratio of the growth rate of employment opportunities to the rate of economic growth. Human skill formation according to Harbison cited by M. L. Jhingan (1993: 521) is as "The process of acquiring and increasing the number of people who have the skills, education and experience that are decisive for the economic and political development of a country. Human capital formation is therefore associated with investment in human beings and their development as a creative and productive source." The absorption capacity of labor in each sector depends on the rate of increase in production but the sector and the elasticity of employment opportunities in the sector concerned. (Bruce Glassburner 1976: 195).

In the previous description, it has been stated that there is a close relationship between economic growth and labor absorption. If economic growth increases, it means that there is an increase in the production capacity of goods and services in a region so that in theory this increase indicates an expansion in production activities which then increases labor absorption in various economic sectors.

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In simple models of economic growth, labor is generally defined as a homogeneous labor force. According to Lewis, a homogeneous and unskilled labor force is assumed to be able to move and switch from the traditional sector to the modern sector smoothly and in unlimited numbers. Under such circumstances, the role of economic growth is highly elastic. The increased demand for labor (from the traditional sector) comes from the expansion of modern sector activities.

Thus, one of the factors that influence the absorption of labor is economic growth. Efforts to increase economic growth that is able to create optimal employment in terms of quantity, productivity and efficiency require policies that take into account both internal conditions and external developments. These conditions are inputs for decision makers (Asaddin and Mansoer, 2001).

Based on the background, problem formulation, theoretical concepts, and objectives to be achieved, the authors put forward the following hypothesis:

1. The elasticity of labor absorption in the industrial sector in East Kalimantan is elastic.

2. The elasticity of labor absorption in the service sector in East Kalimantan is elastic.

3. The elasticity of labor absorption in the service sector is higher than that in the industrial sector in East Kalimantan.

RESEARCH METHODS

This research is included in the type of social research that explains the causality of variables through hypothesis testing Elasticity of labor absorption in the industrial and service sectors in East Kalimantan. In this research, the formulation or operational definition is given which is used as a measurement of the variables to be studied; 1). The employment opportunity referred to in this study is the amount of labor (Soul) absorbed in the industrial and service sectors in East Kalimantan Province, 2). Labor in this study are people who are directly involved in providing services in the industrial and service sectors in East Kalimantan Province, including labor in East Kalimantan from 2013-2022. 3). GRDP (Gross Regional Domestic Product) is the amount of added value or the total value of final goods and services produced by all business units in a region in a certain period. The data used is GRDP by business field based on the basis of current prices in 2013-2022 (Rupiah). 4). Activities covered by the industrial sector in East Kalimantan are oil and gas and non-oil and gas industries in the economic sector. 5). Activities included in the services sector in East Kalimantan are finance, rental and corporate services, government services, private services, namely entertainment and recreation services, individual social services and households.

Analysis Model

The data that has been collected is then systematically analyzed to test hypotheses and to find certain

economic measures. The model used is a one-variable Geometric or *Cobb Douglas* Function with Dummy variables as follows:

$N = A\ Q\ Q^{\alpha 1}\ e^{\ \alpha 2 +\ \alpha 3\ D\ Ln\ Q}$ (Michael D, 1980: 279) Where:

N= Labor absorption in industry and services sector (*Employment*)

Q= GRDP (Gross Regional Domestic Product)

A= Constant Number

E= Natural Logarithm $^{\alpha 1\ \alpha 2\ \alpha 3}$ = parameter – parameter to be Determined

D= Dummy Variable (D = 0 Industrial Sector; D = 1 Service Sector)

RESEARCH RESULTS

Based on the analysis result, the correlation coefficient (R) is 0.994. This shows that there is a very strong relationship between the dependent variable (industrial and service sector labor) and the independent variable (GRDP and dummy). The coefficient of determination obtained is 0.989. This shows that the variation of the independent variable change can explain the variation of the dependent variable by 98.989. changes in the dependent variable by 98.9 percent. This model is feasible because the variation in changes in other independent variables that explain the variation in changes in dependent variables that are not taken into account is only 1.1 percent. The calculated F value is 477.206 and the significance value is 0.000. Because F count is greater than F table, namely 477.206 greater than 4.76 and the significance value is smaller than alpha, namely 0.000 smaller than 0.05, Ho is rejected and H1 is accepted. This shows that the independent variables (GRDP and dummy) simultaneously affect the dependent variable (employment of industrial and service sectors).

The constant value is 5.009 units. The regression coefficient of GRDP (X1) is 0.382 which states that if there is an increase in GRDP by 1 percent, it will tend to increase the elasticity of employment by 0.382 percent. The regression coefficient of dummy variable (X2) is -0.575 which states that if there is an addition of 1 percent, it will tend to reduce the elasticity of labor absorption by 0.575 percent. The regression coefficient of D Ln Q variable (X3) is 0.123 which states that if there is an addition of 1 percent, it will tend to increase the elasticity of labor absorption by 0, 123 percent.

In proving the relationship between GRDP (independent variable) and labor absorption (related variable), it is done by comparing the probability with the research error rate (α). If the probability is greater than the error rate (α), Ho is accepted then there is no influence of the independent variable on the related variable. Conversely, if the probability is smaller than the error rate (α), H1 is accepted, so there is an influence of the independent variable on the dependent variable. The calculated t value is 3.148 and the significance value is 0.06. Because t count is greater than t table, namely 3.148 greater than 2.446 and the significance value is smaller than alpha, namely 0.006 smaller than 0.05, Ho is rejected and H1 is accepted. This shows that the GRDP variable affects the absorption of industrial and service sector labor.

Based on the calculation, the elasticity of labor absorption in the industrial sector as a whole is 0.382, which means that if there is an increase in GDRP in the industrial sector by 1 percent, it will increase the elasticity of labor absorption in the industrial sector by 0.382 percent. Meanwhile, the elasticity value of labor absorption in the service sector as a whole is 0.505, which means that if there is an increase in GDRP in the service sector by 1 percent, it will increase the elasticity of labor absorption in the service sector by 0.505 percent. The labor absorption elasticity value of industrial sector is 0.382 < 1 which means that the labor

absorption elasticity of industrial sector is inelastic, while the labor absorption elasticity value of service sector is 0.505 < 1 which means that the labor absorption elasticity of service sector is inelastic. The elasticity of labor absorption describes how much the portion of the change in the growth of the number of workers that occurs to the portion of the change in GRDP growth. To find out how much the level of elasticity of labor absorption in the industrial sector per year, the following are the results of the calculation of the elasticity of labor absorption in the industrial sector in East Kalimantan from 2013 to 2022.

The results of the analysis show that the growth of GRDP in the industrial sector and the service sector does not really encourage the response of the growth of the number of workers in the industrial sector and the service sector in East Kalimantan. during the period 2013-2022, the elasticity of labor absorption in the service sector is more in the inelastic category, only in 2022 the category is elastic. This means that the growth of GRDP in the industrial sector and the service sector does not really encourage the response to the growth in the number of workers in the industrial sector and the service sector in East Kalimantan.

DISCUSSION

Elasticity of Labor Absorption in Industrial Sector in East Kalimantan

Based on the results of statistical research shows, the elasticity value of the industrial sector is 0.382 ≤ 1 which states that labor absorption in the industrial sector is inelastic with a positive number which means that there is still a growth in labor absorption in the industrial sector in East Kalimantan in that period but the percentage of labor absorption growth is smaller than the percentage of economic growth. This condition is less favorable for an economy because this can illustrate that the growth of GRDP, especially in the industrial sector, has not played an effective role in increasing industrial sector activities so that the use of new labor or the opening of new jobs in the sector is still small. During the period of 2013 to 2022, the elasticity of labor in the industrial sector is mostly in the inelastic category, only in 2018 and 2022 the category is elastic.

This means that the growth of GRDP in the industrial sector does not really encourage the response of the growth of the number of workers in the sector. Output growth through industrial development and in the service sector is expected to be able to encourage the creation of employment and in turn provide a double impact on the expansion of employment opportunities. With the increase in employment opportunities, it is expected that people's income will increase as well as their purchasing power.

Modernization of production equipment in the industrial sector has a direct impact on the elasticity of employment in the industrial sector. Since 2014, the number of large and medium-scale industrial companies in East Kalimantan has decreased, which has an impact on the decline in employment in East Kalimantan. Based on the results of the economic census listing in the East Kalimantan region, the industrial sector only absorbs around 10 percent of the total workforce in East Kalimantan Province. In addition, the high working hours in the industrial sector are related to low wage levels and force them to increase working hours. This suggests that the strategy to increase output (productivity) in the industrial sector is to reduce the number of workers and increase working hours. It seems that the tendency to shift labor is more towards business fields that are easy to enter, do not require age, education, expertise and capital requirements so that the increase in productivity is low. Observing the data carefully and over a relatively long period of time, the sector with significant productivity (the industrial sector) is not easily entered by workers.

Judging from its low labor absorption elasticity. It seems that many relatively capital-intensive investments are able to increase production and labor productivity but are not matched by high absorption. The results of this study are in line with the research of Sobita and Suparta (2014) conducted research on economic growth and labor absorption in Lampung. It shows that the independent variables of real GRDP and capital prices in

agriculture significantly have a positive effect on labor absorption. The increase in real GRDP and capital in agriculture will increase labor absorption. Meanwhile, the real wage variable has a significant negative effect on labor absorption. An increase in real wage will decrease labor absorption.

Elasticity of Labor Absorption in the Services Sector in East Kalimantan.

The increase in value added in the service sector is due to an increase in the flexibility of people's needs so that consumption of goods, in addition to primary needs, is increasingly diverse and increasing. Likewise, the need to consume service products arising from community needs. People increasingly need services that provide convenience, comfort and satisfaction. For example, in dealing with government administration, people as customers/consumers of the government want a system that is easy and fast in completing their affairs. Output growth through industrial development and in the service sector is expected to be able to encourage the creation of jobs and in turn provide a double effect on the expansion of employment opportunities. With the increase in employment opportunities, it is expected that people's income will increase as well as their purchasing power. (Bruce Glassburner 2006: 195).

The public's desire for easy and fast service requires service providers to provide instant services. Where at this time the service sector is much assisted by technological advances or is more capital intensive. This causes a shift in the level of labor absorption in the service sector so that the elasticity of service sector labor absorption is low.

Service Sector Elasticity Higher than Industry Sector

Based on the research result, it shows that the elasticity of labor absorption in service sector is bigger than that in industry sector, it can be seen from the elasticity value which is 0.505 > 0.382. This means that the absorption of labor in the service sector is greater than the industrial sector. The elasticity of labor absorption in the service sector is greater than in the industrial sector because the service sector relies more on services so that it requires large human resources, namely labor, while in the industrial sector the labor has begun to be replaced by modern high-tech production tools.

Jhingan (2003: 521) "The process of acquiring and increasing the number of people who have the skills, education and experience that are decisive for the economic and political development of a country. Human capital formation is therefore associated with investment in people and their development as a creative and productive resource." Investment in *human capital* is intended to increase labor productivity and therefore to increase future earnings. Most economists agree that the *human resources of* a nation, rather than physical capital or material resources, are the factors that most determine the character and pace of the nation's social and economic development.

The results of this study are in line with the research of Yanurwardhani and Woyanti (2009) conducted research on the influence of economic factors on labor absorption in the small tempe industry in Semarang City. Said that the variable of working capital, production value and wage rate significantly affect the absorption of labor in the small tempe industry in Semarang. Working capital and production value variables have a positive effect on labor absorption while the wage variable has a negative effect.

CONCLUSION

Based on the analysis and discussion that the author has done, several conclusions are made, namely: 1). The elasticity of labor absorption in the industrial sector in East Kalimantan in 2013-2022 is positive inelastic, which means that there is still growth in labor absorption in the industrial sector in East Kalimantan during that period but the percentage of labor absorption growth is smaller than the percentage of economic growth. This means that the average economic growth during that period did not really

encourage the response of the growth of the number of workers. 2). The elasticity of labor absorption in the service sector in East Kalimantan in 2013-2022 is positively inelastic, meaning that there is still growth in labor absorption in the service sector in East Kalimantan during that period but the percentage of labor absorption growth is smaller than the percentage of economic growth. This illustrates that the service sector does not play an effective role in increasing service sector activities so that the use of labor is relatively small. Economic growth has not been consistent to be one of the factors triggering a stable increase in labor absorption in several districts/cities in East Kalimantan. 3). The elasticity of service sector labor absorption is greater than the elasticity of industrial sector labor absorption in East Kalimantan in 2013-2022. The service sector is a potential sector in absorbing labor and contributing to the GRDP of East Kalimantan Province, besides that the service sector affects and relates to other sectors.

IMPLICATIONS OF RESEARCH RESULTS

The role of the government is needed in the industrial sector and the service sector. The government needs to pay attention to the development of this economic sector by allocating the right amount of labor and encouraging investors to invest in the two sectors. The development of these two sectors has good prospects and is expected to attract investors so that it can open new jobs that can increase the number of labor absorption.

The elasticity of labor absorption in the service sector which is greater than the industrial sector illustrates that service sector employment opportunities have a greater influence on GRDP than the industrial sector so that the government's role is needed to increase employment opportunities in the industrial sector by increasing more investment leading to the opening of new jobs not only investment with the addition of machines with advanced technology that can reduce labor.

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