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THE EFFECT OF UNEMPLOYMENT, EMPLOYMENT, AND INVESTMENT ON POVERTY IN BENGKULU PROVINCE

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ABSTRACT

Poverty is a problem in various parts of the world, which is caused by various factors such as the unemployment rate which is still very high so that the workforce is not absorbed enough, because investment is still lacking and many more. This research will determine the impact of unemployment, the labor force and investment on the poverty in Bengkulu. The method used by this research is multiple linear regression with panel data. This type of research is quantitative descriptive with secondary data. The results of the research show that if the unemployment rate is reduced it will have a significant influence on poverty in Bengkulu province, if the level of labor force participation continues to be increased it will have a significant influence on poverty, and if investment is increased it will reduce the poverty level in province Bengkulu.

Keywords*: poverty; unemployment; labor force; and investment*

1. Introduction

One of the crucial challenges that faces almost all countries in the world is caused by poverty. Solving the problem of poverty is at the core of the sustainable development agenda (Pratama et al, 2019). Poverty is caused by a person's limitations in meeting their needs (Basorudin et al, 2019).Poverty also occurs due to several causes including, due to disparities in resource ownership which results in income disparities, it is also triggered by inequality in the quality of human resources, where low quality of human resources results in low productivity as well.(Pratama et al, 2019). Several factors cause this, such as investment which is still below standard and slowing economic growth (Arjuntara & Sudibia, 2022). Apart from that, there is also a lack of assets and income needed to meet basic needs such as food, health, clothing, education and shelter (Annisa & Nasruddin, 2022). Poverty arises from a lack of job opportunities which causes many people to become unemployed and have no source of income (Ainunnisa & Hidayat, 2019). Economic growth is an important condition for creating human development. With economic growth, population productivity and income can be increased through the creation of job opportunities. (Hastin & Siswadhi, 2021).

Another factor that is one of the causes of poverty is unemployment. If living needs are met through high employment opportunities, then poverty can be reduced significantly. A low unemployment rate or high employment opportunities can reduce poverty levels(Alviano et al, 2020). Many workers face difficulties in obtaining work due to limited job opportunities (Human et al, 2022). The government is trying to increase the labor force participation rate because low participation can have an impact on increasing the number of poor people, which can be a source of poverty problems if many people do not work in an area. (Basorudin et al,

2019).Apart from that, poverty can also be overcome by increasing capital investors (investment).(Supratiyoningsih et al, 2022).

Investment is the expenditure or purchase of capital goods and production equipment by investors or companies with the aim of increasing the production capacity of goods and services in the economy. Investment objectives are not only limited to increasing output, but also include determining the distribution of labor and income, population growth and quality, and technological development (Pratama et al, 2019). With increasing workforce abilities and skills, it is hoped that there will be an increase in labor productivity and the level of educational investment (Hasibuan et al, 2021). According to the Central Statistics Agency, the poverty rate and unemployment rate are as follows;

Based on the poverty data graph and also the open unemployment rate data graph above, it is divided into 10 districts/cities from each year 2020-2022. It can be seen from the graph above that the poverty unit is greater than the unemployment rate itself. The poverty rate data in South Bengkulu in the graph is the highest, namely in 2021 with a figure of 18.16%, but the unemployment data has decreased, namely 2.55%, in The Rejang Lebong area has the same high poverty and unemployment rates, while North Bengkulu in 2022 has a high unemployment rate of around 4.16% and poverty is 11.48%, the unemployment rate in 2020 decreased and rose again in 2022 and the poverty rate was the lowest in 2022 with a figure of 18.1%, the Seluma region for 2022 is the same as all of unemployment and poverty, namely 1.78% and 18.36%, muko-muko all increased in 2021, namely 3.68% and 11.93%, and for Lebong from year to year until 2022 the unemployment rate decreases but the poverty rate increases in 2022 from 11.85% to 12.3%, kepahiyang from 2021 the unemployment rate decreases but poverty increases, and Central Bengkulu and Bengkulu City are the same The unemployment rate is low but poverty is still high.

Based on the poverty graph and workforce/labor force level above, there are 10 districts/cities whose data was taken from 2020-2021. From the graph above, it can be seen that the opposite occurs from the previous graph, namely that the labor level is higher in terms of unit value than the poverty level. From South Bengkulu and Rejang Lebong from 2020-2022 the workforce level increases and poverty decreases, North Bengkulu in 2022 the workforce increases but poverty also increases, namely 4.16% and 11.48%, Kaur, Seluma, Muko-Muko, Lebong, Kepahiyang, and Central Bengkulu are almost the same, the labor force level has increased and poverty has decreased, but in the city of Bengkulu, the labor force level has increased but the poverty rate has also increased.

Several studies have explored the relationship between unemployment and reduced poverty levels. (Prasetiya & Sumanto, 2022) found that the unemployment rate has a significant negative impact on poverty. However, the unemployment and labor rates apparently do not have a significant influence on poverty through the economic growth channel. (Hastin & Siswahdi, 2021) States that for the most part, the unemployment rate has no effect on this poverty ratedThis is because unemployed people are not always poor, as long as they are still able to meet their basic needs, the increase in educated unemployment, where educated unemployment comes from high school graduates and above.Based on existing research, this study aims to analyze the impact of unemployment, labor and investment on poverty in Bengkulu province.

2. Literature Review

2.1 Poverty

Saying the term "poverty" may be easy, but determining what characteristics make someone poor, who is included in the poor category, and similar questions are not easy. Apart from that, the phenomenon of poverty has expanded along with the development of the factors that cause poverty itself (Pratama et al, 2019). Poverty is measured using two methods, namely absolute and relative poverty.

1) Absolute poverty refers to the comparison between the income received by an individual and the income required to meet basic needs. The real income used to meet basic needs is called the poverty line. Absolute poverty occurs when an individual's income is below the poverty line, so it is insufficient to meet their basic needs.
2) Relative poverty assesses poverty based on the distribution of income in a population. Even though a person's income may be sufficient to meet their basic needs, if that income is much lower than the income of other individuals in the same environment, that individual is still considered relatively poor. This is caused by gaps in income distribution in a region (Safitri & Efendi, 2019).

2.2 Unemployment

Economic growth tends to have a positive impact on the unemployment rate. These results indicate that the increase in population and labor force, stable wage levels, and economic growth simultaneously contribute to an increase in the unemployment rate. On the other hand, there is no relationship between the inflation rate and the unemployment rate (Astuti et al, 2019).

2.3 Labor

According to the Central Statistics Agency (BPS), labor is every person who is able to do work to produce goods and services to meet their own needs and those of society. A person is said to be working if they carry out economic activities producing goods or services with the intention of obtaining or helping to obtain income or profit, for at least 1 hour (uninterrupted) in the past week (Basorudin et al, 2019).

2.4 Investment

Investment is one of the main factors that has a positive impact on the economic growth of a region (Safitri & Efendi, 2019). Investment always goes hand in hand with technological progress, which in turn increases people's productivity and per capita income. Through investment activities, a society has the opportunity to continue to increase investment and employment, which will ultimately increase national income and community prosperity (Wulandari et al, 2022). Investment is a key element in advancing a country's economy. A simple but important relationship is that increasing investment will theoretically encourage per capita trade growth and improve community welfare (Nujum & Rahman, 2019). Continuous investment activities by the community will increase economic activity and employment opportunities, and will raise national income and the community's standard of living (Hastin & Siswahdi, 2021). Investment is always followed by technological developments (Ainunnisa & Hidayat, 2019).

2.5 The relationship between unemployment and poverty

Retnowati and Hastuti (2015) found that the poverty rate is highly dependent on the economic situation, where an increase in unemployment leads to an increase in poverty. Other research also confirms that the importance of growth in reducing poverty is beyond doubt, but many studies show that policies that support growth actually cause inequality, which is contrary to the purpose of growth itself.

2.6 The relationship between labor levels and poverty

Kiha et al (2021) stated that with the existence of various needs in society, people try hard to fulfill them by working to earn income. The level of people's income will reach its peak when the unemployment rate is minimal, otherwise unemployment will occur which will have an impact on reducing people's welfare and increasing the risk of poverty.

Hastin & Siswahdi (2021) shows that investment has a negative influence on poverty levels in Jambi Province. This is due to the increase in investment from year to year by the Jambi Provincial government which has had a positive impact on reducing the poverty level in Jambi Province.

(Astuti et al, 2019) shows that economic growth tends to have a positive impact on the unemployment rate. These results indicate that the increase in population and labor force, stable wage levels, and economic growth simultaneously contribute to an increase in the unemployment rate. Conversely, there is no relationship between the inflation rate and the unemployment rate.

Labor contributes to economic growth and prosperity, so the more labor is absorbed, the lower poverty is. However, if the workforce that is ready to work does not match the available jobs, then the workforce that is absorbed will not be balanced with the workforce that is ready to work, and this will have an impact on poverty. The negative influence of labor on poverty occurs when workers who are not ready to work are still waiting to start, or when workers cannot find work according to their qualifications. The positive influence of labor on poverty occurs when workers can take jobs and earn sufficient income to meet their needs, so that the more labor is absorbed, the lower poverty.

2.7 Investment relationships against poverty

(Rahajeng et al, 202) stated that there was a lack of investment impact on poverty in East Java Province due to the inability of regions in the province to compete. Investment is still concentrated in areas that are economic and industrial centers, such as Surabaya City, Pasuruan Regency, Gresik Regency and Sidoarjo Regency.

(Nujum & Rahman, 2019) shows that although the investment variable has an influence on the level of economic growth, this influence is not significant. This is likely due to the allocation of regional government spending which is greater for consumption than for capital formation, so that the role of investment in economic growth is limited. Apart from that, this is also caused by a lack of attractive economic potential such as natural resources and a lack of bureaucratic services, security, and socio-cultural conditions of the workforce that limit development. As a result, the influence of investment on economic growth is very small.

3. Research Methods

This research adopts a quantitative descriptive approach. The descriptive approach aims to describe and interpret data results in detail from the data and number processing process. Meanwhile, the quantitative approach aims to analyze hypotheses by measuring data so that the parameters of the variables used in the data are measured (Nopiah, 2024).Research data comes from the Central Statistics Agency (BPS) for the 2020-2022 period. Based on the data analysis method used, namely the panel data regression model. Combining cross section and time series data can solve the problem of missing variables (Wulandari et al, 2022). The type of data used is panel data which includes variables such as unemployment rate, labor force, investment and poverty rate. Data analysis was carried out using the multiple linear regression analysis method (Susanto et al, 2020). Multiple Linear Regression (RLB) is used to analyze the influence of the unemployment rate, number of workers, and investment on the poverty level (Azmi & Panjawa, 2022).

Panel data analysis stages consist of three stages, namely:

3.1 Correlation analysis test

Correlation test is a statistical method used to measure the extent of the relationship between two or more variables. F Statistical Test (Chow Test) in selecting the best model for testing panel data, it can be seen that the intercepts are different and can be tested with the F statistical test with the addition of dummy variables. This test can determine the best method

between fixed effect methods without random effect variables. The null hypothesis is accepted if the critical F value is greater than the calculated F value, it can be said that the random effect model is the appropriate model in panel data regression, whereas if the critical F value is smaller than the calculated F, it means that the null hypothesis is rejected, then the correct model is the fixed effect model in panel data regression. The hypothesis in the Chow test is as follows:
H0: Random Effect Model
H1: Fixed Effect Model
H0 is rejected if the P-value is smaller than the value of a.
Conversely, H0 is accepted if the P-value is greater than the value of a.
The value of a used is 5%.

3.2 Choose the best model

Data analysis methods can use three methods in panel data regression, namely Common Effects, Fixed Effects, and Random Effects (Ainunnisa & Hidayat, 2019).

a. Common Effects. (Fixed Coefficient Across Time and Individuals): Ordinary Least Square. This technique combines cross-section data and time series (pool data). The Ordinary Least Square (OLS) method is known as Common Effect estimation. Combining this data does not look at differences between time and between individuals. Or this approach does not look at the time and individual dimensions and it can be stated that the data behavior between districts/cities is similar over various time periods.
b. Fixed Effect (Fixed Effect Model) there is an assumption in the previous discussion that between time and between districts/cities there is an equality between the intercept and slope. However, this assumption is not true. The existence of an intercept that is not constant is caused by the presence of variables that are not included in the model equation. Or there are changes for each individual and time to the intercept. This is the basis of the fixed effects model.
c. Random Effect (Random Effect Model) in the Random Effect model there are differences with the fixed effect model where the differences are between times or individuals which are seen through the intercept, while the random effect model is accommodated through error. This is able to take into account that errors may exist in correlation throughout the cross section and time series.

The choice of the Fixed Effect method or the Random Effect method is considered based on the objective of the analysis, if the number of individuals is greater than the amount of time then it is recommended to choose the random effect method, whereas if the amount of time is greater than the number of individuals then the best model that must be used is the fixed effect method. (Ainunnisa & Hidayat, 2019). The models I use are fixed effects and random effects

3.3 Hypothesis test

Based on researched data. I use multiple linear data with the following regression model:

$$KIt = B0 + \beta1(TPT)It + \beta2(TPAK)It + \beta3(I)It + e$$

The regression model can be written as follows:
K = Poverty
It = time series data from 2020-2022 and cross section of 10 districts and cities of Bengkulu province (panel data)
B0 = Constant
TPT= unemployment
TPAK= labor
I= Investment

e = standard error (nuisance variable)
And by using the multicollinearity test and heteroscedasticity test.

a. The multicollinearity test is a test carried out to ascertain whether in a regression model there is an intercorrelation or linear relationship between an independent variable or predictor variable and the dependent variable. The multicollinearity test aims to test whether in the regression model a correlation is found between the independent variables. The basis for decision making in the multicollinearity test is a decision guideline based on tolerance and VIF values. If the tolerance value is > 0.10 and the VIF value is < 10, it can be concluded that there is no multicollinearity between the independent variables in the regression model. If the tolerance value is <0.10 and the VIF value is > 10, it can be concluded that there is multicollinearity between the independent variables in the regression model. If the tolerance value is <0.10 and the VIF value is > 10, it can be concluded that there is multicollinearity between the independent variables in the regression model.
b. The heteroscedasticity test is a test used to test whether in the regression model there is inequality in the variance of the residuals for all observations in the linear regression model. The heteroscedasticity test aims to determine whether in the regression model there is an inequality of variance from the residuals of one observation to another. If the variance from the residual from one observation to another is constant, it is called homoscedasticity, whereas if it is different it is called heteroscedasticity. The basis for decision making using the Glejser test is as follows:
c. If the significance value (Sig.) is > 0.05, then there are no symptoms of heteroscedasticity in the regression model.
d. If the significance value (Sig.) <0.05, then symptoms of heteroscedasticity occur

Table 1. Analysis variables

No	Variable name	Variable description	Unit
1	Poverty	Number of poor people	Percent
2	unemployment	Open unemployment rate	Percent
3	Employment	Workforce participation rate	Percent
4	Investment	Bengkulu province investment 2020-2022	Percent

4. Results and Discussion

This research describes the research results based on statistical descriptions and logistic regression test results. This description can be seen in table 2 below

Table 2. Statistical Description of Research Data

Variable	Obs	Mean	Min	Max
Poverty	30	14.72	9.30	18.56
Workforce	30	70.81	62.72	78.99
Unemployment	30	3.53	1.74	6.82
Investment	30	13.56	3.00	48.00

Based on Table 2, it can be seen that the lowest poverty is 9.30% with the highest poverty being 18.56% with an average of 14.72%. The labor force variable has a minimum value of 62.72% and a maximum value of 78.99% with an average of 70.81% and a standard deviation of 3988226 billion rupiah. The unemployment variable has a minimum value of 1.74% and a maximum value of 6.82% with an average of 3.53% and the investment variable has a minimum value of 3.00% and a maximum value of 48.00% with an average of 13 .56%

Table 3. Correlation and Regression Results

Variable	Poverty level	
	Fixed Effects	Random Effects
Labor force level	151.8708***	0.041638*
	0.7664	0.8368
Unemployment rate	163.3383***	0.003271
	0.9579	0.9556
Investment	215.2997***	6.203253***
	0.0244	0.0210

Classic assumption test:

a. Multicollinearity test

Multicollinearity tests need to be carried out on regressions that use more than one independent variable, this is to find out whether there is a mutual influence between the independent variables studied.

Table 2. Correlation relationship data between variables

TPK	TPAK	INVESTMENT
1	-0.1911759...	0.64500357...
-0.1911759...	1	-0.2880079...
0.64500357...	-0.2880079...	1

So it can be seen from the data above with the multicollinearity test that the independent variable is less than 0.8, that is, the variable has a correlation relationship between other variables so it passes the test. Thus we can proceed to the next test.

b. Heteroscedasticity test

The heteroscedasticity test needs to be carried out to determine whether or not there is inequality in the variance of the residuals of the panel data regression model

Variable	Coefficient	Std. Error	t-Statistics	Prob.
Poverty	9.493507	3.932735	2.413970	0.0234
Unemployment	-0.111602	0.662549	-0.168443	0.8676
Workforce	0.000764	0.000465	1.642941	0.1129
Investment	0.036238	0.058116	0.62542	0.5386

From these results it can be concluded that all variable data is above 0.05, which is > 0.05, meaning it passes the heteroscedasticity test. With the tests above, it can be seen that the results show that they pass the test so that the data from the dependent and independent variables are related and have similarities.

5. Conclusion

From the results of the analysis carried out, there are several significant findings related to the relationship between unemployment, labor, investment and poverty levels in Bengkulu Province. Based on panel data from 2020 to 2022, and using multiple linear regression analysis methods, several things were found that are worth paying attention to.

First, a multicollinearity test was carried out to determine whether there was an interplay between the independent variables studied. The results show that there is no significant correlation between the independent variables. The unemployment, labor and investment

variables have a correlation value of less than 0.8, so it can be concluded that these variables do not influence each other significantly.

Second, the heteroscedasticity test was carried out to determine whether there was inequality of variance in the residuals of the panel data regression model. The test results show that all variable data has a significance value greater than 0.05. This means that there are no symptoms of heteroscedasticity in the regression model used.

From the results of the classical assumption test, it can be concluded that the dependent and independent variable data have significant relationships and similarities, and there are no serious problems such as multicollinearity or heteroscedasticity in the regression model.

Then, based on the regression results, it can be seen that independent variables such as the unemployment rate, number of workers, and investment have a significant influence on the poverty level in Bengkulu Province. In this context, reducing the unemployment rate, increasing the number of workers, and increasing investment will have the potential to reduce the poverty level in the province.

Thus, the conclusion that can be drawn is that there is a significant relationship between unemployment, labor and investment and the poverty level in Bengkulu Province. Policy steps that support increasing employment opportunities, increasing workforce skills, and increasing investment can be an effective strategy in reducing poverty levels and encouraging sustainable economic growth in the province. However, further research needs to be carried out to understand more deeply the dynamics of the relationship between these variables and the effectiveness of the policies implemented in overcoming the problem of poverty in Bengkulu Province.

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