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DETERMINANTS OF THE OPEN UNEMPLOYMENT RATE IN BANTEN PROVINCE OF INDONESIA DURING 2014-2019

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ABSTRACT
This study aims to analyze the determination of the open unemployment rate in Banten Province in 2015-2019. The methodology used in this study is panel data analysis with independent variables consisting of education level, consumer price index, government spending, population, minimum wage, and gross regional domestic product, and the dependent variable is the level of open education. The object of the research is 8 regencies/cities in Banten Province from 2015-2019. The results showed that the gross regional domestic product had a negative significant on the open unemployment rate. Government spending, population, and the minimum wage have a significant positive effect on the open unemployment rate. Then Education and the consumer price index do not impact to open unemployment rate.

KEY WORDS
Open unemployment rate, education level, consumer price index, government expenditure, population, minimum wage, gross regional domestic product.

Economic development has the aim of increasing the standard of living in an area and for overall equity. To see the success of an area is to look at the level of economic development that is evenly distributed. The role of economic development is very important to create jobs needed by the community in an area and is directly related to the welfare of the people of the area. Nevertheless, in the process of economic development, unemployment can still occur which is one of the problems of a region. This is due to an imbalance between the availability of job opportunities and the number of the workforce.

Unemployed is the state of someone who is in the workforce and is actively looking for work at a certain wage level (Muslim, 2014). Unemployment can also be interpreted as someone who does not have a job and is looking for work or is preparing to start a business or someone who already has a job but has not started working (BPS, 2019).

Table 1 - Open Unemployment Rate in Java in 2014-2018 (Percentage)

No	Province	Year				
		2014	2015	2016	2017	2018
1	DKI Jakarta	8.47	7.23	6.12	7.14	6.24
2	West Java	8.45	8.72	8.89	8.22	8.17
3	Central Java	5.68	4.99	4.63	4.57	4.51
4	Yogyakarta	3.33	4.07	2.72	3.02	3.35
5	East Java	4.19	4.47	4.21	4.00	3.99
6	Banten	9.07	9.55	8.92	9.28	8.52
7	Indonesia	5.94	6.18	5.61	5.50	5.34

Source: Central Bureau of Statistics (2019).

The government has several indicators of successful development in an area, one of which is the Open Unemployment Rate (TPT). In addition, the indicator of the open unemployment rate is very important to be used as material for evaluating the success of economic development. The Open Unemployment Rate (TPT) is one of the macro benchmarks to see the unemployment rate in an area or an indication of the unemployment group that is included in the working-age population.

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The high amount of TPT in Banten Province is an indication of failure in development. Table 1 shows that Banten Province has the highest number of Open Unemployment Rates in Java and Indonesia from 2014-2018.

This is the basis for researching the factors that cause people in Banten Province to still have limited employment opportunities. The unavailability of work in Banten Province has an impact on the non-fulfillment of basic needs which results in a decrease in the level of community welfare.

One of the factors that are thought to affect the open unemployment rate is economic growth because there is the absorption of labor so that it will of course be used to overcome the unemployment problem. Unemployment decreases, people gain prosperity, thus the unemployment rate is in line with the rate of economic growth which will certainly have an impact on the level of employment. To see economic growth through the provincial GDP indicator, a study conducted by Amrullah, Istiyani, and Muslihatiningsih (2019) found that GRDP had a significant impact tothe open unemployment rate in Java in 2007-2016.

The level of economic growth must be supported by the quality of human resources (HR). Education can be used as a benchmark for the human resources quality, with qualified human resources will be able to take advantage of every job field in the region (Mahroji and Nurkhasanah, 2019). Education is one form of investment in human resources, namely Human Capital (the theory of human capital). According to Prabowo (2015), investment in education is an indication of the value of the human stock, where the value of the human stock after attending various levels of education is expected to increase in terms of each individual's income, work productivity, and individual rational value (social benefits) compared to before taking the course. The average length of schooling is one of the indicators used to see the level of education.

In addition, the population is thought to be able to influence the open unemployment rate in Banten Province. The increasing number of people every time will have an impact on the increase in the number of the workforce. The increase in the number of the workforce will have an impact on the open unemployment rate if it is not balanced with the availability of job opportunities, an increase in the population that increases over time can encourage or hinder economic development (Sukirno 2013). According to Hartanto and Masjkuri's research (2017), it was found that the number of residents had a significant direct effect on TPT in a positive direction.

Furthermore, what is thought to be influencing the open unemployment rate is the Provincial Minimum Wage (UMP). The Provincial Minimum Wage is a policy issued by the government for the welfare of employees whose main goal is to create national welfare. According to Wihastuti and Rahmatullah (2018), the UMP is sometimes an obstacle for companies to absorb labor in the market or the UMP creates price rigidity in the labor market so that the price of workers is above the equilibrium price. According to the research of Sa'adah and Ardyan (2016), it was found that the UMP had a significant and positive effect on the open unemployment rate.

The next variable that is thought to affect the open unemployment rate is government spending. Government spending is expected to create jobs because the government spends money to buy goods or services. The government's efforts to provide public goods can indirectly open up wide job opportunities.

Economic performance is measured by economic growth through increased output, boosting aggregate demand. Increased demand will have an impact on increasing prices or inflation, so producers increase their production capacity by adding more workers. Therefore, based on the Phillips theory, the impact of rising prices or inflation, the demand for labor increases, and unemployment decrease. One good measure of the performance of an economy is low unemployment because social problems decrease when unemployment falls.

The gap in this study based on Kuntiarti's research (2017) states that the effect of inflation is not significant on Open Unemployment in Banten Province in 2010-2015. This study shows that the increasing inflation rate in Banten Province has an impact on the declining economic growth rate. Conversely, if inflation is caused by an increase in aggregate demand, it will increase production and employment. Similarly, Ningsih's research

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in Kuntiarti (2017), states that there is no effect of inflation on Unemployment in Indonesia in 1998-2008. The research of Burhanudin in Kuntiarti, 2017 stated that the influence of GRDP was not significant on unemployment in Banten Province in 2008-2010. Based on the description above, to find out what are the factors can affect the open unemployment rate in Banten Province.

LITERATURE REVIEW

Unemployment

Unemployment is a problem of macroeconomics that affects humans directly and is the most severe. For most people, losing a job means a decrease in the standard of living and psychological stress. Thus unemployment becomes a topic that is often discussed in political debates and is politicized for policies that are claimed to create jobs. Sukirno (2013), argues that the definition of unemployment is a group of workers who do not have a job and have tried to find it but have not found it.

Education

Education is a very important indicator in the development of human resources, education can develop every potential that exists in him, both for self-control, personality, intelligence, morals, skills, and spiritual religion. Which of course can be useful for yourself, the nation, and the country. According to Siswoyo (2013) from an economic point of view, education can be seen as a human investment because with education, educated humans can become capital (human capital) for development.

To improve community skills, the role of formal education is very important and has been recognized by all countries. Education not only aims to increase knowledge and skills for the community for development purposes, but education can also provide values, ideals, attitudes, and aspirations directly or indirectly related to development interests (Todaro and Smith, 2015). Formal education can be said to guarantee the quality of society following the education system such as the curriculum that has been regulated by the government. The longer the individual or the community takes in taking and graduating from formal education, the higher the ability and even the opportunity for the community to work so that it is expected to reduce the open unemployment rate.

Inflation

One of the economic conditions faced by a country is inflation, which is an increase in the overall price of goods, services, and input prices. The movement of prices up or down is caused by an imbalance between aggregate demand and supply, namely inflation when demand is greater than supply, or conversely deflation when the supply level is greater. Another factor that can cause inflation is the price elasticity of demand or supply of an item, which is more elastic, the more sensitive it is to price changes, and vice versa if it is inelastic it will not be sensitive to price changes. Government policies regarding price levels can also lead to inflation, such as providing subsidies to consumers, controlling prices. (Milasari, 2010).

Based on the Phillips theory, there is a relationship between inflation and unemployment, where when the unemployment rate is low, it will be accompanied by a high inflation rate and vice versa. Thus, it can be stated that there is a negative correlation between inflation and the unemployment rate. According to Mankiw in Kuntiarti (2017), this relationship is motivated by the assumption that one of the causes of inflation is an increase in aggregate demand. With this increase, it encourages an increase in production so that it is necessary to add more labor, it is assumed that labor is a variable input. Therefore, an increase in labor due to rising prices will reduce unemployment. The Bureau of Budget Analysis and Implementation of the State Budget in Kuntiarti (2017), stated that high inflation was followed by a high unemployment rate. This was caused by the inflation shock caused by the increase in production costs (cost-push inflation). One of the causes of the inflation

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shock is the increase in world oil prices so that companies increase the selling price of their products.

Research by Amrullah, Istiyani, and Muslihatinningsih (2019), aims to find out how much influence GRDP, Provincial Minimum Wage, and inflation rate on open unemployment in each province in Java Island in 2007-2016. The analytical method used is a panel data regression model using the Fixed Effect Model (FEM) approach. The results of panel data regression show simultaneously that the independent variables of GRDP, Provincial Minimum Wage, and inflation have a significant effect on the dependent variable of the open unemployment rate. The results of the partial test analysis show that GRDP has a significant effect. Meanwhile, the Provincial Minimum Wage and Inflation have insignificant effect on the open unemployment rate for the period 2007-2016. The total variation of the open unemployment rate in the province of Java Island can be explained by the independent variables of GRDP, UMP, and inflation of 93.35%

Government Spending

There are two kinds of government expenditures seen through government spending, namely direct spending and indirect spending. Direct expenditure consists of components of personnel expenditure, goods and services expenditure, and capital expenditure. Meanwhile, indirect expenditure includes interest expenditure, grant expenditure, and social assistance expenditure. Suparmoko (2011) explains that the nature of government spending consists of exhaustive and transfer, is exhaustive, namely the purchase of goods and services in the economy which of course can be consumed directly, can produce other goods. Transfer-only expenditures are transfers of money to heads of state as gifts or companies as subsidies, and individuals for social purposes. So, the government needs to consider every government spending decision so that it is right on target for those affected by government policies.

Government spending in the economy to buy goods or services which of course can encourage employment so that it can reduce the open unemployment rate. The provision of public goods by the government can indirectly open up wide job opportunities. The existence of these government activities will certainly affect every type of expenditure.

Keynes's theory explains the government variables in which the government budget is one of the factors that can drive economic growth. Government spending can also create a multiplier effect on other economies. Of course, every productive activity that results from government spending can create a large multiplier effect. This is because every increase in government spending or increase can stimulate economic activity in an area so that there is a multiplier effect which will certainly reduce the number of unemployment rates in the area.

Total population

According to Law Number 23 of 2006, residents are Indonesian citizens and foreigners residing in Indonesia. Mahsunah (2012), holds that a population is a group of people who inhabit a certain area, which can change at any time due to fertility, mortality, and migration. Dumairy (2012), argues that in economic development, the population has two roles, namely in terms of demand and supply. In terms of supply, the population acts as a producer. therefore, not always with rapid population growth an obstacle to the course of economic development. If in producing and absorbing production, the population has a high capacity. This means that the higher the rate of population growth is followed by a high level of income. Thus, population growth accompanied by low levels of income will not be useful for economic development. On the other hand, the reason why the population is seen as a logical obstacle to development is that the large number of people accompanied by high economic growth will only be seen as an additional burden to development. The large population will reduce per capita income and cause employment problems. According to Sukirno (2013), the increase in population that is not matched by the development of job opportunities will cause an increase in unemployment.

In general, the definition of a resident is a person who resides or lives in a certain territory of a country for a long time. According to Lidhiarta (2014), the total population is the total population inhabiting an area for a certain period. According to Malthus, the relationship

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between population, real wages, and inflation are when the working population grows faster than food production. This will result in a decrease in real wages because population growth increases the cost of living such as food costs. The higher the real wage, the greater the effect on unemployment. So with the increase in real wages, the company will reduce the number of employees, but on the other hand, the supply of work is still high. When the supply of work is higher than the demand for work, unemployment will occur. This means that Malthus assumes that there is a positive influence between population and unemployment.

Minimum Wage

Wages according to Law Number 78 of 2015 article (1) are rights received by workers/laborers and are expressed in the form of money, as a reward from employers to workers or laborers. Wages are determined and paid according to a work agreement, agreement or legislation including allowances for workers/laborers and their families for a job and/or service that has been or will be performed. According to Wirawan (2015: 394), the minimum wage is the lowest wage per hour, per day, or month that can be received by workers or laborers. Based on Law No. 13 of 2003 article 89, the minimum wage consists of the minimum wage based on the province or district/city and the minimum wage based on the sector in the province or district/city.

According to Kaufman and Hotchkiss (1999), the government determines the level of wages in a country that will affect the amount of the existing unemployment rate. The higher the wage rate set by the government, the lower the number of people working in the country.

According to Samuelson (2010), an increase in wages has two opposing effects on the supply of labor. That is the substitution effect that encourages each worker to work longer hours because the wages he receives for each hour worked are higher. Then, the income effect affects the opposite, i.e. higher wages cause workers to want to enjoy more recreation at the same time as more commodities are selected. At a certain wage level, the labor supply curve will bend backward (backward bending curve).

According to Saadah and Ardyan (2016), the wage level shows a significant and positive influence so that an increase in the wage rate every year must be maintained because it has an impact on the level of employment. In addition, a higher wage level will generate interest from the community to work to reduce the unemployment rate.

Gross Regional Domestic Product

The indicator that is often used to assess the economic performance of a country is the Gross Domestic Product (GDP), while the indicator to see the economic performance of a region within a particular country is used GRDP (Gross Regional Domestic Product). The calculation of GRDP is the total added value that arises as a result of various economic activities carried out in a region, especially those associated with the region's ability to manage its resources. It is called domestic because it involves regional boundaries and is called gross because it has included the depreciation component in its calculation. In general, GRDP is also called economic aggregate, meaning the total amount that shows the economic performance of a region.

Okun's law derived from research conducted by Okun in 1980 in the United States, explains the relationship between economic growth and unemployment. Okun's law states that if GNP grows by 2.5% above the trend achieved in a given year, the unemployment rate will decrease by 1%. This means that the higher the economic growth the number of unemployed will decrease because economic growth will be labor-intensive. That is, the production process will use more human power than machine power.

Research Hypothesis

Ha_1: It is suspected that the level of education has a negative impact on the Open Unemployment Rate in Banten Province in 2014-2018.

Ha_2: It is suspected that the Consumer Price Index has a negative impact on the Open Unemployment Rate in Banten Province in 2014-2018.

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Ha3: It is suspected that government spending has a negative impact on the Open Unemployment Rate in Banten Province in 2014-2018.

Ha4: It is suspected that the population of the Regency/City has a positive impact on the Open Unemployment Rate in Banten Province in 2014-2018.

Ha5: It is suspected that the Minimum Wage has a positive impact on the Open Unemployment Rate in Banten Province in 2014-2018.

Ha6 It is suspected that the Gross Regional Domestic Product has a negative impact on the Open Unemployment Rate in Banten Province in 2014-2018.

METHODS OF RESEARCH

Data and Research Method

The formulation of the model in this study consists of one main model, wherein this main model the open unemployment rate in Banten Province is influenced by gross regional domestic product (GRDP), education, district/city minimum wages (UMK), population, government spending, and CPI so that the formulation of the model obtained in this study is:

$$TPT_{it} = \beta_0 + \beta_1 LogEdu_{it} + \beta_2 IHK_{it} + \beta_3 LogExpend_{it} + \beta_4 LogPop_{it} + \beta_5 LogUMK_{it} + \beta_6 LogPDRB_{it} + e_{it}$$

Where:

TPT: Open Unemployment Rate (%);
LOGPDRB: Gross Regional Domestic Product (%);
LOGEdu: Average length of school (%);
LOGUMK: District/City Minimum Wage (%);
LOGPop: Total population (%);
LOGExpend: Government Expenditure (%);
IHK: consumer price index (%);
e: error term.

In the Data Regression Panel, to select the best model between the Common Effect Model (CEM), Fixed Effect Model (FEM), or Random Effect Model (REM), first use the Chow Test, Hausman Test, and Lagrange Multiplier (LM) test. Chow test was applied to validate between Common Effect Model (CEM) and Fixed Effect Model (FEM), then Hausman Test was applied to validate between Fixed Effect Model (FEM) and Random Effect Model (REM), then Lagrange Multiplier (LM) test was applied to validate between Common Effect Model (CEM) and Random Effect Model (REM) (Iqbal, 2015).

RESULTS AND DISCUSSION

This study aims to examine the effect of Education, Consumer Price Index, Government Expenditure, Population, Minimum Wage, and Gross Regional Domestic Product on the Open Unemployment Rate in Banten Province in 2014-2019. This study uses panel data analysis so that the best model is selected to select the model to be analyzed between the Common Effect Model, Fixed Effect Model, and Random Effect Model using the Chow Test, Hausman Test, and the Lagrange-Multiplier Test.

Best Model Selection

The first test is the Chow Test, which is to tests whether the best model is the Common Effect Model or the Fixed Effect Model. Here are the results of the Chow Test:

Table 2 – Chow Test

Effects Test	*Prob.*	*Hypothesis*	*Conclusion*
ZCross-Section FZ	0.0000	Ha Accepted	*Fixed Effect Model*
ZCross-Section Chi-SquareZ	0.0000		

Source: Data Processed.

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The test results show that the value of the Cross-Section Chi-Square has a prob value of 0.0000 < 0.05, Ha is accepted. It can be concluded that the best model is the Fixed Effect Model. Furthermore, because the selected model is the Fixed Effect Model, then the Hausman Test is carried out to test the best model between the Fixed Effect Model and the Random Effect Model. The following are the results of the Hausman test.

Table 3 – Hausman Test

Effects Test	*Prob.*	*Hypothesis*	*Conclusion*
Cross-Section Random	0.0000	Ha Accepted	*Fixed Effect Model*

Source: Data Processed.

The test results show that the value of the Cross-Section Chi-Square has a prob value of 0.0000 < 0.05, Ha is accepted. It can be concluded that the best model is the Fixed Effect Model. Next is to test the hypothesis.

The following is a hypothesis testing of the variables of Education, Consumer Price Index, Government Expenditure, Population, Minimum Wage, and Gross Regional Domestic Product on the Open Unemployment Rate using the Fixed Effect Model.

Table 4 – Fixed Effect Model Estimation Test Results

Fixed Effect Model Dependent Variable: Open Unemployment Rate				
Variable	Coefficient	Prob.	Hypothesis (α=10%)	Conclusion
C	82.15873	0.1549		
Education	-5.771365	0.3602	Ha Rejected	Insignificant
consumer price index	-4.348709	0.6178	Ha Rejected	Insignificant
Government Expenditure	0.465451	0.1632	Ha Accepted	Significant
Population	23.23253	0.0136	Ha Accepted	Significant
Minimum wage	14.22972	0.0116	Ha Accepted	Significant
Gross Regional Domestic Product	-33.50188	0.0001	Ha Accepted	Significant
R-Squared				0.924947
Adjusted R-Squared				0.896250
F-Statistic				32.23181
Prob (F-Statistic)				0.000000

Source: Data Processed.

$$TPT = 82.15873 - 5.771365Edu - 4.348709IHK + 0.465451Expend + 23.23253Pop + 14.22972UMK - 33.50188PDRB$$

Coefficient of Determination

The test results show the value of Adjusted R-Squared is 0.896250 or 89.62%. It can be concluded that all independent variables can explain the dependent variable by 89.62%, the remaining 10.38% is explained by other variables outside the model.

Simultaneous Test

The test results show the value of Prob (F-Statistic) of 0.0000 < 0.05, Ha is accepted. It can be concluded that all independent variables simultaneously have a significant effect on the dependent variable.

Hypothesis

Education level has a significant negative impact on the Open Unemployment Rate. The test results show the prob value of the Education Level is 0.3602/2 > 0.10. It can be concluded that the level of education does not affect the level of open unemployment. These results are from research conducted by Wibisono (2014) which states that Education does not affect the Open Unemployment Rate. Education does not affect the Open Unemployment Rate in Banten Province, because currently the demand for labor is based on expertise. Then at this time, the workforce can obtain expertise from certification Education Institutions or the internet as desired.

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The Consumer Price Index has a significant negative impact on the Open Unemployment Rate

The test results show the prob value of the Consumer Price Index is 0.6178/2 > 0.10. It can be concluded that the Consumer Price Index does not affect the Open Unemployment Rate. These results are from research conducted by Bintang and Prana (2020) which states that the Consumer Price Index does not affect the Open Unemployment Rate. Inflation does not affect the open unemployment rate because currently, many companies have implemented technology in the company's operational activities so that changes in inflation that occur will not have an impact on the open unemployment rate because companies absorb few workers and companies tend to absorb very limited skilled labor.

Government Expenditure has a significant negative impact on the Open Unemployment Rate

The test results show the prob value of Government Expenditure is 0.1632/2 < 0.10. It can be concluded that the Consumer Price Index has a significant effect on the Open Unemployment Rate. The coefficient value shows a positive coefficient, then Government Expenditure has a significant positive effect on the Open Unemployment Rate. These results are from research conducted by Muslim (2014) which states that government spending has a significant negative effect on the Open Unemployment Rate. This is following Keynes' theory, when an increase in government spending and a decrease in taxes, then an injection into the circulation stream of national income will increase aggregate demand and through the multiplier effect will create additional jobs. These additional jobs will reduce the existing open unemployment rate.

Population has a significant positive impact on the Open Unemployment Rate. The test results show the prob value of the population is 0.0136/2 < 0.10. It can be concluded that the population has a significant effect on the Open Unemployment Rate. The coefficient value shows a positive coefficient, then the population has a significant positive effect on the Open Unemployment Rate. These results are from research conducted by Mahroji and Anwar (2020) which states that the population has a significant positive effect on the Open Unemployment Rate. High population growth causes more and more workers to be available. However, the increase in the available workforce is not directly proportional to the availability of employment opportunities. So that the open unemployment rate increases.

Minimum Wage has a significant positive impact on the Open Unemployment Rate. The test results show the prob value of the Minimum Wage is 0.0116/2 < 0.10. It can be concluded that the Minimum Wage has a significant effect on the Open Unemployment Rate. The coefficient value shows a positive coefficient, and then the Minimum Wage has a significant positive effect on the Open Unemployment Rate. These results are under research conducted by Panjawa, and Soebagiyo (2014) which states that the Minimum Wage has a significant positive effect on the Open Unemployment Rate. Economist A.W. Philips states that Wages are related to the Unemployment Rate. When wages are low, employers will absorb a lot of labor. This is because the costs borne by employers in paying wages will decrease. Companies calculate wages and salaries are the main input costs, therefore companies will consider changes in wages to be paid to workers.

Gross Regional Domestic Product has a significant negative impact on the Open Unemployment Rate. The test results show the prob value of the Gross Regional Domestic Product of 0.0001/2 < 0.10. It can be concluded that the Gross Regional Domestic Product has a significant effect on the Open Unemployment Rate. The coefficient value shows a negative coefficient, then the Gross Regional Domestic Product has a significant negative effect on the Open Unemployment Rate. These results are under research conducted by Muslim (2014) which states that economic growth has a significant negative effect on the Open Unemployment Rate. Where if economic growth increases, it means that there has been an increase in the production of goods and services, because an increase in the production of goods and services will cause an increase in production factors, one of which is labor. This increase in demand for labor will result in a decrease in the unemployment rate, and vice versa.

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CONCLUSION

Based on the results of the discussion, the conclusions in this study are:

- Education Level does not affect Open Unemployment Rate;
- The Consumer Price Index does not affect the Open Unemployment Rate;
- Population has a significant positive impact on the Open Unemployment Rate;
- Minimum Wage has a significant positive impact on the Open Unemployment Rate;
- Gross Regional Domestic Product has a significant negative impact on the Open Unemployment Rate.

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