



THE EFFECT OF ECONOMIC GROWTH, INFLATION, AND PANDEMIC COVID-19 AS CONTROL VARIABLE ON UNEMPLOYMENT IN INDONESIA 2018-2021

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Abstract:

Unemployment is a problem that must be considered to provide public welfare. With the pandemic-covid-19 condition, unemployment has increased more than 4%. The independent variable in this study is unemployment in Indonesia during the Covid-19 pandemic. This study uses secondary data and multiple linear regression analysis of panel data with quantitative methods using Eviews-9 software. Tests were carried out using the Common Effect Model, Fixed Effect Model, and Random Effect Model using the Chow test, Hausman test, and Langrange Multiplier test as well as the classical assumption test, namely normality test, multicollinearity test, heteroscedasticity test, and R2 coefficient hypothesis test, statistical test. F, and test statistic t. The data that the researcher got from BPS and Bank Indonesia data as well as other latest media with a descriptive approach, and the research population were Economic Growth, Inflation, Covid-19 as Dummy Variables Against Indonesian Unemployment 2018-2021. The results showed that the Economic Growth Variable had a positive and significant effect on unemployment in 2018-2021, the Inflation Variable had a negative and significant effect on unemployment in 2018-2021, and the Covid-19 pandemic variable had a positive and significant effect on unemployment in 2018-2021.

Keywords: Economic Growth, Covid-19, Inflation, Unemployment, Multiple linear analysis.

Background

According to Central Statistics Agency, Internal factors that cause unemployment are the lack of information about job opportunities, the amount of information on job vacancies does not reach job seekers so that many job seekers are slow to get information, secondly the low education and training for job seekers resulting in a mismatch between job seekers and available vacancies, third there is a reluctance to register because of limitations such as disability because in reality on the



ground some alliances provide certain qualifications for prospective workers, the fourth is not motivated to apply for jobs because of the experience of failure to get a job and other internal factors inadequate technical assistance.

In addition to internal factors, there are external factors, namely a reduction in the number of employees in large companies and public services, secondly the decreasing need for unskilled workers, thirdly the lack of awareness among employers of the needs and abilities of people with disabilities, fourthly fears of the high cost of health insurance and concerns of accidents and insurance costs.

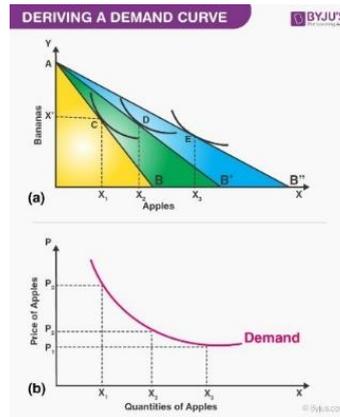
According to Soekapdjo & Oktavia (2021) If unemployment continues to increase, it will reduce people's welfare where this will have an impact on decreasing purchasing power so that the economy becomes sluggish and not enthusiastic. Finally, people will reduce consumption because their income tends to be small. According to Franita (2016) If viewed from an economic point of view when unemployment increases it will increase the poverty rate because when many people are unemployed it will have an impact on the income per capita of the community so that they are unable to meet their finances. meet the needs of society.

According to Suaidah & Cahyono (2013) Unemployment is created due to a lack of employment opportunities due to the large number of workers who do not find work. To increase human capital as work intensity, capital is needed in the form of a higher level of education which will provide a higher quality workforce so that it will provide efficiency and effectiveness in production and provide job opportunities for available jobs. The higher the level of education obtained, the higher the level of output produced so that it will reduce the unemployment rate.

THEORETICAL FRAMEWORK

Unemployment

The demand for labor arises due to the need for the availability of the workforce, in economic theory it is known as derived demand. The era of the Covid-19 pandemic affects workers who have certain skills in certain fields such as making food, sewing clothes, becoming less interested in the government because of government regulations to limit the movement of people, namely PSBB (Large-Scale Social Restrictions) so that many producers go out of business and become unemployed.



Source: *byjus.com*

In the curve above, it is illustrated that the demand and supply of a product (output) will affect the price of goods on the market, for example, during the Covid-19 pandemic, the government imposed PPKM so that the community's economic activity was disrupted and the effect on the production of goods was reduced because there was no public purchasing power because people's desire to buy clothes, food, etc. is reduced.

During the Covid-19 Pandemic, the government tends to shift spending to other fields such as Health for the cost of treating people who are being affected by Covid-19 and for other costs so that employee salaries will decrease so that the unemployment rate will increase.

These factors consist of the lack of skills of the younger group compared to the more mature group, the inequality or geographical constraints and the scarcity of information that hinders the labor market, and the age factor when leaving school, usually leaving school at an earlier age experiencing higher unemployment rates. Second, non-structural factors consisting of an increase in the level of labor wages that encourage employers to terminate employment or not accept new employees, increased participation of women including those who are married into the workforce, youth perceptions of low wages, and perceptions of career and employment. work environment. (Adriyanto et al., 2020)

Growth Economy

According to Sadono Sukirno, economic growth means development in the economy that causes goods and services produced in society to increase and the prosperity of society to increase. Thus, to determine the level of economic growth achieved, it is necessary to calculate real national income according to fixed prices, namely at prices prevailing in the selected base year. So economic growth measures the achievement of the development of an economy. (Sukirno, 2019).

Okun's law states that there is a linear negative relationship between unemployment and economic growth: a 1% increase in the unemployment rate will cause economic growth to decrease by 1% or more. Conversely, a 1% increase in output



will lead to a decrease in the unemployment rate of 1% or less.(Prof. Mudrajad Kuncoro, nd)

inflation

From the Philips curve, it is explained that unemployment and inflation are inversely proportional, the higher the inflation, the less unemployment will be and vice versa if the inflation is low, the unemployment will increase. During the Covid-19 pandemic, the Central Statistics Agency stated that inflation had decreased so that the unemployment rate increased.

This Phillips curve has three characteristics, namely:

1. It has a negative slope, so this curve goes down from the top left to the bottom right.
2. The Phillips curve has an intercept on the horizontal axis at the natural rate of unemployment, at which time the inflation rate is zero.
3. This curve shows the response of the unemployment rate to changes in the inflation rate.

This situation can also be described from the state of determining prices in the hands of producers, especially before certain days such as Eid, Christmas, and New Year as well as when determining the determination of the Provincial Minimum Wage. Although the stock of goods in general is predicted to meet the increase in demand, the prices of goods and services in the market which is approaching the holiday will be more expensive than demand supply conditions. It also applies when determining the UMP, traders increase the price of goods even though the increase in wages is not too significant in encouraging an increase in demand.

According to the AWPhillips Theory, it suggests that the inflation rate and unemployment have a negative relationship, meaning that when the inflation rate is high, nodding will be low and when unemployment is high, inflation will be low.

Costs that continue to rise cause production activities to be very unprofitable so that capital owners usually prefer to use their money for speculative purposes or make unproductive investments, then the high inflation rate that occurs will result in an increase in interest rates (loans). Thus, productive investment will decrease as a result, employment opportunities will decrease and unemployment will increase.(Unemployment et al., 2013)

According to Sukirno (2016), argued that if the economy is developing, inflation will increase and unemployment will be low and companies will face increased demand by providing higher wages. On the other hand, if the economy is sluggish, inflation will decrease and unemployment will increase so that companies will reduce employee salaries or even lay off work. massively.

Covid-19 pandemic

According to Malik et al., (2021), The participation of governments around the world is also increasing. In addition to dealing with the economic crisis, the government must also solve its main problem, namely the spread of the virus. Some countries take quite extreme policies by closing the region (lockdown); others moderate by emphasizing social distancing and working from home (WFH). Lockdowns and social



distancing meant industrial centers had to stop operating or reduce working hours, and “non-primary” businesses experienced temporary closures. As a result, this policy will damage the supply chain and reduce aggregate supply.

Based on data from the Central Statistics Agency, there are four components of the working age population group affected by COVID-19, including:

- 1) Unemployment due to covid-19
- 2) Unemployment (BAK) due to Covid-19
- 3) Not working temporarily due to Covid-19,
- 4) workers who have had their working hours cut due to Covid-19. Conditions 1) and 2) those who have lost their jobs due to covid 19, while conditions 3) and 4) still have jobs but they are still affected because of covid 19.(Sari & Santoso, 2019)

METHOD

The data used in this study is secondary data using panel data, namely listening to 34 provinces in Indonesia in 2018-2021 where 2018-2019 is the time before the Covid-19 Pandemic and 2020-2021 is the time during the Covid-19 Pandemic. Data were obtained from the Central Statistics Agency, Bank Indonesia, and other related articles. . Data The dependent variable used is Unemployment (Y), while the independent variables used are economic growth (X1), Inflation (X2), and the Covid Pandemic Dummy Variable (X3).

Tests were carried out using Eviews-9. To determine the effect of the independent variable on the dependent variable, panel data test is used which combines cross section and time series data whether it has a positive or negative effect on the independent variable. The testing steps carried out are the Model Selection Test such as the Common Effect Model, Fixed Effect Model, and Random Effect Model, which then uses the Chow, Hausman, and Langrange Multiplier tests to select the best model. Followed by the Fit Test which includes the value of the coefficient of determination R², F test, and t test.

RESULT

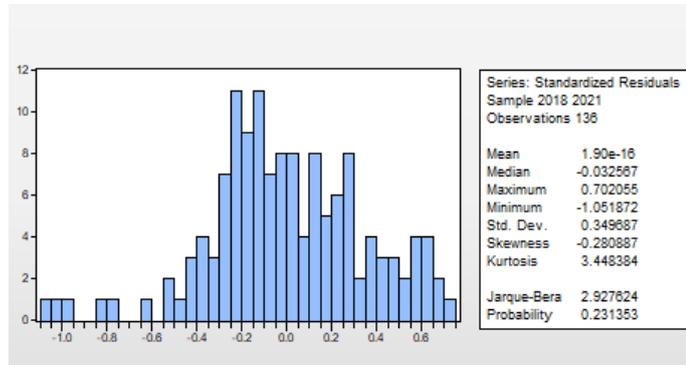
Chow Test, Hausman Test, and Langrange-Multiplier Test

Based on the Chow test, the probability value of the Chi-Square Cross-section is $0.0000 < 0.05$, then the Hausman test is carried out. In this test the probability value of the Chi-Square Cross section is $0.7260 > 0.05$. Followed by the Langrange-Multiplier test, it was clearly shown that the Breush-Pagam probability was 0.0000, where $0.0000 < 0.05$. The estimation results indicate that the chosen model is using the Random Effect Model approach. The results of the regression estimation using the Random Effects Model (REM).



Classic assumption test

a. Normality test



Source: Normality test results, Eviews-9, processed data (2022)

In this study, there were 136 samples. Based on the results of the data output above, it shows that the value with a probability of 0.231353 whose value is greater than the significance of 0.05, then the data is normally distributed.

b. Multicollinearity Test

	X1	X2	DUMMY
X1	1.0000000	0.137848024 5725945	0.0401768160 9134038
X2	0.137848024 5725945	1.0000000	0.2825212204 826827
DUMMY	0.040176816 09134038	0.282521220 4826827	1.0000000

Source: Multicollinearity test results in Eviews 9, data processed (2022)

Multicollinearity test aims to test whether the regression model found a correlation between independent variables or not. From table 4.1 it is concluded that the results of the multicollinearity test show that all correlation coefficients are less than 0.8 which means that the data in the study do not indicate multicollinearity problems.



c. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.018285	0.285044	0.064149	0.9489
X1	0.020665	0.025974	0.795588	0.4277
X2	0.058385	0.055967	1.043200	0.2988
DUMMY	-0.008041	0.039170	-0.205296	0.8377

Source: Heteroscedasticity test results, Eviews 9- processed data (2022)

Heteroscedasticity test serves to test whether in the regression model there is an inequality of variance from the residual of one observation to another observation. In the Heteroscedasticity test, the probability value must be > 0.05 . Based on Table 4.3 which shows the results of the heteroscedasticity test where the unemployment variable has a probability of $0.9489 > 0.05$, the economic growth variable has a probability of $0.2988 > 0.05$, the inflation variable has a probability of $0.2988 > 0.05$, and the COVID-19 pandemic variable has a probability of $0.8377 > 0.05$. The results show that the probability magnitude of all variables is more than 0.05. meaning, in this data study there was no heteroscedasticity problem.

d. Autocorrelation Test

Test Autocorrelation is carried out through testing the value of the Durbin Watson test to determine the presence of autocorrelation in a regression model. The basis for decision making is if the Durbin Watson value lies between DU and 4-DU, it means that there is no autocorrelation.

R-squared	0.261997	Mean dependent var	0.409793
Adjusted R-squared	0.245224	SD dependent var	0.196195
SE of regression	0.170450	Sum squared resid	3.835012
F-statistics	15.62034	Durbin-Watson stat	1.188832
Prob(F-statistic)	0.000000		

Source: Eviews 9 output, data processed (2022)

Based on the table above, the results of the autocorrelation test can be seen in the Durbin Watson column of 1.188832. then the results are compared with the Durbin Watson (DW) table using a significant value of 0.05. The number of data (n) used in this study were 136 samples.

Dw value = 1.88832

dL = 1.2707



$$dU = 1.6519$$

$$4 - DW = 4 - 1.2707 = 2.7293$$

$$4 - DW = 4 - 1.6519 = 2.3781$$

$$dU < d < 4 - dU$$

$$1.6519 < 1.188832 < 4 - 1.6519$$

$$1.6519 < 1.88832 < 2.3481$$

The conclusion of the autocorrelation test is that there is no autocorrelation between variables so that there is no indication of autocorrelation in the study.

DISCUSSION

1. Testing on Economic Growth Variables

- i. $H_0 : 1 > 0.05$ means that economic growth has no significant effect on unemployment
- ii. $H_1 : 1 > 0.05$, meaning that economic growth has a significant effect on unemployment.

From the results of the REM table regression with a significance level of 5% ($\alpha=5\%$), that economic growth has a probability value of $0.0376 \leq 5\%$ with a t-count of 0.886722, meaning that H_1 is rejected and H_0 is accepted. The conclusion shows that the variable economic growth has a positive effect on unemployment.

The results of this study contradict Okun's legal theory which explains that the unemployment rate has a negative relationship with economic growth. If GDP does not experience growth, the unemployment rate will be the same and will even increase by 1.5% from the previous condition because basically good economic growth should be. The influence of the economy's Gross Regional Domestic Product (GRDP) has a negative effect on the unemployment rate. However, the results of the study show that economic growth in Indonesia has a positive effect on the unemployment rate. This research was also investigated by Full Moon (2015), Romhadhoni et al., (2019), Economic growth in the pandemic year does not only calculate the value of goods and services but also includes income from foreign nationals.

2. Testing on Inflation Variables

- a. $H_0 : 1 > 0.05$ means that inflation has no significant effect on unemployment
- b. $H_1 : 1 > 0.05$, meaning that inflation has a significant effect on unemployment.

From the results of the REM table (Table 4.1) From the results of the regression table 4.1 with a significance level of 5% ($\alpha=5\%$), inflation has a probability value of 0.0058 with t count -1.911520 it means that H_1 is rejected and H_0 is accepted. The conclusion shows that the inflation variable has a negative effect on unemployment.

These results are in accordance with the hypothesis that inflation has a negative effect on unemployment and in accordance with the Philips theory which explains that



inflation will be low when unemployment rises and vice versa if high inflation will reduce unemployment.

3. Testing on Covid-19 Pandemic Variables
 - a. $H_0 : 1 > 0.05$ means that the covid-19 pandemic has no significant effect on unemployment
 - b. $H_1 : i 0.05$, it means that the covid-19 pandemic has a significant effect on unemployment.

From the results of the REM table with a significance level of 5% ($\alpha = 5\%$), that the covid-19 pandemic has a probability value of 0.0000 with t count 5.522873 it means that H_1 is rejected and H_0 is accepted. The conclusion shows that the Covid-19 pandemic variable has a positive effect on unemployment, namely if the Covid-19 pandemic increases it will increase the unemployment rate in Indonesia.

Simultaneous Significance Test (F Test)

Simultaneous Significance Test (F Test) is used to determine whether the independent variables simultaneously or simultaneously affect the dependent variable. The F-count in table 4.1 shows a probability of $0.00000 < = 5\%$. This means that the independent variables, namely Economic Growth (X1), Inflation (X2), and the Covid-19 Pandemic (X3) together significantly affect the dependent variable, namely unemployment (Y).

CONCLUSION

This study uses secondary data, namely panel data collected through the Central Statistics Agency, Bank Indonesia, and related articles. The dependent variable in this study is unemployment in 2018-2021 with the independent variables being economic growth, inflation, and the covid-19 pandemic. The results of the research that have been carried out can be partially concluded as follows, Economic growth variable has a significant positive effect on the unemployment variable but is contrary to Okun's theory which states that economic growth is inversely proportional because economic growth does not only discuss the goods and services sector so that other sectors such as manufacturing, mining, and agriculture so that the Okun law does not apply in the 2018-2021 period, Inflation variable has a significant negative effect on unemployment. The Covid-19 pandemic variable has a significant positive effect on unemployment because the increasing presence of the COVID-19 pandemic means increasing unemployment.

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