



Analysis of the Economic Development and Tourism Linkage to the Unemployment Rate

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Abstract

Economic development is basically a series of policy efforts aimed at improving people's living standards, directing income distribution, and expanding employment opportunities. In an effort to achieve economic development goals, limited employment opportunities often become a major problem. Unemployment is a complex problem because it affects and is affected by various interrelated factors. This study aims to analyze the effect of inflation, foreign investment, provincial minimum wage and the number of domestic tourists on the open unemployment rate in Java Island. This research uses quantitative methods and uses panel data for the period 2016-2021 with observations of 6 provinces in Java Island. The data analysis method uses panel data regression. Based on the model selection test with the Chow Test and the Hausmann Test, the results show that the fixed effect model is the right model to use in this study. The results show that the inflation variable and the number of domestic tourists have a negative and significant effect on the open unemployment rate. The provincial minimum wage variable has a positive and significant effect on the open unemployment rate. Meanwhile, the variable of foreign investment has a negative and insignificant effect on the open unemployment rate.

Keywords: Unemployment, Inflation, Foreign Investment, Minimum Wage, Travelers

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INTRODUCTION

Development is the ambition of a society to work as hard as possible through a combination of economic, social, and

institutional processes to achieve a better life (Todaro, 2006). There are three core objectives of development: increasing the availability and widening the distribution of essential goods,

improving living standards, and expanding economic and social choices.

When the 3 core objectives of development are achieved, it will make it easier for people to access and fulfill their needs such as the need for clothing, food, shelter, health and security protection. One of the objectives of economic development is to improve the economic quality of society and increase employment opportunities. In achieving economic development goals, problems are often encountered. One example of a problem in the economic development process is unemployment.

Unemployment is a problem that always exists in developed and developing countries. One of the developing countries that is trying to overcome unemployment is Indonesia. Indonesia is one of the most populous countries in the world. Indonesia's population in 2021 is 273 million. Based on the report of the Directorate General of Dukcapil of the Ministry of Home Affairs, 56.01% of Indonesia's population lives on the island of Java.

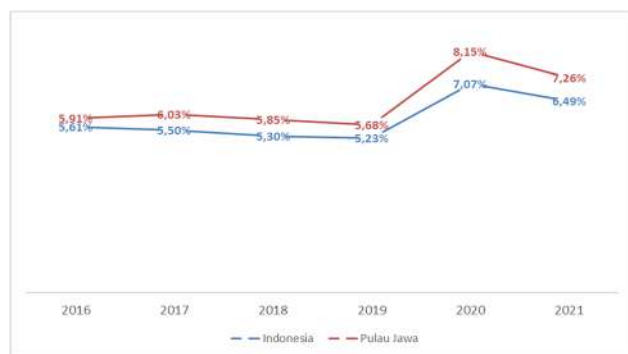


Figure 1. Open Unemployment Rate in Indonesia and Java Island 2016-2021 (Percent)

Source: Central Bureau of Statistics, 2023

Based on research conducted by Nur Arif & Nurwati (2022) one of the factors that cause the population in Java Island to be more than other

islands is because Java Island has better facilities compared to other islands in Indonesia. When high growth in population and labor force is not matched by high labor absorption, it will lead to open unemployment. The following is a description of the condition of the open unemployment rate in Java and Indonesia.

Figure 1 shows that the open unemployment rate in Java is always higher than in Indonesia. During 2016-2021, the open unemployment rate in Java Island experienced a fairly high increase, namely in 2020. This is due to the coronavirus pandemic that is spreading.

Table 1. Inflation Rate in 6 Provinces in Java Island 2016-2021 (Percent)

Year	Banten	DKI	West Java	Central Java	DIY	East Java
2016	3,02	2,37	2,75	2,36	2,29	2,76
2017	3,98	3,72	3,63	3,71	4,2	4,04
2018	3,42	3,27	3,54	2,82	2,66	2,86
2019	3,3	3,23	3,21	2,81	2,77	2,12
2020	1,45	1,59	2,18	1,56	1,4	1,44
2021	1,91	1,53	1,69	1,7	2,29	2,45

Source: Central Bureau of Statistics, 2023

Based on research conducted by Ali Fikri & Gopar (2021) The increase in unemployment in 2020 was due to government policies that imposed PSBB (Large-Scale Social Restrictions) or lockdowns to overcome the spread of the corona virus, but in fact it also made people's purchasing power fall.

Inflation is a situation where the general price of goods has increased continuously within a certain time caused by various factors, for example, such as the increase in public consumption and the lack of smooth distribution of goods. (Putra, 2018).

Based on table 1, inflation that occurred during 2016-2021 in 6 provinces in Java Island is

categorized as mild inflation. Mild inflation is characterized by a low increase in the inflation rate, usually less than 10% per year. Judging from table 1, inflation in 6 provinces has decreased in 2020. The phenomenon of declining inflation in 2020 was responded by an increase in the unemployment rate in 2020.

This is in line with the relationship between inflation and the unemployment rate described by A.W Philips, which is based on the assumption that inflation is a mirror of an increase in aggregate demand. In accordance with demand theory, when demand rises, prices will rise. The high price will make producers increase their production capacity, namely by adding labor so that unemployment will be reduced.

The phenomenon that occurred in 2020, the inflation that occurred decreased from the previous year, so it can be said that in 2020 aggregate demand has decreased. This is in accordance with research conducted by Ali Fikri & Gopar (2021) that the decline in people's purchasing power in 2020 was caused by the PSBB policy issued by the government. When aggregate demand decreases, producers will reduce their production capacity, resulting in a reduction in labor.

However, there is a phenomenon where the increase in the inflation rate is not accompanied by a decrease in unemployment. This happened in 2017 where the inflation rate in 6 Java Island provinces increased from the previous year but open unemployment in the same year also increased. Thus, A.W. Philips' theory that describes the relationship between inflation and unemployment does not always match the reality.

Foreign investment is a factor that affects the condition of open unemployment in Java.

Indonesian Law No. 25/2007 on Investment Article 1 paragraph 9 explains about investment, foreign investment is an investment activity to conduct business in the territory of the Republic of Indonesia whose capital sources come entirely from foreign parties or in partnership with domestic investors.

According to Sanusi et al., (2019) in his research stated that foreign investment has many benefits such as foreign investment helps meet the need for greater investment, increase productivity, and as a place to exchange information, business processes, new technology, create jobs and connect to international export markets.

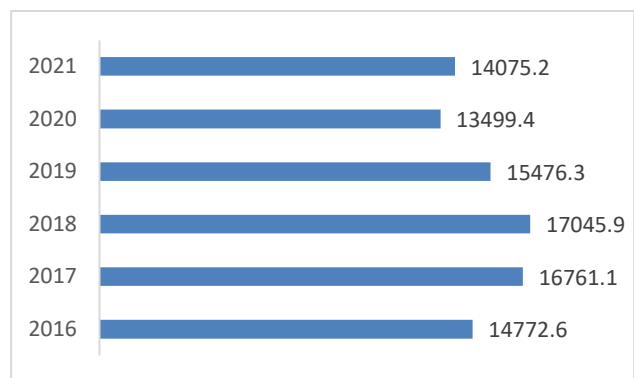


Figure 2. Foreign Direct Investment in Java (Million USD)

Source: Central Bureau of Statistics, 2023

Based on data sourced from BPS, it shows that foreign investment in Java Island has increased from 2016-2018, but from 2019-2021 it tends to decrease. The highest foreign investment occurred in 2018 which amounted to 17045.9 million USD. While the lowest foreign investment occurred in 2020 which amounted to 13499.4 million USD.

An increase in foreign investment in a region will reduce unemployment. This happens because the incoming capital will encourage the

creation of jobs. Based on research conducted by Astrid & Soekapdjo, (2020) foreign investment with the provisions of government policy is

mostly oriented towards labor-intensive investment so that it absorbs a lot of labor and reduces unemployment.

Table 2. Minimum Wage in Java (IDR)

	Banten	DKI Jakarta	West Java	Central Java	DI Yogyakarta	East Java
2016	1.784.000	3.100.000	1.312.000	1.265.000	1.235.700	1.283.000
2017	1.900.000	3.355.750	1.420.624	1.367.000	1.337.645	1.388.000
2018	2.099.385	3.648.035	1.544.361	1.486.065	1.454.154	1.454.154
2019	2.267.990	3.940.973	1.668.373	1.605.396	1.570.923	1.570.923
2020	2.460.996	4.267.349	1.810.351	1.742.015	1.704.608	1.704.608
2021	2.460.996	4.416.186	1.810.351	1.798.979	1.765.000	1.868.777

Source: Central Bureau of Statistics, 2023

Based on data obtained from the Central Bureau of Statistics, the provincial minimum wage level in Java Island has increased. With an increase in wages, it is hoped that it can provide encouragement to the unemployed to immediately look for work. In table 2, the lowest provincial minimum wage in Java Island in 2021 is in Yogyakarta Special Region Province with a minimum wage set at IDR 1,765,000, while the highest minimum wage in 2021 is in DKI Jakarta Province with a minimum wage set at IDR 4,416,186.

According to research conducted by Wahyuningsih et al, (2020) states that increasing wages will reduce the open unemployment rate. This is not in accordance with the actual conditions where the increase in the minimum wage makes the open unemployment rate increase. In addition to macroeconomic variables, tourism factors can also affect the unemployment rate.

The tourism variable that will be used in this study is the number of domestic tourists. Based on (Law Number 9 of 1990 concerning tourism), tourism is a trip made by a person or

group of people by visiting a certain place for the purpose of recreation, tourism is a trip made by a person or group of people by visiting a certain place for the purpose of recreation, personal development, or studying the uniqueness of the tourist attraction visited in a temporary period of time.

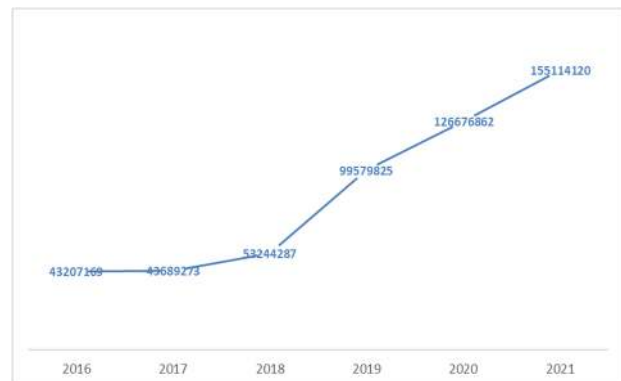


Figure 3. Number of national tourists in Java (people)

Source: Central Bureau of Statistics, 2023

Meanwhile, archipelago tourists according to NESPARNAS (2014) are Indonesian residents who travel within the country voluntarily for less than 6 months with the aim of not going to

school or work and the nature of the trip is not routine. Based on a report from the central agency⁵ utrid an in 2021 on the region of origin of archipelago tourists, during January-December, most of the archipelago tourists were dominated by tourists domiciled in Java. So that the region is very important to discuss.

Based on Figure 3, the number of domestic tourists on the island of Java from 2016-2021 has increased. According to Wahyu Lillah & Shasta Pratomo (2018) domestic tourists have a negative and significant effect on the open unemployment rate. This is because the increase in domestic tourist visits will increase the demand for goods and services around tourist objects.

For example, the supporting sectors around tourist attractions such as restaurants, hotels, and transportation will increase their workforce so that open unemployment will decrease. This statement is not in accordance with the actual situation, where in Figure 1, the open unemployment rate in Java Island tends to increase from 2016-2021, so it can be said that not all increases in the number of domestic tourists that occur can reduce the open unemployment rate.

Unemployment is a complex problem that is influenced by various interrelated factors. The open unemployment rate in Java which tends to increase and is always above Indonesia during 2016-2021 is a problem that must be considered by the government. Based on the explanation of the background and problems above, the authors are interested in examining and knowing the effect of inflation, foreign investment, provincial minimum wages, and the number of domestic tourists on the open unemployment rate in Java Island in the period 2016-2021.

RESEARCH METHODS

This research is included in descriptive quantitative research. Descriptive quantitative research is research that describes and explains something as it is and then draws conclusions from the observed phenomena using numbers. (Sulistiyawati & Trinuryono, 2022). This research is an empirical study of the determinants of the open unemployment rate in Java Island in 2016-2021.

To obtain research results that are in accordance with the research objectives, researchers have carried out various stages such as determining research variables, conducting literature studies from previous studies, determining the theory to be used, and processing data. In the data processing process, this study uses the panel data regression analysis method and uses the evIEWS 9 software.

Before processing the data, namely making a panel data regression model equation specification. Then carry out the process of selecting the best panel data model using the common effect model, fixed effect model, and random effect model estimation method through the Chow test, Hausman test, and Lagrange Multiplier test.

After finding the best model, it will be continued with the classical assumption test which includes Normality Test, Heteroscedasticity Test, Multicollinearity Test, and AutoCorrelation Test. This study uses secondary data in the form of panel data. Secondary data is data that has been produced or collected by others. (Ajayi, 2023).

Panel data is a combination of cross section data and time series data. The cross section data covers 6 provinces in Java Island and 2016-2021 as time series data. The data sources in this study are from the Central

Bureau of Statistics and from books related to the research topic. This research uses documentation data collection techniques, which means data collection techniques taken from records of events that have passed. Records can take the form of books by other people related to the research topic.

RESULTS AND DISCUSSION

To see the effect of the variables of Inflation, Foreign Investment, Provincial Minimum Wage and Number of Archipelago Tourists on the Open Unemployment Rate in Java Island in 2016-2021, a model interpretation was carried out first.

Table 3. Model Specification Test

Variables	Estimation Model		
	Common Effect	Fixed Effect	Random Effect
Constant	8.227252	-87.79026	-27.47726
Std. Error	16.84721	30.90402	14.36950
Prob	0.6287	0.0086	0.0651
Inflation	-1.238790	-0.808078	-0.914528
Std. Error	0.426679	0.232057	0.228249
Prob	0.0067	0.0018	0.0004
PMA	1.099656	-0.020401	0.724243
Std. Error	0.210990	0.500194	0.226391
Prob	0.0000	0.9678	0.0032
UMP	0.908642	9.094062	2.718418
Std. Error	0.882310	3.071185	1.113576
Prob	0.3111	0.0065	0.0205
JWN	-1.114359	-2.001076	-0.462820
Std. Error	0.452335	0.830595	0.362294
Prob	0.0195	0.0234	0.2109
R-squared	0.612640	0.915925	0.526866
Adjusted R-squared	0.562658	0.886822	0.465816
Standard Error	1.592265	0.810000	0.926873
F-Statistics	12.25722	31.47199	8.630130
Prob (F-statistic)	0.000004	0.000000	0.000084
Durbin-Watson stat	0.812942	2.483479	2.016214

Source: Central Bureau of Statistics, 2023

To see the effect of the variables of Inflation, Foreign Investment, Provincial Minimum Wage and Number of Archipelago Tourists on the Open Unemployment Rate in Java Island in 2016-2021, a model interpretation

was carried out first. There are 3 panel data estimation model approaches, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). There are 3 panel data estimation model

approaches, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Table 3 are the results of data processing model specifications using evIEWS 9 software.

Table 4. Coefficient of Determination

R-squared	0.915925
F-statistic	31.47199
Prob(F-statistic)	0.000000

Source: EvIEWS output, 2023

Based on the regression results using the fixed effect model approach, the R-squared value is 0.91592 and the value is close to 1. Thus it can be interpreted that the ability of the inflation variable, foreign investment, provincial minimum wage, and the number of tourists in the archipelago can predict the level of open unemployment in Java Island in 2016-2021 well, which is 91.5%.

While the remaining 8.5% is explained by other variables outside the research model. The F test is a test to see how the influence of independent variables including inflation, foreign investment, provincial minimum wage, and the number of domestic tourists simultaneously or together on the dependent variable, namely the open unemployment rate.

Table 5. F-statistic test

	F-Statistics	P-value	Conclusion
Value	31.47199	0,00	Significant

Source: EvIEWS output, 2023

Based on table 5, the p-value is smaller than 0.05. By using the 5% significance level, the f-table is 2.68. So that F count > f table (31.47199 > 2.68). This means that the variables of inflation, foreign investment, provincial

minimum wage, and the number of domestic tourists simultaneously have a significant effect on the open unemployment rate in Java Island in 2016-2021.

The t test is a statistical test used to see the effect of independent variables individually on the dependent variable. The t test can be done by looking at the significance column in each t-count or by comparing the t-count with the t-table. To find the t-table, you need to know the degree of freedom (df) value first.

The df value can be found by reducing the number of samples (n) by the number of variables in the study (k). In this study, the value of $df = n - k$, namely $36 - 5 = 31$. The alpha level used is 5% or 0.05. This study uses a two-way hypothesis, so the alpha level is divided by 2 to 0.025.

The result of the research on the effect of inflation on the open unemployment rate in this study is to accept H_a and reject H_0 . The research hypothesis states that the inflation variable has a significant effect on the open unemployment rate. Inflation variable has a significant effect at 5% alpha level with probability $0.0018 < 0.025$ and has t-statistic value greater than t-table which is $3.482248 > 2.039513$.

Then it has a negative coefficient value of -0.808078. The coefficient value means that when inflation increases by 1%, it will decrease the open unemployment rate by 0.808078% with the assumption of *ceteris paribus*. Thus, the inflation variable has a negative and significant effect on the open unemployment rate in Java Island in 2016-2021.

The results of this study are in accordance with Keynes' theory and are supported by research conducted by Firdhania & Muslihatinningsih (2017) which states that inflation has a negative and significant effect on

the unemployment rate. which states that inflation has a negative and significant effect on the unemployment rate. The findings state that inflation is a reflection of the increase in aggregate demand. When aggregate demand increases, then in accordance with the law of demand, demand increases, prices will also increase (inflation).

The increase in demand will trigger producers to increase their production capacity by recruiting labor, thus reducing unemployment. Another research on the effect of inflation on the open unemployment rate was conducted by Korkmaz & Abdullazade (2020) produced findings that when the aggregate demand for goods and services in the economy decreases, it will make the demand for labor also decrease.

The results of this study are also supported by research Pratinidhi & Verma (2020) and Nuzulaili (2022) This is also in accordance with the Phillips curve theory which states that there is an inverse relationship between inflation and the unemployment rate. When inflation is low, the unemployment rate is high, and vice versa. In this case, unemployment is an output and translates inflation as a price change.

The effect of the provincial minimum wage on the open unemployment rate on the results of the eviws output shows that it accepts H_a and rejects H_0 . With a t-statistic value of $2.961092 > 2.039513$ t-table and has a coefficient value of 9.094062 . The positive coefficient value means that when the provincial minimum wage increases by 1%, it will increase the open unemployment rate by 9.094062% .

The probability value of the provincial minimum wage variable is $0.0065 < 0.025$ which means that it has a significant effect. Based on the results of this study, the provincial minimum

wage has a significant positive effect on the open unemployment rate. This is in accordance with the theory of wage rigidity and is supported by research conducted by Lukis Panjawa & Soebagiyo (2014) which states that due to the minimum wage, wages cannot adjust to the point of equilibrium or the supply of labor is equal to the demand for labor.

In another sense, wage rigidity refers to a situation where wages become insensitive to changes in demand and supply in the labor market. The minimum wage level in Java Island has increased every year and occurs in all provinces. The increase in the wage level is followed by an increase in the unemployment rate in Java.

The condition of the labor market in Java Island is a market condition with abundant labor supply, but limited labor demand, or in other words, a low level of employment opportunities. (Halisah, 2022). Research conducted by Prayitno & Kusumawardani (2022) also produced similar findings, namely that the provincial minimum wage has a positive and significant effect on the open unemployment rate.

This is because when the minimum wage increases, the company's production costs will also increase. If the wage level rises while other input prices remain constant, then the price of labor is relatively more expensive than other inputs. This encourages companies to increase the unit price per product to maintain profits, but the result is that consumers tend to reduce their consumption.

Therefore, the production is not sold optimally. Finally, the company is forced to reduce the amount of production. The reduced amount of production will result in the required labor also decreasing. The reduction of labor by the company is what makes the unemployment

rate rise. In the results of this study, the variable number of domestic tourists has a negative and significant effect on the open unemployment rate. This means accepting H_a and rejecting H_0 . It has a t-statistic value greater than the t-table, namely $2.409208 > 2.039513$.

The coefficient value is -2.001076 . The negative coefficient means that every increase in the number of domestic tourists will reduce the open unemployment rate by 2.001076% assuming other variables remain constant. Tourism has an important role in boosting the economy. Tourism's share in boosting the economy is through consumption by tourists.

Tourist spending has a multiplier effect and is able to generate other sectors such as hotels, restaurants, and accommodation. (Alsarayreh, 2017). Research conducted by Onețiu et al., (2013) and Önder et al., (2014) stated that consumption expenditures made by tourists have a direct effect on creating jobs and contributing to reducing unemployment.

The results of this study are in accordance with Keynes' theory and are supported by research conducted by Shaari et al. (2018) which states that an increase in the number of tourists contributes to greater consumption of goods and services, thus causing higher aggregate demand. When aggregate demand is higher, producers will respond to increase their production capacity by adding labor so that it will reduce unemployment.

CONCLUSION

The conclusions that can be drawn from this research are as follows: Inflation has a significant influence on the open unemployment rate, Foreign Investment (FDI) has no significant influence on the open unemployment rate, Provincial Minimum Wage (UMP) has a

significant influence on the open unemployment rate, Number of Travelers of the Archipelago (JWN) has a significant influence on the open unemployment rate.

It is expected that all local governments in Java Island can increase and equalize labor-intensive investment. Local governments in Java Island need to review the minimum wage setting regulations and adjust to the conditions of the labor market in Java Island which has an abundant labor supply but limited labor demand so that the open unemployment rate can be minimized.

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