THE EFFECT OF INVESTMENT AND LABOR ON ECONOMIC PERFORMANCE IN INDONESIA

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Abstract:
This study aims to determine the effect of investment and labor on the regional economic performance of provinces in Indonesia. The data used in this study is secondary data 34 Provinces in Indonesia, which in the 2010-2020 period were sourced from the BPS (Central Statistics Agency) of the Province of Indonesia. The method used in this study is multiple linear regression analysis using panel data. The analysis shows that investment and labor have a positive and significant effect on economic performance. This means that every increase in investment and labor can improve economic performance in the Indonesian region. Simultaneously, investment and labor have an effect on economic performance, with a coefficient of determination of 87.60 % and is free from the symptoms of classical assumptions. In the Cobb-Douglas production factor analysis, investment is on a return to scale with investment and labor worth one.

Keywords: Investment, Labor, Cobb Douglas Economic Performance.

INTRODUCTION

Economic development refers to the development of economic activities that lead to an increase in the products and services produced by the community and the prosperity of the community. Therefore, economic growth measures the economic performance of a country. (Rustiono, 2008). In economics, many indicators (efforts) are used to measure the economic performance of a country, describe conditions, reveal exclusive situations, or form deflections that occur in the exclusive dimension. Thus, the assumption is that other conditions remain continuous, which means that other factors (not included in the calculation/analysis) are claimed to be constant.

economic performance is influenced by an increase in regional economic activity in terms of population and capital. Where the population as actors or drivers of the economy and capital as a source of funds in carrying out economic activities. In general, economic performance refers to the extent to which a country's economic activities generate income that can contribute to economic development in the country. The contribution of economic performance refers to the increase in the production of goods and services of a country for a year and is calculated with production in the previous year (Karya and Syamsuddin 2016).

Indonesia experienced a foreign exchange crisis in 1997 which had a negative impact on the country and its people. The economic shock caused Indonesia's economic performance to decline sharply. If economic performance is to continue to grow and continue in the long term, it is necessary to understand what factors will affect economic growth and what factors need to be avoided so that economic performance does not go out of place or appear to be declining. Factors of production for example; capital, labor and technology.

Economic performance can be influenced by several factors, including investment, because investment is three-quarters of the elements of forming regional and state economic growth when viewed from the expenditure approach. Investment must not only optimize output, but also determine the division of labor and distribution of output, population growth, as well as quality and technology. In the context of regional development, investment plays an important role in improving economic performance. In order to accelerate the economic development of a country and improve work efficiency, investment is one of the vital elements in the movement of economic performance. Increased production can improve the economy of a country, so the amount of investment will affect the increase in production.

LITERATURE

Economic growth is basically a process in which economic activities are produced using the factors of production, and this process leads to the flow of rewards to meet the needs of society. As the owner of the means of production, the state's output also increases. Thus, if the needs of the community are not met, the welfare of the community will decrease.

Regional economic growth is mainly driven by significant investment. This means that high investment will increase economic growth, and further increase employment.

In order to accelerate the economic development of a country and improve work efficiency, investment is one of the vital elements in the movement of economic performance. Increased production can improve the economy of a country, so the amount of investment will affect the increase in production. More labor means more production because the addition of labor is able to stimulate the regional economy. Under these circumstances, the workforce has a high level of resilience. The increase in demand for labor is due to the expansion of activities in the modern sector.

the workforce has increased, because the workforce has increased from year to year, it means that economic performance can be said to be good. Thus, economic growth will experience good changes and even have an impact on economic performance.

The rapid flow of capital inflows, creates many new jobs so that the number of workers increases. Investment in Indonesia has a positive effect on GDP which is the effect of investment in the previous year. Investments are designed not only to maximize production by facilitating employment, growth, quality of work and skills distribution, but also to drive economic growth in the right direction.

RESEARCH METHODS

In this study, the quantitative method is used, the type of data that can be measured or calculated, either directly or in numerical form. Basically, the quantitative method is intended for hypothesis testing in inference studies, and to provide support in research results by rejecting or accepting the null hypothesis probability. The object of this research is in all provinces in Indonesia. The period 2010-2020 with data from 34 provinces. The source of this data comes from the Statistics Agency.

From the method above, we can see that the dependent variable is the component that is affected because of the independent component and economic growth (EG) is the dependent variable. In addition, economic growth is a calculation by looking at the level of GDP from year to year, in this case the economic growth variable uses the unit of GDP itself, namely Million Rupiah.

$$\mathbf{LogY = LogT + Log\ K + Log\ L + \mu}$$

Where :
Y = Economic growth
T = Technology
K = Capital Accumulated
L = Labor
Log = logarithm
,β = Regression Coefficient
☐ = error term

In determining the method used to estimate the panel data multiple linear regression model, namely:

a) Common Effect
This approach method does not pay attention to individual dimensions or time, thus the intercept and slope are considered constant.

b) Fixed Effect
This method assumes that there are differences in intercepts, because each variable in the model has an intercept that does not change over time even though the intercept between individuals is different.

c) Random Effect
The stochastic effect model or random effect takes into account the difference between individual characteristics and the time of model error. This model estimates panel data that can relate confounding variables between individuals over time.

RESULTS AND DISCUSSION

Based on the Chow and Hausman tests, the best panel data regression model was determined using **FEM** . then the results of panel data regression analysis using the Fixed Effects Model (REM). The estimated output using FEM is presented in the table below:

Dependent Variable: LOG(Y?)
Method: Pooled Least Squares
Total pool (balanced) observations: 374

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	2.545487	0.720809	3.531432	0.0005***
LOG(K?)	0.489159	0.033972	14.39906	0.0000***
LOG(L?)	0.514077	0.066037	7.784678	0.0000***
R-squared	0.998014	Mean dependent var		18.67615
Adjusted R-squared	0.997802	SD dependent var		1.163624
SE of regression	0.054552	Akaike info criterion		-2.885639

Sum squared resid	1.002883	Schwarz criterion	-2.497410
Likelihood logs	576,6145	Hannan-Quinn Criter.	-2.731494
F-statistics	4704,878	Durbin-Watson stat	2.582077
Prob(F-statistic)	0.0000***		

*Note: ***) significant at 1% and **) significant at 5% *) significant at 10%*
Source: Estimated Output, 2021

The interpretation of the empirical model above can be explained in the form of the following equation: **Log(Y $_{it}$) = 2.545487 + 0.489159 Log(K $_{it}$) + 0.514077 Log (L $_{it}$)** . This means: (1) Economic performance without being influenced by any independent variables in the research model will be worth million Rupiah 2.545487 (*cateris paribus)* . (2) Changes in investment have a positive impact on economic performance. That is, the change in the increase in investment in the unit can be explained as an increase in economic performance of 0.489159 (Millions of Rupiah). (3) Changes in Labor have a positive effect on changes in economic performance. So it can be explained that the change in the increase in one unit of Labor will increase Economic Performance by 0.514077 (Million Rupiah).

DISCUSSION

Based on the results of the regression analysis that has been done previously, the analysis of the influence of the independent variables on the dependent variable by comparing the phenomena that occur, the results of previous studies and the results of research researchers can be explained as follows **.**

The Effect of Investment on Indonesia's Economic Performance

According to the estimated results obtained, the investment variable has a positive and significant effect on economic performance. This means that every increase in investment can improve economic performance in the Indonesian region. This is in line with Harrod-Domar's theory that economic performance is determined by savings and investment. If people save and invest a lot, the country's economic performance will be high and vice versa. Investment is an important factor because investing increases capital and can generate income and increase production capacity (Astuti, 2021).

One of the indicators that can be used to measure development planning activities related to investment is the Incremental Capital Output Ratio (ICOR). The key to the success of a region in increasing investment competitiveness is the region's ability to formulate investment and business policies, as well as improve the quality of services to the community. Another topic that must be considered in addition to profitable macroeconomics in attracting investors is the development of human resources and infrastructure in a broad sense. These conditions can move the private sector to participate in perfect economic performance.

ICOR values in 34 provinces in Indonesia during the 2011-2020 period are different. Riau Province has the highest ICOR of 7.32 and followed by NTT of 7.10. This means that in adding 1 unit of output, the provinces of Riau and NTT must add an investment of 7.32 units and for the Province of NTT it must add 7.10 units. Furthermore, for the provinces that have the lowest ICOR, namely East Kalimantan, NTB and South Sulawesi, this indicates that the investment invested has not been efficient in areas that have a negative coefficient.

The results of this study are in line with research conducted by Astuti (2021) which states that investment has a positive effect on economic performance. Furthermore, this research is also in line with research conducted by Winny (2021) explaining that investment has a positive effect on economic performance.

The Effect of Labor on Indonesia's Economic Performance

According to the estimated results obtained, the labor variable has a positive and significant effect on economic performance. This means that every increase in the workforce can improve economic performance in the Indonesian region. Employment refers to the population who have reached the minimum working age, the minimum age to be registered and the survey is 15 years and over. Employment has a significant impact on economic performance because the production and distribution of goods and services produced in an area is very important for any economic activity.

In the case that labor has a significant impact on economic activity, the Solow theory has explained in a study conducted by Priambodo (2015) explaining that labor has a positive influence on economic performance in producing and distributing goods and services so that it has an impact on economic activity.

The results of this study are in line with the research of Priambodo (2015) which shows that an increase in the workforce has a significant positive effect on economic performance. Furthermore, this study contradicts Salama's (2020) research, which shows that labor has a negative impact on economic performance.

CONCLUSION

Based on the results of previous studies and discussions so that researchers can draw conclusions from the Effect of Investment and Labor on Economic Performance in Indonesia in 2010-2020 **,** as follows: 1. Investment has a positive and significant effect on economic performance. This means that every increase in investment will improve Indonesia's regional economic performance in the 2010-2020 period.
Energy has a positive and significant effect on economic performance. This means that every increase in the workforce will improve Indonesia's regional economic performance in the 2010-2020 period

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