

# The Influence of Economic Growth, Education and Inflation on the Unemployment Rate Makassar City

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**Abstract:- Economic growth has a negative and insignificant effect on unemployment. From the results of multiple regression analysis where the regression coefficient is -0.213, it means that if there is an increase in economic growth of 1%, it will reduce the percentage of unemployed by 0.213 in Makassar City. Education (average length of schooling) has a positive and insignificant effect on unemployment, meaning that the education variable does not have a large influence because the profitability value (0.153) is greater than the significant level of 0.05. Inflation has a positive and insignificant effect on unemployment. Based on the results of the t-test, inflation does not have a large (not significant) effect on unemployment because the probability value (0.836) is greater than the significant level of 0.05.**

**Keywords:-** *Economic Growth, Education, Inflation ; Unemployment Rate Makassar City.*

## I. INTRODUCTION

In the midst of the Covid-19 outbreak, or often called the corona virus, is an infectious disease that has entered Indonesia since March 2, 2020. This corona virus can be said to be a very dangerous virus because apart from attacking humans, it also attacks the Indonesian economy, which has slumped. The Covid-19 outbreak, which spreads so quickly through droplets from the nose or mouth of people who are exposed to the corona virus to other people, so that those who are exposed to these droplets will also be exposed to Covid-19. So, the government adopted a Stay at Home policy, company employees were laid off, people were prohibited from traveling if it was not too important, in order to reduce the spread of Covid because it not only had an impact on the economic sector, but also had an impact on the tourism and trade sectors. The more people who are exposed to the corona virus, it is possible that the unemployment rate in Indonesia will increase, especially in the city of Makassar, South Sulawesi.

Unemployment is a complex problem because it affects other factors, as well as being influenced by other factors. The problem of unemployment has always been a topic of discussion in every region. High unemployment will cause economic and social problems. Economic problems arising from high unemployment rates affect economic development and influence the measurement of economic success. In addition, unemployment is also a social problem because it has an impact on workers who are unemployed because they have less income, the poverty rate increases, crime and socio-political problems also increase.

This is because every year the population in Indonesia, especially the city of Makassar, continues to increase which causes the workforce to also increase, but this is not matched by the availability of jobs. So, this is one of the reasons why the unemployment rate in Makassar has fluctuated. In addition to the lack of availability of jobs, the competencies possessed by the workforce are not in accordance with the labor market, skills or skills also affect unemployment, and there is termination of employment (PHK). Particularly in the last two years, currently many companies have terminated their employment (PHK) due to the impact of the Covid-19 pandemic outbreak which has caused the company to experience large losses, so they have terminated employment (PHK) to minimize the loss.

Various government efforts to overcome the unemployment problem that occurs, namely creating a Pre-Employment Card Program. The pre-employment card program is a business and job compensation development program for job applicants, workers exposed to termination of employment and competency development for micro and small businesses. Recipients of the pre-employment card will benefit both in terms of knowledge and financially, they are given incentives worth IDR 600,000 for 4 months, after completing the training they choose. Then, the government also provided assistance to small communities affected by Covid-19 in the form of direct cash assistance (BLT) distributed by the Minister of Social Affairs. With this program, the government hopes that the community can take advantage of this opportunity well and help develop the competencies they have, so that they can create a small business with use the incentives or assistance provided and can help their economy, especially during this pandemic.

The following is an overview of the unemployment rate in Makassar City in 2011-2020.

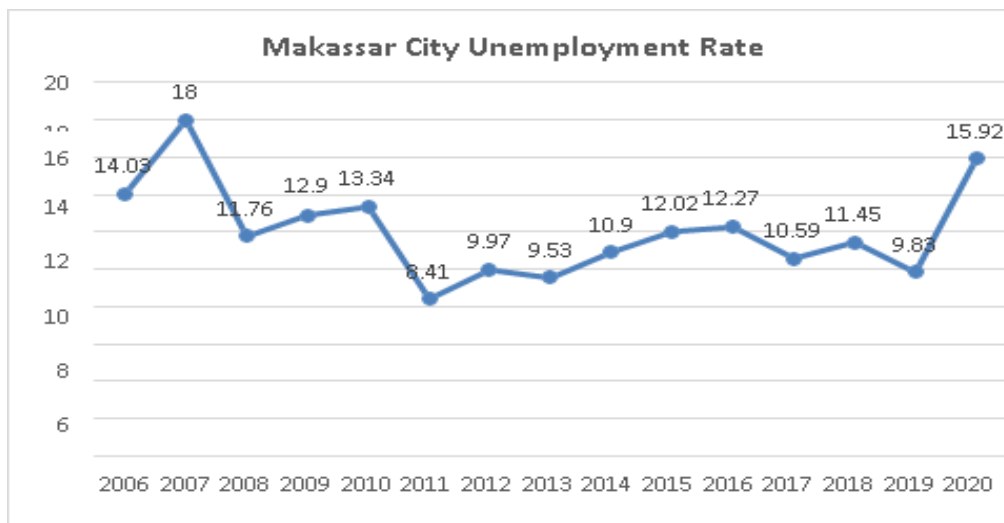


Fig. 1: Unemployment Data Graph

Source: BPS, processed (2021)

Based on the graph above, it can be seen that there are fluctuations in the unemployment rate in Makassar City. In 2016 the unemployment rate experienced a significant increase, where in 2015 the unemployment rate decreased by 12.02 percent to 4.8 percent.

Education is expected to be able to produce quality and competent resources to get jobs in accordance with the education that has been taken. Education contributes directly to national income growth by increasing skills and labor productivity. Education is a vessel that functions to prepare one of the inputs into the production process, namely labor and will produce good output in order to work productively because of its quality. Increasing the quality of workers reflected in educational attainment or average schooling (RLS), will have a positive impact on labor productivity. Likewise efforts to improve skills and workforce training also have an impact on increasing productivity.

A good level of education will also have a positive effect on the unemployment rate. In line with what Jhon Dewey said in Sutarman Tajo (2011) means that education is a process in which basic training, both intellectually and emotionally. And so is the opinion of G. Terry Page, J.B Thomas and A.R.Marschal (2010) who define education as a process of developing skills and human behavior as a whole. Human Capital theory according to Frank and Bemanke (2007) states that to influence human productivity requires a combination of education, experience, training, skills, habits, health and energy.

Inflation is a condition that occurs due to an imbalance between the demand for goods and the availability of these goods, meaning that the demand for goods is higher than the availability of these goods (Soesastro, 2005). Inflation occurs when prices increase continuously and influence one another. High inflation provides benefits for people who have bank debt, on the other hand high inflation makes people less willing to save. And inflation that is too low is

also not good for the economy, because it will cause deflation.

Unemployment occurs due to an imbalance between the demand for labor and the supply of labor, causing a high unemployment rate. This imbalance can be a supply that is greater than the demand for labor (there is an excess supply of labor) and greater demand than supply of labor (excess demand for labor). According to Lewis, the excessive supply of labor does not cause problems for economic development. On the contrary, to accumulate income seen from how many excess workers.

Based on the researchers' initial observations regarding the problem of unemployment that occurs in the regions, especially in Makassar City, it can be caused by several factors including Economic Growth, Education, and Inflation. This is considering that many residents in Makassar City choose not to continue their education or in other words prefer to look for work rather than finish school. The large number of people who choose not to complete their schooling makes the number of the workforce also bigger.

**II. METHODS**

The type of data used in this study is time series data, namely education data for 2011-2020, economic growth data for 2011-2020, inflation data for 2011-2020. This research includes quantitative research using an economic approach.

Source of data used in this research is secondary data. Secondary data is data that is not obtained indirectly, but through related agencies such as the Central Statistics Agency (BPS), and other sources.

Research variables are the characteristics of an object being studied or anything that determines the results of the research. According to Karlinger (1978) variable as any

concept that determines the meaning or value of something. The variables in this study are the open unemployment rate, education level, employment opportunities and economic growth in Makassar City.

The research design is a basic description of the research that will be carried out. According to Malhotra (2007) research design is a framework used to carry out research. A good research design will produce effective and efficient research. The description of the research is as follows.

The data used in this research is secondary research data taken from the Central Bureau of Statistics (BPS), namely education data for 2011-2020, economic growth data for 2011- 2020, and inflation data for 2011-2020. In addition, collecting information through journals, books, the internet, and institutions or agencies related to this research.

The data analysis design used in this study is a multiple linear regression model to determine the effect of economic growth (X1), education (X2), inflation (X3) and the open unemployment rate (Y). The form of the equation is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \quad (3.1)$$

Information :

Y = Unemployment Rate X1 = Economic Growth X2 = Education

X3 = Inflation  $\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3$  = Regression Coefficient e = error term

#### A. Statistical Test

##### ➤ Determinant Coefficient Analysis (R2)

According to Gujarati (2004) the coefficient of determination is to find out how much the percentage contribution of the independent variable can be explained in the percentage dependent variable. The R Square value is said to be good if it is above 0.5 because the R square value ranges from 0 to 1. The R-Square value always increases with the addition of the independent variables of a model and becomes a weakness of R2. So to overcome this, adjusted R2 is used (adjusted R2) to avoid bias towards the independent variables included in the model. According to Rahum (2013) it is formulated as follows:

$$\text{Adjusted } R^2 = 1 - (1 - R^2) \frac{(n-1)}{(k-1)} \dots \quad (3.2)$$

Where :

Adjusted

R2 : Adjusted Determination Coefficient

K : Number of Variables not including the intercept

N : Number of Samples.

##### ➤ F Test (Simultaneous)

The significance test was carried out with the aim of statistically proving that the independent variables, namely economic growth (X1), education (X2), inflation (X3), have an effect on the dependent variable, namely the open unemployment rate (Y). In making decisions based on the value of profitability, that is, if  $F_{count} < F_{table}$  then  $H_0$  is

accepted (no significance), meaning that the independent variables together do not have a significant effect on the dependent variable. Meanwhile, if  $F_{count} > F_{table}$ , then  $H_0$  is rejected (significant), meaning that they both have an effect on the dependent variable. The way to obtain the  $F_{table}$  value is:

F (k;n-k) Information :

k = Number of Independent Variables n = Number of Samples.

##### ➤ T Test (Partial)

T test is used to determine whether the independent variable has a significant effect on the dependent variable and to make a decision whether the hypothesis is proven or not. In making decisions, the partial hypothesis testing part is based on the profitability value, namely if  $\text{sig} > 0.05$  and  $T_{count} < T_{table}$  then  $H_0$  is accepted, and if  $\text{sig} < 0.05$  and  $T_{count} > T_{table}$  then  $H_0$  is rejected. As for how to obtain the value of T table, namely:  $t(a/2; n-k-1)$

Information :

a : Constant/significant level n : Number of samples k : Number of independent variables.

#### B. Classical Assumption Test

##### ➤ Multicollinearity Test

The multicollinearity test has a correlation between the explanatory variables in the regression model. According to Ghazali (2016) the multicollinearity test aims to see whether the regression model finds a relationship between the independent variables and the dependent variable. To determine whether there is a correlation or there is no correlation, that is seen from the tolerance value and the variance inflation factor (VIF) value.  $VIF > 10$  results in multicollinearity.

##### ➤ Autocorrelation Test

According to Ghazali (2016) Autocorrelation arises because sequential observations over time are related to one another. To find out whether or not there is autocorrelation is to do the Durbin Watson (DW) test, Lagrange Multiplier (LM), Breusch Godfrey (BG) method, and run tests (Rahim, 2012). The Durbin Watson test is one of the popular tests. The formula used for the Durbin Watson test is:

$$DW = \frac{\sum (e_t - e_{t-1})^2}{\sum e_t^2}$$

Information:

DW: Durbin Watson Test Value E : Residual Value  $E_{t-1}$  : Residual value of a previous period

As for how to detect autocorrelation with Test Durbin Watson, namely:

Positive Autocorrelation Detection

If  $d < d_L$  then there is a positive autocorrelation If  $d > d_U$  then there is no positive autocorrelation

If  $dL < d < dU$  or  $4-dU < 4-dl$  then the test has no definite conclusion

**Negative Autocorrelation Detection**

If  $(4-d) < dl$  then there is a negative autocorrelation If  $(4-d) > du$  then there is no negative autocorrelation

If  $dl (4-d) < du$  then the test has no definite conclusion  
Information:

d: Durbin Watson value  
dL : Lower limit of DW  
dU :Upper limit of DW.

➤ **Heteroscedasticity Test**

The heteroscedasticity test is used to determine whether there is inequality of residual variance for observations in the linear regression model. Heteroscedasticity is a situation where the error variance of all observations of each independent variable in the regression model is not the same. The method of detecting heteroscedasticity is the graphical method and the park test. In detecting heteroscedasticity with the Glesjer test, it can be seen through the significance value between the independent variables with an absolute residual of more than 0.05, so there is no problem. Meanwhile, the test looks at the graph for how to detect it, namely if there is a regular pattern (wavy, widens and then narrows), then heteroscedasticity occurs. One good regression model is homoscedasticity or there is no heteroscedasticity problem.

**III. RESULT**

This research was carried out in the city of Makassar which is the capital city of South Sulawesi province and the largest city in Eastern Indonesia and is nicknamed the Metropolitan City. Administratively, the city of Makassar consists of 15 sub-districts and 153 sub-districts.

Variabel	Independen	T.H. B	thitung	Sig. VIF	
<b>PE</b>	-	-0.213 <sup>ns</sup>	-0.558	0.558	1.352
<b>PD</b>	-	0.472 <sup>ns</sup>	1.1537	0.153	1.163
<b>IF</b>	-	0.111 <sup>ns</sup>	0.212	0.836	1.198
<b>Intersep</b>					652.984
<b>Adjusted R2</b>					0.052
<b>Fhitung</b>					1.257
<b>DW</b>					2.567
<b>N</b>					15

Source: Data Processing Results, 2022  
Information:  
ns : Not Significant T.H: A Sign of Hope

**A. Multiple Linear Regression Analysis**

Multiple linear regression analysis aims to determine the effect of the independent variables (economic growth, education, and inflation) on the dependent variable (unemployment rate) in the city of Makassar. Based on the analytical method used and explained in the previous chapter, the following equation is obtained:

$$Y = 652.984 - 0.213 + 0.472 + 0.111 + e$$

Astronomically, the city of Makassar is located between 119°24'17"38" East Longitude and 5°8'6"19" South Latitude. With an area of 175.77 square kilometers, Makassar city is recorded and has 15 sub-districts, namely Mariso, Mamajang, Tamalate, Rappocini, Makassar, Ujung Pandang, Wajo, Bontoala, Ujung Tanah, Kep. Sangkarang, Tallo, Panakukang, Manggala, Biringkanaya. and Tamalanrea. And the boundaries of the city of Makassar as follows:

- To the north it is bordered by Maros district
- To the south it is bordered by Gowa district
- Next to the Makassar Strait district
- To the east it is bordered by Maros district

Makassar City plays a role as a trade and service center, industrial activity center, government activity center, goods transportation service node, education and health service center. The city of Makassar has a strategic position because it is located at the intersection of the southern and northern traffic unions in South Sulawesi Province, from the western region to the eastern region of Indonesia and from the northern region to the southern region of Indonesia. Makassar City is a lowland city that has a height that varies from 1-25 meters above sea level. Administratively, the city of Makassar has 15 districts.

**IV. DISCUSSION**

In this study using multiple linear regression analysis to determine the effect of economic growth, education and inflation on the unemployment rate in the city of Makassar. The analytical tool used in this study was the SPSS statistic 25. The types of tests carried out were T test, F test, determinant coefficient (R2), autocorrelation test, multicollinearity test and heteroscedasticity test.

Interpretation of the coefficients of the multiple linear regression equation, namely:

- The Constant value is 652,984 which means that if the other independent variables are zero, then the unemployment variable increases by 652,984%.
- The coefficient value of the X1 variable (Economic Growth) is -0.213% which is negative, meaning that every 1% increase in economic growth will reduce unemployment in Makassar City by -0.213%. The relationship between economic growth and unemployment is negative (-), where a decrease or

increase in economic growth will affect unemployment.

- The coefficient value of the variable X2 (Education) is 0.472% which is positive, meaning that if there is an increase of 1% in education, unemployment will increase by 0.472%. There is a positive relationship between education and unemployment.
- The value of the coefficient variable X3 (inflation) of 0.111% is positive, meaning that for every 1% increase in inflation, unemployment will increase by 0.111%. There is a positive relationship between inflation and unemployment.

## B. Statistical Test

### ➤ Determinant Coefficient Test (R<sup>2</sup>)

The determinant coefficient (R<sup>2</sup>) is to find out how much the independent variable contributes to the dependent variable. The value between 0-1 where the value is close to the value 1 means the higher the contribution of the independent variable to the dependent variable. Based on Table 4.2 above, it can be seen that the coefficient of determination is at Adjust R Square of 0.052. This shows that the variables X1 (Economic Growth), X2 (Education), and X3 (Inflation) affect the variable Y (Unemployment) in Makassar City by 0.52 %. The rest is influenced by variables outside the research of 99.48%.

### ➤ T Test (Partial)

The T test aims to determine whether there is a partial effect (itself) provided by the independent variable of the dependent variable. The t test is used to make a decision whether the hypothesis is proven or not, where the significant level used is 5%. The basis for making a decision if it has a significant effect on the test results shows a sig value <0.05 and t count > t table. The t table is 1.796. The results of the t test show that the variable Economic Growth, the significance value (0.588) is smaller than the significant level of 0.05 indicates that economic growth has a negative and insignificant effect on unemployment. Education variable, its significant value (0.153) is greater than the significant level of 0.05 so, it can be concluded that education (average length of schooling) has a positive and insignificant effect on unemployment. Inflation variable, the significant value (0.836) is greater than the significant level of 0.05 indicating that inflation has a positive and insignificant effect on unemployment.

### ➤ F Test (Simultaneous)

The F test aims to determine whether there is a simultaneous effect (together) given the independent variable on the dependent variable. Based on table 4.2 above, it indicates the influence of the variables Economic Growth (X1), Education (X2) and Inflation (X3) on Unemployment (Y) with an Fcount of 1,257 and a Ftable of 3,885. The value of Fcount (1.257) < Ftable (3.885) indicates that together the variables of economic growth (X1), Education (X2), and inflation (X3) are not significant to the unemployment variable (Y).

## C. Classical Assumption Test

### ➤ Multicollinearity Test

According to Ghozali (2016) the multicollinearity test aims to see whether the regression model finds a relationship between the independent variables and the dependent variable. To determine whether there is a correlation or there is no correlation, that is seen from the tolerance value and the variance inflation factor (VIF) value.  $VIF > 10$  results in multicollinearity.

Based on table 4.9 above, it can be seen that the VIF for each variable is as follows:

- The VIF value for the economic growth variable (X1) is  $1.352 < 10$  and the tolerance value is  $0.740 < 10$ , so that the economic growth variable is stated that there is no multicollinearity.
- The VIF value for the Education variable (X2) is  $1.163 < 10$ , and the tolerance value is  $0.860 < 10$ , so that the inflation Education variable is stated that there is no multicollinearity.
- The VIF value for the Inflation variable (X3) is  $1.198 < 10$ , and the tolerance value is  $0.835 < 10$ , so that the inflation variable is stated that there is no multicollinearity.

### ➤ Autocorrelation Test

The autocorrelation test is a regression model test to determine whether there is a correlation of confounding errors in a certain period and the following period. If there is a correlation, then there is an autocorrelation problem. Based on table 4.2 above, the autocorrelation test results for the Durbin- Watson value are 2.567, the significance table value is 5% with (n=15) and the number of independent variables (K=3) yields a dL value of 0.8140, a dU value of 1.7501. Because the DW value is greater than  $du = 2.567 > 1.7501$ . So it can be concluded that there is no autocorrelation between all independent (X) and dependent (Y) variables.

### ➤ Heteroscedasticity Test

The heteroscedasticity test is a regression model test tool to determine the similarity of the variance of the residuals one more observation. A good regression model is homoscedasticity or heteroscedasticity does not occur. The method of detecting heteroscedasticity is the graphical method and the park test. Based on table 4.1, it can be seen that there is no specific pattern because the points spread irregularly above and below the 0 axis on the y axis. So it can be concluded that there is no heteroscedasticity.

## V. CONCLUSION

Based on the data processed and analyzed, it can be concluded:

- **Effect of Economic Growth (X1) on Unemployment.** Economic growth has a negative and insignificant effect on unemployment. From the results of multiple regression analysis where the regression coefficient is -0.213, it means that if there is an increase in economic growth of 1%, it will reduce the percentage of unemployed by 0.213 in Makassar City. Increased economic growth, production of goods and services will also increase. With the increase

in the production of these goods and services, there will automatically be an increase in the factors of production so that more labor is needed. With the demand for labor, this will reduce the unemployment rate. And conversely, if there is a decrease in the factors of production, it will increase unemployment

- **The Effect of Education (Average Length of School) on Unemployment.** Education (average length of schooling) has a positive and insignificant effect on unemployment, meaning that the education variable does not have a large influence because the probability value (0.153) is greater than the significant level of 0.05. Because it can be seen that although education (average length of schooling) increases, Unemployment has also increased, this can be proven in education data (average length of schooling) and unemployment in Makassar City in 2020 education (average length of schooling) has increased by 11.21% and unemployment has increased by 15.92%.

This research is in line with previous research conducted by Syamsu Nujum, Zainuddin Rahman, & Ratu Purnama (2020) that the level of education has an effect and is not significant on the unemployment rate. However, this research is not in line with the research conducted by Imarotus Suaidah and Hendry Cahyono that the level of education has a significant effect on the unemployment rate. The results of this study are also not in line with the theory of human capital. The longer a person takes education, the skills and knowledge they have also increase and they have a great chance to get a good job and a big salary.

The theory of human capital explains that education has a positive effect on economic growth. That is, when education increases, economic growth increases. If growth increases, the unemployment rate will automatically decrease because economic growth has a negative effect on the level of education. So it can be said that education has a negative effect on unemployment.

Based on the theory of human capital which states that people who have higher education, as measured by length of schooling, will have job opportunities and good salaries compared to those with lower levels of education. However, what is happening now is that many people who have a higher level of education do not have jobs, compared to those who do lower education. This happens because people who have low education have more experience and choose to become farmers, laborers, company employees. Meanwhile, those with higher education have minimal experience because they are more concerned with mastering theory. As well as the lack of desire to work that is not in accordance with his passion. Based on the results of the regression analysis, it shows that education (average length of schooling) has a positive effect on unemployment, meaning that if education increases, unemployment also increases. output in the business cycle. O'kun's law also stores the relationship between output and labor markets which describes the combination of short movements of real GDP and changes in the unemployment rate. However, this research is not in line with research conducted by Rika Amelia (2017) that economic growth has a negative and

significant relationship.

The results of this study indicate that economic growth in the city of Makassar is not a quality economic growth. Quality economic growth can be seen through the welfare of the community in the city community and how to absorb labor. And what is currently happening in the city of Makassar, there are still many people who do not have jobs and lack of social welfare (such as many homeless people and buskers). The most important thing to be developed in advancing economic growth is to encourage the manufacturing industry sector, water supply, construction, car and motorbike repair, accommodation and food and drink provision, information and communication, financial services, real estate, corporate services, educational services, educational services. Health & social activities and other services in the city of Makassar. That way, economic growth increases and the problem of unemployment can also be resolved.

- **Effect of Inflation on Unemployment.** Inflation has a positive and insignificant effect on unemployment. Based on the results of the t-test, inflation does not have a large (not significant) effect on unemployment because the probability value (0.836) is greater than the significant level of 0.05. It can be seen that inflation increases, then unemployment also increases. This research is in line with previous research conducted by Rika Amelia (2017) and Farid Alghofari (2010) that inflation has no significant effect on unemployment. However, this research is not in line with what was done by Muhammad Ashar (2020) that inflation has a significant effect on unemployment. The results of this study are not in line with the Philips Curve theory that inflation has a negative relationship to unemployment. A.W Philips describes the fact that inflation is a reflection of total aggregate demand. If aggregate demand increases, the price of a product also increases. With high prices, the desire for production also increases, thereby reducing the unemployment rate. However, this research is not in line with what was conducted by Muhammad Ashar (2020) that inflation has a significant effect on unemployment.

Inflation is a general increase in prices for goods, services and factors of production. Inflation is a reflection of aggregate demand. In accordance with the demand theory that if demand increases, the price also increases. If there is an increase in the prices of a commodity, both goods and services, it will take a lot of manpower to fulfill the demand, so that the demand for goods and services by consumers can be overcome and likewise the unemployment rate will also decrease. The results of this study indicate that if inflation in the city of Makassar increases, the unemployment rate will also increase. So that it is necessary to control inflation, to overcome inflation requires cooperation between the government, the business world and the general public because the factors that cause inflation are from the demand, supply and expectation sides. Inflation control is also carried out by setting maximum prices, stabilizing people's incomes, and increasing production output.

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