

**ANALYSIS OF FACTORS AFFECTING THE UNEMPLOYMENT
RATE IN 10 DISTRICTS OF CENTRAL JAVA IN 2010-2017**

MINOR THESIS



**Submitted in fulfillment of the requirements of the degree of
Bachelor of Economics**

Fredy Nashihin

155020107121003

**International Undergraduate Program – Development Studies
Faculty of Economics and Business
University of Brawijaya
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APPROVAL PAGE

Minor thesis under the title;

Analysis of Factors Affecting The Unemployment Rate in 10 Districts of Central Java In 2010-2017

Written by;

Name : Fredy Nashihin
 Student Number : 155020107121003
 Faculty : Economics and Business
 Major : Economics
 Program of Study : Economics Development

Has been examined by the Board of Examiners on April 16th 2019 and certified as the requirement for the degree Bachelor in Economics..

1. Dias Satria, SE.,M.App.Ec.,Ph.D

NIP. 198208072005011002

(Supervisor)



2. Atu Bagus Wiguna, SE.,ME.

NIP. 2016079101181001

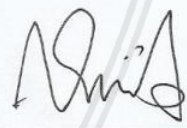
(Examiner I)



3. Yenny Kornitasari, SE., ME.

NIP. 2015078810012001

(Examiner II)



Malang, May 6th, 2018

Acknowledged by,
 Head of Undergraduate Program in
 Economics Development



Dra. Marlina Ekawaty, M.Si.,Ph.D.
 NIP.19650311198032001

LEMBAR PENGESAHAN

Skripsi dengan judul;

Analisis Faktor-Faktor Yang Mempengaruhi Pengangguran Terbuka di 10 Kabupaten di Jawa Tengah 2010-2017

Yang disusun oleh;

Nama : Fredy Nashihin
NIM : 155020107121003
Fakultas : Ekonomi dan Bisnis
Jurusan : Ilmu Ekonomi
Program Studi : Ekonomi Pembangunan

Telah dipertahankan di depan dewan penguji pada tanggal 16 April 2019 dan dinyatakan memenuhi syarat untuk diterima.

1. Dias Satria, SE., M.App.Ec., Ph.D.

NIP. 198208072005011002

(Dosen Pembimbing)

2. Atu Bagus Wiguna, SE., ME.

NIP. 2016079101181001

(Dosen Penguji I)

3. Yenny Kornitasari, SE., ME.

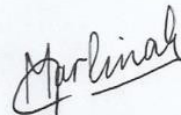
NIP. 2015078810012001

(Dosen Penguji II)

Malang, 6 Mei 2019

Mengetahui,

Ketua Program Studi S1 Ekonomi
Pembangunan



Dra. Marlina Ekawaty, M.Si., Ph.D.

NIP.196503111989032001

STATEMENT OF ORIGINALITY

I, undersigned:

Name : Fredy Nashihin
Student ID : 155020107121003
Faculty : Economics and Business
Program : International Undergraduate Program in Economics

Hereby certify that I am the sole author of minor-thesis entitled:

**“ANALYSIS FACTORS AFFECTING THE UNEMPLOYMENT RATE IN 10
DISTRICTS IN THE CENTRAL JAVA 2010-2017”**

This minor-thesis has not previously been submitted for a degree in other university or institution. I certify that, my minor-thesis there is not writing from other writer that I take by copying or plagiarism. The source of information that quoted from other writers published or unpublished have written the source in text clearly accordance ethic of scientific writing.

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This statement was made under full awake consciousness, to be used when necessary.

Malang, 6th May 2019

Author



Fredy Nashihin

NIM.155020107121003

CURRICULUM VITAE

Name : Fredy Nashihin
Date of Birth : Trenggalek, 2 April 1993
Address : Rt/Rw. 01/01 Ds.Munjungan Kec. Munjungan Kab. Trenggalek
Email : fredynashihin4@gmail.com
Phone : +62 82136637586

I. Education

- 2000-2006 : MI 1 Munjungan
- 2006-2009 : SMPN 1 Munjungan
- 2009-2012 : SMAN 1 Trenggalek
- 2012-Present : Brawijaya University

II. Professional Experiences and Organization

- Student Committee – SMPN 1 Munjungan 2008-2009
- Student Committee – SMAN 1 Trenggalek 2010-2012
- Staff of TPAKD of Malang City 2019
- Chairman Committee of Central Bank of Indonesia Seminar 2018 Brawijaya University
- Member of ACP program 2018 Hyogo Japan
- ISS (International Summer School) student 2016

III. Achievement

- Chosen by FEB UB as representative join in ISS (International Summer School) with Lincoln University New Zealand
- JASSO scholarship recipient 2018
- Representative of FEB UB to join short courses in ACP program 2018 Japan
- Chosen by non-formal institution to teach Indonesia culture at Elementary school in Hyogo.

IV. Seminar

- Central Bank of Indonesia seminar 2018 at Malang
- IEBSS- Machine Learning and Big Data Approach to Making Business Decision (2018)

V. Skills

- English And Indonesia Language
- Project Planning
- Project Management
- Teamwork
- Social Media Marketing Strategy



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Malang, 6 May 2019

Fredy Nashihin

**Analysis of Factors Affecting The unemployment Rate in 10 Districts of Central
Java 2010-2017**

By:

Fredy Nashihin

Supervisor:

Dias Satria, SE.,M.App.Ec.,Ph.D.

ABSTRACT

This study aims to analyze economic growth, inflation, total population and poverty levels against the Open Unemployment Rate (TOT) in 10 Central Java Province Districts for 2010-2017. The data of this study are secondary data sourced from the Central Statistics Agency (BPS). The data analysis tool of this research is panel data regression. The results of this study indicate that the total population and the level of poverty have a positive and significant effect on open unemployment, meaning that the higher the population and the level of poverty, the open unemployment rate in 10 regencies in Central Java will increase. While economic growth has a negative but not significant effect on Open Unemployment. These results indicate that the increase in economic growth was not able to cause an increase in open unemployment in 10 districts in Central Java which became the object of this research. Conversely, if there is a decline or a slowdown in economic growth, then this also will not cause a decrease in the number of open unemployment in the area. Inflation variables have a positive but not significant effect on Open Unemployment. These results indicate that the increase in the total population is not able to cause an increase in open unemployment in 10 districts in Central Java which is the object of this research. Conversely, if there is a decrease in inflation, then this also will not cause a decrease in the number of open unemployment in the area.

Keyword: Economic Growth, Inflation, Total population, Poverty Level

Analisis Faktor-Faktor Yang Mempengaruhi Pengangguran Terbuka di 10 Kabupaten di Jawa Tengah 2010-2017

Oleh :

Fredy Nashihin

Pembimbing:

Dias Satria, SE., M.App., Ph.D.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pertumbuhan ekonomi, inflasi, jumlah populasi dan tingkat kemiskinan terhadap Tingkat Pengangguran Terbuka (TOT) di 10 Kabupaten Provinsi Jawa Tengah Tahun 2010-2017. Data penelitian ini adalah data sekunder yang bersumber dari Badan Pusat Statistik (BPS). Alat analisis data penelitian ini adalah regresi data panel. Hasil penelitian ini menunjukkan bahwa jumlah populasi dan tingkat kemiskinan berpengaruh positif dan signifikan terhadap pengangguran terbuka, artinya semakin tinggi jumlah populasi dan tingkat kemiskinan maka tingkat pengangguran terbuka di 10 Kabupaten di Jawa Tengah akan semakin meningkat. Sedangkan pertumbuhan ekonomi memiliki pengaruh negatif namun tidak signifikan terhadap Pengangguran Terbuka. Hasil tersebut menunjukkan bahwa peningkatan pada Pertumbuhan ekonomi tidak mampu menyebabkan penambahan pada pengangguran terbuka di 10 kabupaten di Jawa Tengah yang menjadi objek penelitian ini. Sebaliknya, jika terdapat penurunan atau perlambatan pada Pertumbuhan ekonomi, maka hal ini juga tidak akan menyebabkan menurunnya jumlah pengangguran terbuka di daerah tersebut. variabel Inflasi memiliki pengaruh positif namun tidak signifikan terhadap Pengangguran Terbuka. Hasil tersebut menunjukkan bahwa penambahan pada Jumlah Populasi tidak mampu menyebabkan penambahan pada pengangguran terbuka di 10 kabupaten di Jawa Tengah yang menjadi objek penelitian ini. Sebaliknya, jika terdapat penurunan pada inflasi, maka hal ini juga tidak akan menyebabkan menurunnya jumlah pengangguran terbuka di daerah tersebut.

Kata Kunci : pertumbuhan ekonomi, inflasi, jumlah populasi, tingkat kemiskinan

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CHAPTER I

INTRODUCTION

1.1. Background

Unemployment is a topic that is often discussed and becomes one of the macroeconomic problems that directly affect one's income and standard of living. The policy of reducing the number of unemployed is a challenge for developing countries with a surplus of labor, Indonesia is no exception. The condition of the economy, whose production capacity has not been fully able to accommodate the entire workforce, is sometimes a barrier to development. (Pawestri, 2010).

Unemployment is closely related to several factors that influence it, in every country or region, unemployment is a problem that often occurs. Factors that can affect the decline or increase in unemployment are the total population, inflation and economic growth. According to Sukirno, (2004:331), if the economic growth has increased, it is expected that it will affect the decline in the number of unemployed, this is followed by the wage rate. If the wage rate rises it will affect the decrease in the number of unemployed, while a high inflation rate will affect the increase in the number of unemployed.

The level of unemployment in an area can describe in the region experiencing economic development or decline. In addition to that, it can be seen also the inequality or gap in income distribution received by a community in the region.

The selection of 10 districts is based on the high level of potential in Central Java. Based on data from the Central Java government, it is known that the greatest potential in economic growth in Central Java is dominated by agriculture and fisheries. Other sectors such as industry are still inferior to agriculture and fisheries.

These 10 districts have good potential from other districts in Central Java. Good potential in agriculture and fisheries. Like a program that has been implemented by the Central Java government, namely increasing food productivity and increasing labor. Geographical support that makes Central Java a province that has high competitiveness in the economy. The policy now carried out by the Central Java government is to open 100% of foreign investment into Central Java. This is useful for improving the economy in Central Java and is useful for the absorption of labor in Central Java. As for the 10 districts taken in this study were Cilacap, Banyumas, Purbalingga, Banjarnegara, Kebumen, Purworejo, Wonosobo, Magelang, Boyolali, Klaten.

Below is general data describing open unemployment in Central Java

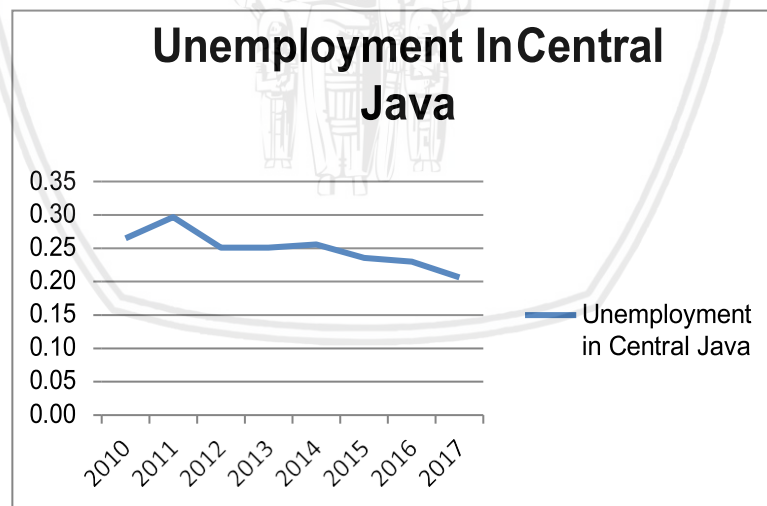


Figure 1.1 Unemployment in Central Java
Source: BPS (data processed)

The open unemployment rate (TPT) may be a value that indicates the quantity of working-age population UN agency area unit searching for work or don't

have work. TPT indicators area unit typically employed by the govt in assessing the success of performance within the field of employment. The graph higher than states that the open unemployment rate in Central Java Province tends to decrease.

Economic development is a series of activities carried out consciously and continuously to realize better and mutually sustainable conditions (Boediono, 1999). One indicator that is important in assessing the performance of an economy, particularly for analyzing the results of economic development that has been administered by a country or region is economic growth. The economy is claimed to expertise growth if production of products and services will increase from the previous year. Thus, economic growth shows the extent to that economic activity will generate further financial gain or community welfare during a certain amount. Economic growth of a country or region that continues to point out a rise illustrates that the economy of the country or region is developing well.

The indicator accustomed measures a country's economic growth by observing the gross domestic product information. According to Mankiw, Quah, and Wilson (2013: 6), Gross Domestic Product (GDP) is the market value of all final goods and services produced in a country at a certain period. The following is a table of the role of regions in Indonesia in the formation of national GDP.

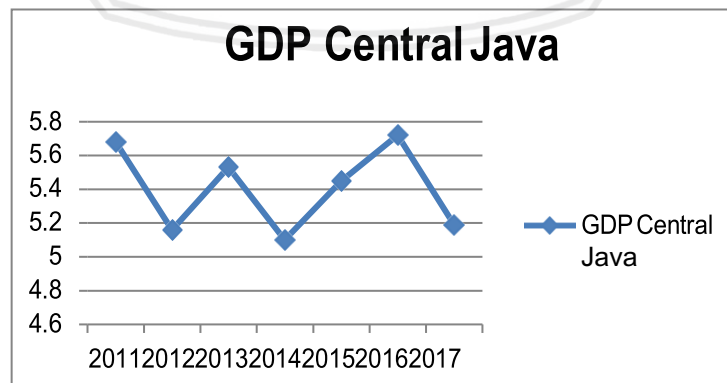
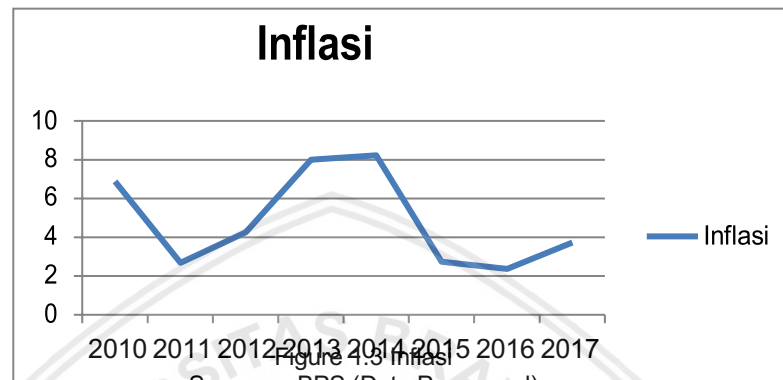


Figure 1.2 GDP Central Java

Source: BPS (Data Processed)

From the picture above, it is shown that economic growth (GRDP) has changed from year to year or fluctuated. The highest increase was in 2011 and 2016, while the decline in economic growth in Central Java was in 2014 with only 5.5 point.



The data above is the data that shows inflation in the past 8 years. In economic growth in Figure 1.2, it is shown that in 2014 there was a weakening in economic growth. This was closely related to inflation that occurred in the same year. Evidently, the inflation rate in 2014 was high. Then the high inflation affected the economic growth of a region, where the higher the level of inflation, the lower the level of economic growth in the region is.

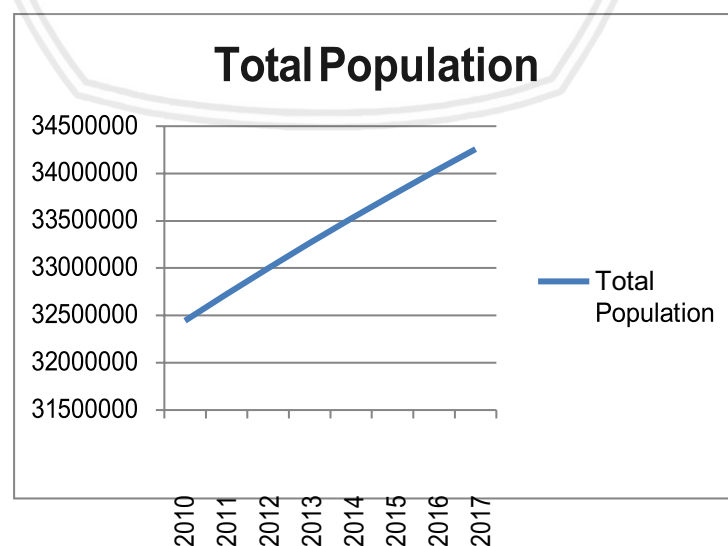


Figure 1.4 Total Population
Source: BPS (Data Processed)

The figure above illustrates the number population in Central Java from 2010-2017. An increase in number from year to year continues to occur in Central Java. The relationship of this variable with unemployment is a positive relationship, with an increase in the population will be followed by an increase in the number of unemployed.

Problems that arise due to unemployment are indeed very complex and often discussed, because this case can be associated with many factors that influence it. This has been discussed and researched by Pitartono (2012), who examined the *Unemployment Rate Analysis in Central Java in 1997-2010* which was aimed to determine the impact of the relationship between population, inflation, average city / district minimum wages, and the rate of economic growth with the unemployment rate. The results of the study showed that the variable total population and the minimum wage of the city / district in Central Java were positively and significantly related. While the variable rate of inflation and economic growth rate of GDP had a positive relationship or relationship to the number of unemployed.

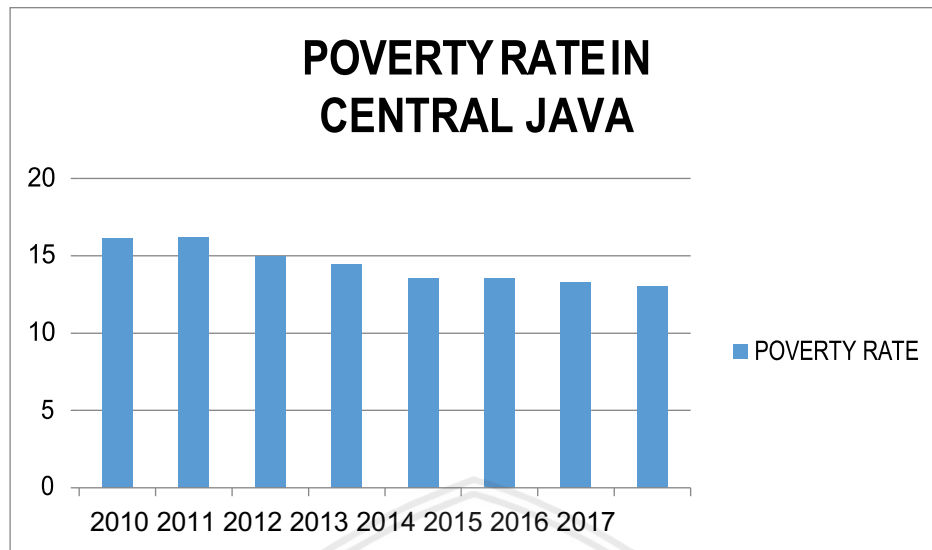


Figure 1.5 Poverty Rate In Central Java
Source: BPS (Data Processed)

The graph above shows that there is still a high level of poverty in Central Java. This number tends to be high and still has to be paid. Things influencing the high poverty in Central Java were due to a lack of balance in income distribution and employment opportunities in Central Java. Equitable development in Central Java has also contributed to poverty in Central Java. Every year the poverty rate in Central Java tends to decline, but there was still an increase in 2015 for example. The government is required to make policies to further address the poverty rates in Central Java.

The problem that was raised in this research was to find out the variables or factors that were suspected of having a relationship with the unemployment rate in each city / district in Central Java. With reference to the data and description, the researcher was interested in conducting research entitled "ANALYSIS FACTORS AFFECTING THE UNEMPLOYMENT RATE IN CENTRAL JAVA 2010-2017."

1.2. Researchers Gap

In research conducted by previous researchers, researchers want to ensure the results obtained with the applicable theory. Whether the rate of growth, poverty rate and the total population always have a positive relationship with the number of unemployed, on the contrary whether the rate of economic growth and inflation always have a negative relationship with open unemployment.

Central Java is a province with very good potential, but Central Java Province is still lagging behind East Java and West Java, which is why I chose this province for my research. The topic of open unemployment is an interesting topic to be researched and studied, because this factor is very crucial in economic development.

1.3. Problem Statements

Based on the background of the study explained above, the researcher formulated a research question of this study which was

1. What are the effects of economic growth, inflation rate, total population and poverty rate on open unemployment in 10 districts in Central Java for the period 2010-2017?

1.4. Objectives and Benefit of the Research

1.4.1. Objectives of the Research

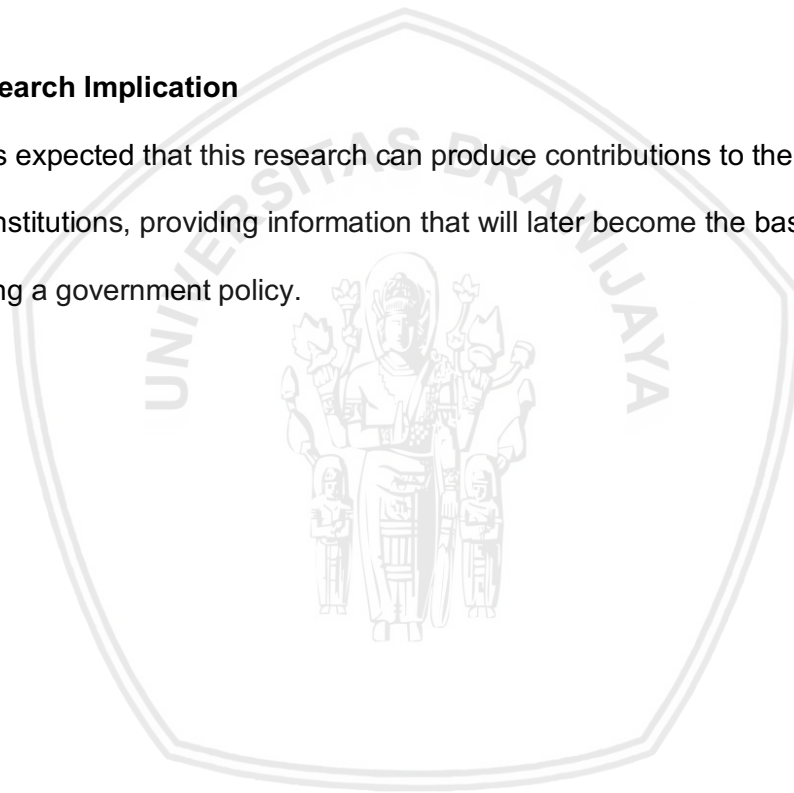
1. To find out the relationship between economic growth, inflation rate, total population and poverty rate on open unemployment in 10 districts in Central Java.

1.4.2. Benefit of the Research

1. To provide an overview and information about the influence of population size, economic growth, poverty rate and the rate of inflation on open unemployment in 10 districts in Central Java.
2. As information material for government or private parties related to what factors influence open unemployment in Central Java.
3. To contribute knowledge and information for future researchers.

1.5. Research Implication

It is expected that this research can produce contributions to the government or related institutions, providing information that will later become the basis or reference for making a government policy.



CHAPTER II

LITERATURE REVIEW

2.1. Theoretical Base

The various theories presented below are the basis for formulating hypotheses and the basis for analyzing this research. This basis will discuss the total population, the level of inflation, poverty rate and economic growth of 10 districts in Central Java.

2.1.1. Unemployment Theory

Unemployment is one among the problems frequently looked by creating nations, one among them is indonesia. The high unemployment rate in a nation will negatively have an effect on the economy of the nation. Low unemployment rates will replicate good financial development, and should replicate enhancements within the nature of occupations of people and expanded worth of earnings, which in this context is increasing the welfare of the people.

One of the primary issues in building up nations' financial improvement is that unemployment is a perplexing and more significant issue than the issue of progress in the conveyance of pay. The economic development conditions of developing countries in these decades are not able to provide more employment opportunities than population growth, so the problem of unemployment from year to year is getting more serious. If it is not immediately addressed and sought the way out, it can lead to social vulnerability and potentially increase the level of poverty (Siswosoemarto, 2012: 460-461).

Unemployment is a macroeconomic problem that affects human survival directly. For most people, losing a job is a decrease in their standard of living. Therefore, it is not surprising that unemployment is a topic that is often discussed in political debates by politicians who often examine that the policies they offer will help creating jobs (Mankiw,2000).

According to the Badan Pusat Statistik (BPS, 2019) in employment indicators, unemployment is a population that does not work but is looking for work or is preparing a new business or residents who are not looking for work because they have been accepted to work but have not started work.

According to Sukirno (1994), unemployment is a situation where someone who is included in the labor force wants to get a job but has not got it. A person who does not work but does not actively seek employment is not classified as unemployed. The main factor that causes unemployment is the lack of aggregate expenditure. Employers produce goods and services for the purpose of obtaining profits, but these benefits will be obtained if the entrepreneur can sell the goods and services they produce. The greater the demand, the greater the goods and services they make. Increased production will increase the use of labor.

According to Sukirno (2004: 28), unemployment is the number of workers in the economy who actively seek employment, but have not yet obtained it. Unemployment is often a problem in the economy because with unemployment, people's productivity and income will decrease. Thus, it can lead to poverty and other social problems. From year to year unemployment has a tendency to increase. This is a big challenge for Indonesian government because successful development indicators, one of which is able to lift poverty and reduce unemployment significantly. Especially in this era of globalization, labor competition is getting tighter, especially

due to the opening of free trade that facilitates the supply of foreign workers who are believed to be more qualified to enter the country (Association of Southeast Asian Nation, 2012).

Based on its characteristics, unemployment is divided into four groups (Sadono Sukirno, 2008):

a. Open Unemployment

Unemployment is created as a result of increased job vacancies that are lower than the increase in employment. As a result, in the economy, more and more workers cannot find work. The effect of this situation in a long period of time is people do not have a job. Thus, they are unemployed in real and half the time, and therefore are called open unemployment. Open unemployment can also occur as a result of declining economic activities, from technological advances that reduce the use of labor or as a result of the decline of industrial development.

b. Hidden unemployment

Unemployment is mainly manifested in the agricultural sector or services. Every economic activity requires labor, and the amount of labor used depends on many factors. Factors that need to be considered are the size of the company, type of company's activities, machinery used (whether labor intensive or capital intensive) and level of production achieved. In many developing countries, it is often found that the number of workers in an economic activity is more than is actually needed so that it can carry out his activities efficiently. The surplus of labor used is classified as hidden unemployment. One of the examples is there are more restaurant servants needed than farming family with a big number of family members working on very small land areas.

c. Seasonal Unemployment

Unemployment is mainly found in the agriculture and fisheries sector. In rainy season, rubber tappers and fishermen cannot do their jobs and are forced to work idle. In dry season, farmers also cannot work the land. In addition, farmers generally are not very active between the time after planting and after harvesting. If during this period rubber tappers, fishermen and farmers do not have other work then they are forced to be unemployed. Unemployment like this is classified as seasonal unemployed.

d. After unemployment

In developing countries, crossed-contry or migration from village to city is very rapid. As a result, not everyone who moves to the city can get a job easily. Some are forced to become full-time unemployed. In addition, some are not unemployed, but also do not work full time, and their working hours are much lower than normal. They may only work one to two days a week, or one to four hours a day. Workers who have a working period as described are classified as underemployed. And the type of unemployment is called underemployment.

2.1.2. Economic Growth

The relationship between economic growth and unemployment is explained by Okun's Law. This theory states that there is a relationship between growth economy (in this case is GDP) with job opportunities / unemployment. Okun's law states that "the unemployment rate falls by 1 percent every 3 percent increase in real GDP. In this case, if there is an increase in the national / regional output, in this concept is economic growth, it will cause labor demand and unemployment will fall. For this reason there is a negative relationship between economic growth and open

unemployment (Case and Fair, 2006: 304). There is a decrease in GDP real, causing a decrease in output produced. When the output produced has decreased or a company wants to reduce the volume of production of goods and services, then it will have an impact on the reduced input used, namely the reduction in the number of workers in their production activities so that employment is reduced and unemployed is increased.

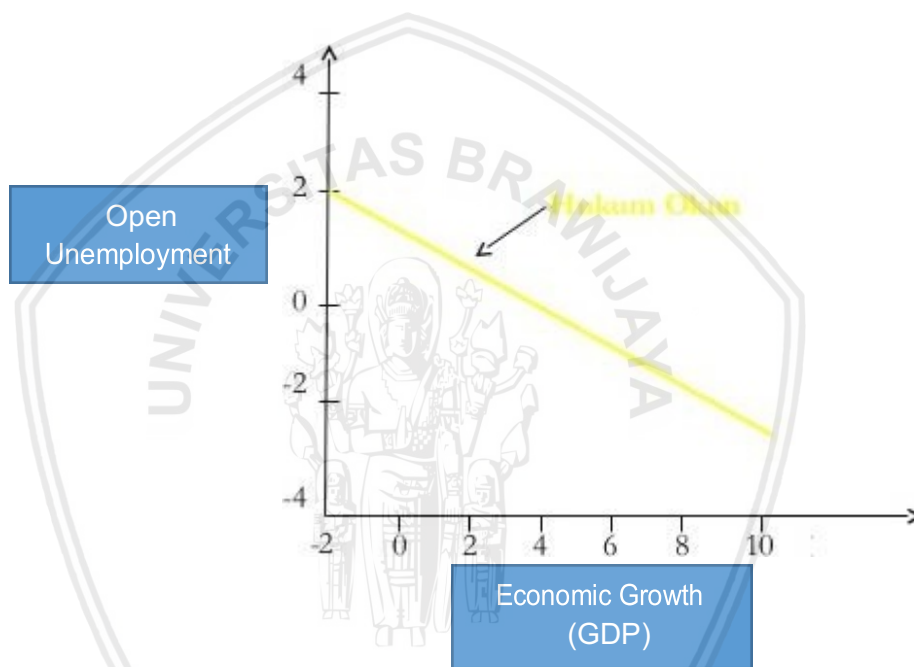


Figure 2.1 Okun Law Curve

Source: Dornbusch, Rudiger (2004)

Figure 2.1 above shows that there is a very close relationship between economic growth and unemployment. There is a negative relationship between economic growth and unemployment. This is proven from the distribution point of

each observation in Figure 2.1. The vertical axis shows changes in real GDP while the axis horizontal shows changes in the unemployment rate.

2.1.3. Total population

In a country's economic development, the economy of human resources has an important role. According to Ghofari (quoted from Soeroto, 2010) there are two meanings in human resources. First, it has the meaning of work or services that can be provided in the production process. Second, it concerns human beings who are able to work, capable in the sense of being able to carry out activities that have economic value. In other words, it is a population group in working age, known as labor.

If we mention the word population, the understanding of most people will link the population with population problems. This is true, too, as it is the true meaning of the population, because the word population is derived from the word *Populace*, which means population. Then in its development, the word population became very popular, and was used in various disciplines. In a research method, the word population is very popular and is used to mention allied or groups of objects that are the target of the study. Therefore the research population is a whole of an object of research that can be in the form of humans, animals, plants, air, symptoms, values, events, attitudes of life, and so on. Therefore, these objects can be the target of research data sources. Thus, it can be concluded that the entire unit that has the same characteristics according to the criteria of ongoing research, is called population (population or universe).

Nawawi (1983), has classified the population based on the determination of data sources, namely:

1. Limited population, which is a population that has a quantitatively clear source of data. For example, the number of high school students in Jakarta in 2002 was 100,000 students, consisting of 48,000 male students and 52,000 female students.
2. An infinite population, namely a population that has a source of data that is not clear and cannot be determined quantitatively. Therefore, the population area is infinite and can only be explained qualitatively. The example is the number of homeless people in Indonesia. This means that the number of homeless people in Indonesia must be counted from year to year, and every city to remote areas. Not only is the calculation of the number of homeless people currently in place, but also the interpretation of the number of homeless people in the future.

In this study the number population is the population of Central Java in 2010-2017.

2.1.4. Inflation

Inflation is an increase in general prices continuously for a certain period in a particular area (Prasetyo, 2009: 195). Inflation is a change in the price of goods and services as a whole and occurs gradually and at certain times and in certain regions.

The relationship between inflation and unemployment was introduced by AW Philips (William Philips, 1958), which explained the Philips curve, namely the existence of a negative relationship between unemployment and inflation and the Philips curve image.

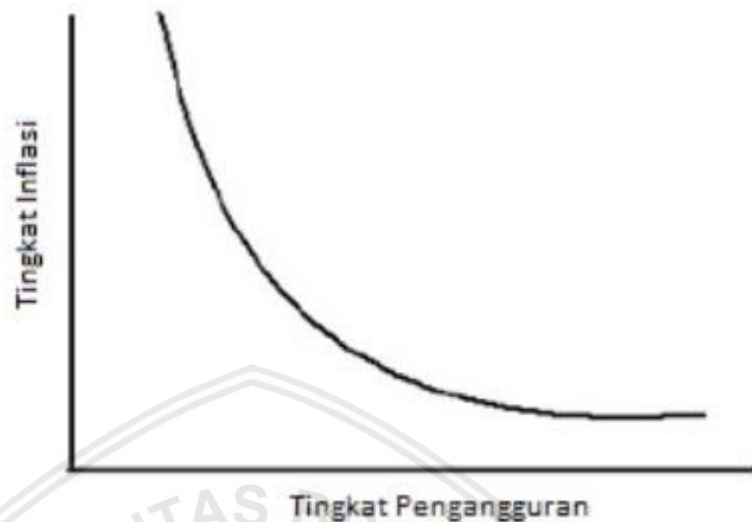


Figure 2.2 Philips Curve

Sources: Samuelson and Nodhaous

The Philips curve above illustrates the relationship between the rate of inflation and unemployment, based on the assumption that inflation is a reflection of an increase in aggregate demand. With high prices (inflation), to meet this demand, producers increase production capacity by increasing the number of workers, so along with the rising of prices (inflation), unemployment decreases.

2.1.5. Poverty Rate

Basically the concept of poverty is associated with estimation level of income and needs. Estimated needs are limited to basic needs or minimum basic needs to enable a person to be able to live a decent life. If income does not reach the minimum needs, then people are said to be poor. Thus, poverty is measured by comparing level of people's income and the level of income needed to earn basic needs. Minimum income level is a limitation between poor and not poor or often

referred as the poverty line. This concept is called absolute poverty. This concept refers to minimum income that adequately meets physical needs for food, clothing, and housing to ensure survival (Arsyad, 2004: 238).

The main difficulty in the main concept is to determine the composition and level of minimum needs because these things are not only influenced by custom, but also by climate, the level of progress of a country, and several other factors. However, to be able to live a decent life, someone needs goods and services to meet their social fiscal needs (Arsyad, 2004: 239).

2.2. The effect of Independent Variables on Dependent Variable

Below are the explanation on how each independent variable affects the dependent variables. This study used 4 variables, namely economic growth (X1), inflation (X2), total population (X3) and poverty rate (X4). The author also gave his hypothesis on how those 4 variables will affect on open unemployemen in this study.

2.2.1 The Effect of Economic Growth on Open Unemployment

According to Okun's Law, there is a close relationship between unemployment and economic growth. From the results of economist Arthur Okun Law (Okun's Law, 1962), there is a negative relationship between the two, residents who work can produce goods and services while unemployment does not contribute to it. rom the previous results conducted by Kristiyana (2011), it was stated that economic growth significantly affects open unemployment and has positive (+) parameters which means that if there is an increase in economic growth, it will also increase the number of open unemployment.

This happens because in reality, economic growth that occurs in the regencies / cities in Central Java is not able to create jobs, which causes the number

of unemployed people to actually increase. This happens because economic growth is not accompanied by an increase in the number of employment opportunities. As a result, the number of open unemployment continues to increase along with the increasing number of economic growth. On the other hand, the growth of the new workforce increases and not proportional to the number of employment opportunities. Economic growth in Central Java itself is supported by the industrial sector which has the largest growth increase every year.

2.2.2 The Effect of Total population on Open Unemployment

According to Bellante in Lindhiarta (2014) the relationship between the total population and the number of unemployment can be seen in the theory of labor demand and supply. In addition, Malthus (1798) argues that the relationship between population, real wages, and inflation happens when the population grows faster than food production, then the real wage falls then it affects the unemployment rate. But when real wages increase, the company will reduce the number of its workforce, while the offer is higher than the demand for labor, which will cause the unemployment rate to increase (Lindhiarta, 2014). It can be concluded that there is a positive relationship between population and unemployment.

From the research conducted by (Hartanto, 2017), Effect of independent variables on the number of unemployed. Variables of population, education and GRDP had a positive and significant influence on the number of unemployed people in the districts and cities of East Java in 2010-2014. the population variable partially had a positive and significant effect on the number of unemployed people in the districts and cities of East Java in 2010-2014. This can be seen from the regression

coefficient of 0.0236 which means that the population of one unit of soul causes an increase in the number of unemployed.

2.2.3 The Effect of Inflation on Open Unemployment

According to (Denta, 2011), the results of the study showed that the relationship between the inflation rate and open open unemployment was not significant with the regression coefficient obtained in accordance with the hypotheses and theories that have been stated. Amri's research (2015) results also explained the insignificance between open inflation and open unemployment based on the results of an analysis of open unemployment and inflation in Indonesia from 1980-2005. Statistically and graphically, there was no significant effect between inflation and the open unemployment rate. This problem occurred because the increase in the new workforce is far greater than the growth in employment that can be provided annually. In addition, inflation in Indonesia includes inflation that occurs because of Cost Push Inflation that occurs due to increased production costs (input) so the resulting price of products (output) produced increases. For example, rising world oil prices and rising wages / salaries such as civil servant salary increases will result in private efforts to increase the price of goods.

2.2.4 The Effect of Poverty Rate on Open Unemployment

According to Hoover and Wallace (2003), poverty levels were very sensitive to economic conditions, where increasing unemployment caused an increase in poverty. Theoretically, the poverty rate will move according to the unemployment rate in this case. The study conducted in Negeria, Osinubi (2005) found a very strong relationship between poverty rates and unemployment rate rises. When the

unemployment rate rises, the poverty rate also rises and when the unemployment rate decreases the poverty rate also falls.

2.3. Previous Research

Some of the previous studies that were used as references for this study are as follows:

1. Research by (Bayu Dirga, 2011) entitled "*The Effect of Economic Growth, Inflation and Investment on Unemployment in the Province of Bali in 1995-2014*". In the preparation of this scheme the author used multiple linear regression. The results obtained from this study were, all independent variables are simultaneously significant to the dependent variable. Partial economic growth and inflation were not significant to unemployment (dependent) and investment had a negative and significant effect on unemployment.
2. Research by (Ariefta, 2014) entitled "*Analysis of the Effect of Population Growth, Inflation, GDP, and Wages on Unemployment Rate in Indonesia for the 1990-2010 Period*". The tools used in this analysis are Multiple Linear Regression. The results obtained from this research showed that the unemployment rate was influenced by all independent variables. 70.36% variation in unemployment rate was influenced by all independent variables while the rest was explained by other variables.
3. Research by (Nur Azizah, 2016) with the title "*Analysis of the Influence of Population, Economic Growth on Open Unemployment in Central Java Province in 2010-2014*". The tool in analyzing this research was panel data regression. The results obtained from this study were the Independent Test F of all independent variables affected Central Java Unemployment with the R square of 0.557 / 55.72% of the dependent variable Unemployment.

4. Research by Anggraini (2017) entitled "*Analysis of Economic Growth, Inflation, and Minimum Wages against open unemployment rates in districts / cities in Central Java Province in 2011-2015.*" The tool used was panel data regression with the results of economic growth having a positive and significant effect on the open unemployment rate. Minimum wages had a negative and significant effect on open unemployment. Inflation variables had a positive relationship and no significant effect on the open unemployment rate.
5. Research by (Hari, 2016) with the title "*The effect of Population, Regional Gross Domestic Product (GDRP) and Regional Minimum Wages on Unemployment*" used data panel as the research's tool. The results of this study was the number of residents simultaneously influenced positive and significant to unemployment in districts and cities in East Java. Whereas provincial minimum wages and gross regional domestic product (GDRP), have a negative and significant impact on unemployment in East Java.
6. Research by (Kristiyana, 2011) entitled "*The Effect of District / City Minimum Wages (MSEs), Economic Growth and Inflation on Open Unemployment in Central Java 2004-2009*" used panel data regression by using the help of Eviwes 6 program. The results of data analysis showed that the statistical F value was 84.82667 and the significance number was 0.0000 ($0.0000 < 0.05$) that means that together the MSE variable, economic growth and inflation had significant effects on open unemployment in Central Java. Whereas the determination coefficient (R^2) of 0.948045 means that the variation of open unemployment (Y) of 94.80% was influenced by variations in MSEs, economic growth and inflation and the remaining 5.20% was influenced by other factors. Partially independent variables namely district / city minimum wages (MSEs) and economic growth had a positive and

significant effect on open unemployment, while inflation had a negative and significant effect on open unemployment, with aggregate demand would increase production and occur labor absorption which had an impact on unemployment decline.

Table 2.1 Journal Matrix

No	Author	Title (year)	Variables	Method	Result
1	Bayu Dirga	"The Effect of Economic Growth, Inflation and Investment on Unemployment in the Province of Bali in 1995-2014" (2011)	Independent - Economic Growth - Inflation - Investment Dependent - Unemployment	Multiple Linear Regression	All independent variables are simultaneously significant to the dependent variable. Partial economic growth and inflation are not significant to unemployment (Dependent), Investment has a negative and significant effect on unemployment.
2	Ariefta Rekha Raditya	"Analysis of the effect of Population Growth, Inflation, GDP, and Wages on Unemployment Rate in Indonesia for the 1990-2010 period" (2014)	Independent - Population Growth - GDP - Inflation - Wages Dependent - Unemployment Rate	Multiple Linear Regression	The results obtained from this research that the unemployment rate is influenced by all independent variables. 70.36% variation in unemployment rate is influenced by all independent variables, the rest is explained by other variables.
3	Fireiana Isnaeni Nur Azizah	"Analysis of the Influence of Population, Economic Growth on Open Unemployment in Central Java Province in 2010-2014). (2016)	Independent - Population - Economic Growth Dependent - Open Unemployment	Panel Data Regression	The results obtained from this study are the Independent Test F of all independent variables affecting Central Java Unemployment. R square 0.557 / 55.72% of the dependent variable Unemployment.
4	Puspita Anggraini	"Analysis of Economic Growth, Inflation, and	Independent - Economic Growth - Inflation - Minimum Wages	Panel Data Regression	Economic growth has a positive and significant effect on the open

		Minimum Wages against open unemployment rates in districts / cities in Central Java Province in 2011-2015" (2017)	Dependent - Open Unemployment			unemployment rate. Minimum wages have a negative and significant effect on open unemployment. Inflation variables have a positive relationship and have no significant effect on the open unemployment rate.
5	Hari	"The effect of Population, Regional Gross Domestic Product (GDRP) and Regional Minimum Wages On Unemployment". (2016)	Independent - Population - GDRP - Minimum Wages Dependent - Unemployment	Panel Data Regression		The number of residents, simultaneously influential Positive and Significant to unemployment in districts and cities in East Java. While Provincial Minimum Wage and Gross Regional Domestic Products (GRDP), Negative and Significant Impact on Unemployment in East Java.
6	Kristiyana	"The Effect of District / City Minimum Wages (MSEs), Economic Growth and Inflation on Open Unemployment in Central Java 2004-2009".	Independent - Winimum Wages - Economic Growth - Inflation Dependent - Open Unemployment	Panel Data Regression		The results of data analysis show that the statistical F value is 84.82667 and the significance number is 0.0000 (0.0000 <0.05) that means that together the MSE variable, economic growth and inflation have significant effects on open unemployment in Central Java. , economic growth and inflation and the remaining 5.20% is influenced by other factors. Partially independent variables namely District / City Minimum Wages (MSEs) and economic growth have a positive and significant effect on open unemployment, while inflation has a negative and significant effect on

open unemployment, with aggregate demand will increase production and occur labor absorption which has an impact on unemployment decline.

2.4. Hypothesis

The hypothesis is a provisional explanation that must be tested for the truth about the problem under study. The hypothesis is always formulated in the form of statements that connect two or more variables (Supranto, 2001).

Hypothesis 1: It is assumed that there is a positive influence between the population number on the level of open unemployment, that the higher the population, the higher the level of open unemployment.

Hypothesis 2: It is assumed that there is a positive influence between the inflation rate on the level of open unemployment, that the higher the level of inflation, the higher the level of open unemployment.

Hypothesis 3: It is assumed that there is a negative influence between economic growth on open unemployment, that the higher the economic growth, the less the open unemployment.

Hypothesis 4: It is assumed that there is a positive influence between the level of poverty on open unemployment, that the higher the level of poverty, the higher the level of open unemployment.

2.5. Research Framework

To facilitate the research activities that was carried out and to clarify the roots of thought in this study, the following illustrates a schematic framework as follows:

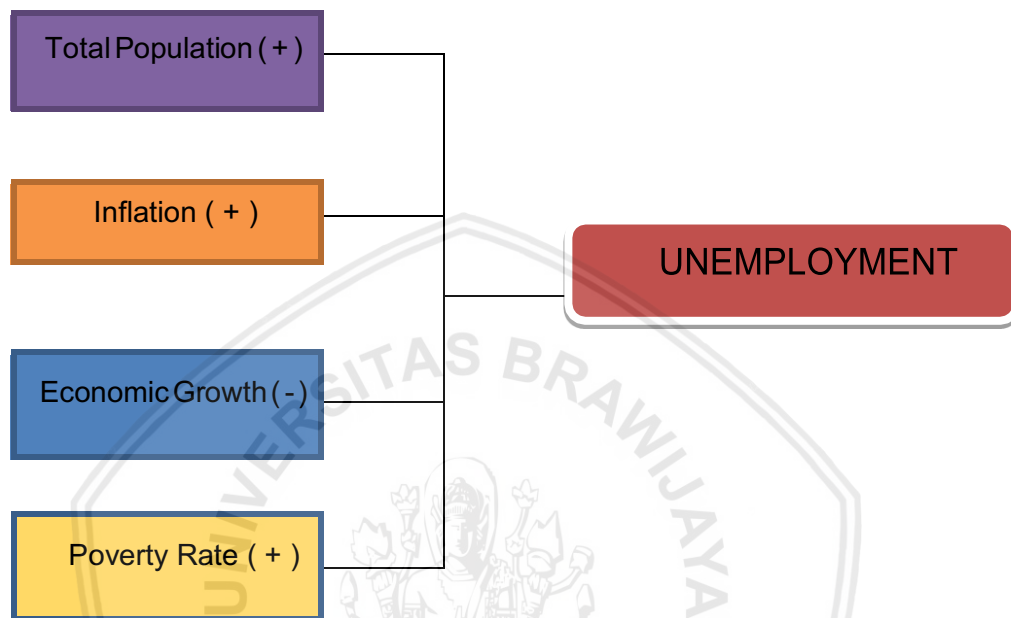


Figure 2.3 Concept Framework
Sources : BPS

Increased population and poverty rates will have an impact on the lack of available employment, and will have an impact on the increase in the number of unemployed. The relationship between inflation and unemployment is very close, if in the economy the rate of inflation rises there will be a weak investment that enters and results in an example as an example. This action will have a bad impact and increase the existing unemployment. An area that has a rapid growth in food can be indicated that the economy in the region is well. From the good of the economy, it reflects the fastest workforce and the unemployment rate will decrease.

CHAPTER III

RESEARCH METHODOLOGY

The research method is a method of work or procedure regarding how activities will be carried out to collect and understand objects that are the target of the research conducted (Nazir, 2003).

3.1. Research Method

This research was included in descriptive quantitative research because this research was more based on data that can be calculated to produce a robust quantitative assessment. Where the results of these data were described the nature or characteristics of a particular phenomenon so as to reach a conclusion that is needed.

3.2. Types of Data and Research Data Sources

In this study researchers used secondary data sources. To collect the data needed in the study, secondary data was obtained through library studies and theories from reading books related to the problem under study. These data were issued by BPS (Central Java in form of figures). The data used was annual and covered the period of 2010-2017. The data used in this study were unemployment, economic growth, inflation, poverty rate and total population 10 districts in 2010-2017 in Central Java.

These are the list of district/city that observed :

NO	DISTRICT
1	CILACAP
2	BANYUMAS
3	PURBALINGGA
4	BANJARNEGARA
5	KEBUMEN
6	PURWOREJO
7	WONOSOBO
8	MAGELANG
9	BOYOLALI
10	KLATEN

Table 3.1 List Of Observations

Sources : BPS (Data Processed)

3.3. Data Collecting Method

To obtain the data needed in this study, the author only used one method, specifically:

a. Document and Record Collecting Tehnique

Document and records collecting tehnique is a data collection technique by analyzing documents containing data and information that support the analysis of the study. It consists of examining existing data in the form of databases, annual reports, financial records, newsletters, etc. This was the only data collecting method, since the author used a secondary type data in this study.

3.4. Type, Source, and Data Category

In order to make this research run according to the plan that had been determined, the author used following types and sources of data:

3.4.1. Data Type

The data used by the author was quantitative data, where the data was measured in numerical scale (number). The type of data sources used by the author in this study was secondary data, where this data was taken from existing sources (BPS of Central Java that proceeded by author), which was then collected one by one by the author.

3.4.2. Data Category

Data in this study were included in panel data category, which was using PLS model. The data referred by author here was data taken from BPS from period 8 years starting from 2010 to 2017. The data taken from BPS included open unemployment (Y), economic growth (X1), inflation (X2), number population (X3) and poverty rate (X4).

3.5. Research Variables

The research variables used in this study included the dependent variable, namely open unemployment and independent variables namely economic growth (X1), inflation (X2), number of population (X3) and poverty rate (X4).

3.6. Operational Definition of each Variable

In order to make this research accomplished as it was expected, it is necessary to understand various elements that form the basis of a scientific research

contained in the operational definition of each research variable. In more detail, the operational definition of each research variable is as follows;

a. Open Unemployment

Unemployment is a number that shows a lot of the workforce that is actively looking for work. Unemployment data used in this study was open unemployment data in Central Java in 2010-2016 with percent units.

b. Economic Growth

Understanding economic growth according to Smiths (1776) a change in economic levels in a country that relies on the existence of population growth. With the increase of population, the output or results of a country will increase.

According to Sadono Sukimo (1985) the notion of economic growth is a change in the level of economic activity that applies from year to year. To find out economic growth, we must compare the national income of the country from year to year, in which we are familiar with the rate of economic growth (Sukimo, 1985). Thus, the growth is self-generating which produces a strength or momentum for the continuation of economic growth in the next period.

According to Prof. Simon Smith Kuznets (dalam Njingan, 2000), he notion of economic growth is a long-term increase in the ability of a country to provide various types of economic goods to its people. This ability grows according to the development of technology, ideology, and adjustment of the country's institutions.

c. Inflation

Inflation in this research is a process of increasing the general prices of a number of goods and services continuously for a certain period. In this study, it was measured by using the consumer price index per district / city in 2010-2017 with percent units.

d. Number of Population

According to Sugiyono (2008: 115), "The population is a region of generalization consisting of objects / subjects that have certain qualities and characteristics determined by researchers to study and then draw conclusions ". In this study the population was the population in 35 districts / cities in Central Java.

e. Poverty Rate

Poverty is a condition of economic inability to meet the average living standards of the people in an area. This condition of incompetence is characterized by the low ability of income to fulfill basic needs in the form of food, clothing and shelter. This low income capability will also reduce the ability to meet average living standards such as public health standards and education standards.

The condition of the community called poor can be known based on the ability of income to meet living standards (Nugroho, 1995). In principle, the standard of living in a society is not only sufficient for food, but also for the need for health and education. Residential or decent housing is one of the standard of living or the standard of welfare of the people at a certain level area. Based on this condition, a community is called poor if having income far lower than the average income so no many have the opportunity to prosper themselves (Suryawati, 2004).

3.7. Data Analysis Method

The analytical tool that the researcher use this study is multiple linear regression panel data Pooled Least Square (PLS) using the Stata 14 application.

3.7.1. Descriptive Analysis

Descriptive analysis is a method of analysis by describing the writing of variables related to the problem. The purpose of describing these variables is to support the results of quantitative analysis.

3.7.2. Analysis Quantitative

Quantitative analysis is a method of analyzing data from things related to numbers and using formulas and calculation techniques used to analyze the problems being studied.

To test it, it can be used to test the hypothesis. The statistical test is needed as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

Where:

Y= Open Unemployment

α = constant number

μ =error

β_1 = Coefficient regression Economic Growth

β_2 = Coefficient regression on Inflation

β_3 = Coefficient regression on Number population

β_4 = Coefficient regression on poverty rate

X1 = Economic Growth

X2 = Inflation

X3 = Total population

X4 = Poverty

3.7.3. Hypothesis Test

3.7.3.1. T Test (partial)

The statistical T test looks at the relationship or influence between individual independent variables on the dependent variable which is done using stata 14 by looking at the probability of the T-statistic. If the probability of t-statistic $< \alpha$ (0.05), there is an influence of the total population, inflation and GDP partially towards unemployment in Central Java.

If the probability of T-statistics $> \alpha$ (0.05) means that there is no influence of number of population, inflation, economic growth and poverty rate partially towards open unemployment in 10 districts in Central Java. In this study the T test used one side.

3.7.3.2. F Test

To prove the truth of the hypothesis, F test was used, which was to determine the effect of independent variables together on the dependent variable. If the calculation of F count is greater than F table then H_a is accepted, it can be said that the independent variable of the regression model can explain the dependent variable together, conversely if F count is smaller than F table then H_a is rejected, thus it can be said that independent variables from multiple linear regression models are unable to explain dependent variable.

3.7.3.3. R2 Square Test

The coefficient of determination (R^2) essentially measures how far the model's ability to explain the variation of the dependent variable is. The coefficient of determination is between zero and one. The small value of R^2 means that the ability of independent variables to explain variations in the dependent variable is very limited. A value close to one means that the independent variables provide almost all

the information needed to predict variations in the dependent variable (Ghozali 2001: 45).

3.7.4. Classical Assumption Test

Panel data is a regression that combines time series data and cross section data (Widarjono, 2009). There are several benefits obtained by using panel data estimation. First, increased number of observations (samples), and second, there will be different variations between units according to time and space (Kuncoro, 2012). Furthermore, panel data regression provides alternative models, common effect, fixed effect and random effect. The common effect and fixed effect models use the pooled least squared (PLS) approach in its estimation technique, while random effect uses generalized least squares (GLS) as its estimation technique. The classical assumption test used in linear regression with the pooled least squared (PLS) approach includes: linearity, autocorrelation, heteroscedasticity, multicollinearity and normality tests. However, not all classic assumption tests must be performed on each linear regression model with the PLS approach.

Based on Baltagi (2005), Nachrowi, Djalal & Usman (2006), and Widarjono (2007), linearity testing is almost not necessary for each linear regression model because it has been assumed that the model is linear. Even if it must be done, it is only to see the extent of its linearity. While for autocorrelation, Baltagi (2005), Nachrowi, Djalal & Usman (2006), and Widarjono (2007) stated that it only occurs in time series data. Furthermore, Nachrowi explained that the panel data regression model does not require autocorrelation-free model. This is very reasonable because the nature of autocorrelation is caused by the existence of serial correlations between residuals since the data is sequenced in time series. Panel data certainly

contains time series elements, but it is not pure time series. Therefore, the order of data preparation is not in one possibility, but allows many possibilities. It becomes the reason when the result of autocorrelation test for panel data is inconsistent, so it is concluded that the autocorrelation test was merely futility.

Furthermore, multicollinearity needs to be done when linear regression uses more than one independent variable. If there is only one independent variable, multicollinearity is not possible. In addition heteroscedasticity usually occurs in cross section data, where panel data is closer to the characteristics of cross section data than time series. Therefore, this test needed to be done in any type of model (PLS/FE/RE). Lastly, normality testing is basically not a BLUE requirement (Best Linear Unbiased Estimator) and they stated that it does not necessary to do this test for panel data.

3.7.4.1. Heteroscedasticity Test

Heteroscedasticity arises when the residual value of the model does not have a constant variance. Thus, each observation has different reliability due to changes in background conditions not summarized in the model (Kuncoro, 2011). These symptoms often occur in cross section data (Gujarati, 2012), so it is possible for heteroscedasticity to occur in panel data.

3.7.4.2. Multicollinearity Test

According to Ghozali (2001), this test aims to test whether the regression model found a correlation between independent variables. A good regression model should not have a correlation between independent variables. Detecting the presence or absence of multicollinearity in a regression model can be seen from tolerance value or variance inflation factor (VIF). The criteria for detecting the presence or absence of multicollinearity in this model are as follows.

- a) The value of R^2 is very high, but individually many independent variables that do not significantly influence the dependent variable.
- b) Analyzing the correlation matrix between independent variables. If there is a correlation between the free variables that are high enough (> 0.9), this is an indication of multicollinearity.
- c) Judging from the tolerance value and VIF. The cut off tolerance value of < 0.10 and $VIF > 10$ means that there is multicollinearity. If there is a high symptom of multicollinearity, the standard error regression coefficient will be even greater and result in wider confidence interval for parameter estimation. Thus, there is the possibility of mistakes or accepting the wrong hypothesis. Multicollinearity tests can be carried out by regressing the analysis model and conducting a correlation test between independent variables using a variance inflating factor (VIF). The VIF limit is 10. If the VIF value is greater than 10, multicollinearity can be said.

3.7.4.3. Autocorrelation Test

Autocorrelation arises because residuals are not free between one observations to another (Kuncoro, 2011). This is because errors in individuals tend to affect the same individual in the next period. Autocorrelation problems often occur in time series data (sequential time). Detection of autocorrelation in panel data can be through the Durbin-Watson test. The Durbin-Watson test value is compared with the Durbin-Watson table value to find out the existence of a positive or negative correlation (Gujarati, 2012). The decision regarding the existence of autocorrelation is as follows:

- a) If $d < d_l$, it means there is positive autocorrelation
- b) If $d > (4 - d_l)$, it means there is negative autocorrelation.

- c) If $d_u < d < (4 - d_l)$, it means there is no autocorrelation.
- d) If $d_l < d < d_u$ or $(4 - d_u)$, it means that it cannot be concluded.

3.7.4.4. Coefficient Determinations

This analysis is used to determine the percentage contribution of the influence of independent variables on the dependent variable. This coefficient shows how large percentage variable can explain the dependent variable.

3.7.4.5. Operational Definitions

This study used one dependent variable (Y) and three Independent variables (X). The operational definition of each variable is as following:

1. Open Unemployment Rate (Y): Percentage amount (10 districts) open unemployment in Central Java in 2010-2017 (Di in percent units).
2. Economic Growth (X1): Growth in the level of gross domestic product (GDP) percentage amount (10 districts) economic growth in Central Java in 2010- 2017 (Di in percent units).
3. Inflation (X2): Inflation rate in Central Java percentage amount (10 districts) inflation in Central Java in 2010-2017 (Di in percent units).
4. Total population (X3): The total population (10 districts / cities) in Central Java.
5. Poverty Rate (X4): The level of poverty rate in Percentage Amount (10 districts) Poverty Rate in Central Java in 2010-2017 (Di in percent units).

CHAPTER IV

RESULT AND DISCUSSION

4.1 Description of Observation Object

Central Java is one of the provinces that has good economic potential because it is flanked by the provinces of West Java, East Java and the Special Region of Yogyakarta. It is located between 540 'and 111' 30 'East Longitude (including Karimunjawa Island). The furthest distance from West to East is 263 km and from North to South 226 km (not including Java Karimun Island). Central Java has a total area of 3,254,412 hectares or around 25.04% of the total island of Java and around 1.7% of the total area of Indonesia.

Administratively, the province of Central Java consists of 29 districts and 6 cities. District and city government administration consists of 545 sub-districts and 8,490 villages / kelurahan. Before the enactment of Law No. 22/1999 concerning Regional Government, Central Java also consisted of 4 administrative cities, namely Purwokerto, Purbalingga, Cilacap, and Klaten. But since the enactment of Autonomy. In 2001 the administrative cities were removed and became part of the district.

Geographically, Central Java has a varied area, ranging from the lowlands to the mountains with the highlands. In general it has a tropical climate with an average temperature of 24° - 31°. Areas that have an altitude between 0-100m above sea level that extends along the north and south coasts covering an area of 53.3%, an altitude of 100-500m above sea level that extends to the central part of the island covering an area of 27.4%, an altitude of 500-1000 m from sea level is 14.7%, and altitude above 1,000 m above sea level is 4.6%. The average air temperature in

Central Java is between 24.4°C and 28.5°C. The existing soil fertility is due to the existence of several volcanoes that are still active, making Central Java one of the major rice producers, besides that, other commodities such as tobacco and vegetables. Agricultural land in the form of paddy fields has an area of 996 thousand hectares or 30.60% and non-paddy agricultural land of 2.26 million hectares or 69.32%.

4.2 Open Unemployment Condition in Central Java

YEAR	UNEMPLOYMENT (percentages)	TOTAL POPULATION (million)	INFLATION (percentages)	ECONOMIC GROWTH (percentages)	POVERTY RATE (percentages)
2010	0.26	32443886	6.88	5.70	16.11
2011	0.30	32725378	2.68	5.68	16.21
2012	0.25	32998692	4.24	5.16	14.98
2013	0.25	33264339	7.99	5.53	14.44
2014	0.26	33522663	8.22	5.10	13.58
2015	0.24	33774141	2.73	5.45	13.58
2016	0.22	34019095	2.36	5.72	13.27
2017	0.21	34257865	3.71	5.19	13.01

Table 4.1 Open Unemployment, Umber of Population, Inflation and Economic Growth In Central Java Province 2010-2017

Sources : BPS of Central Java

From the table above we can see the population increased every year from year to year. The high inflation that occurs does not have a major influence on open unemployment in Central Java. On the contrary, an increase in economic growth has a positive impact on open unemployment in Central Java, can be seen with the increase in economic growth with a decline in the percentage of open unemployment in the province of Central Java.

4.3 Variable Research Discription

4.3.1 Unemployment (Y)

Data on open unemployment rates in this study are data on unemployment rates in 10 districts in Central Java from 2010-2017 (in percent).

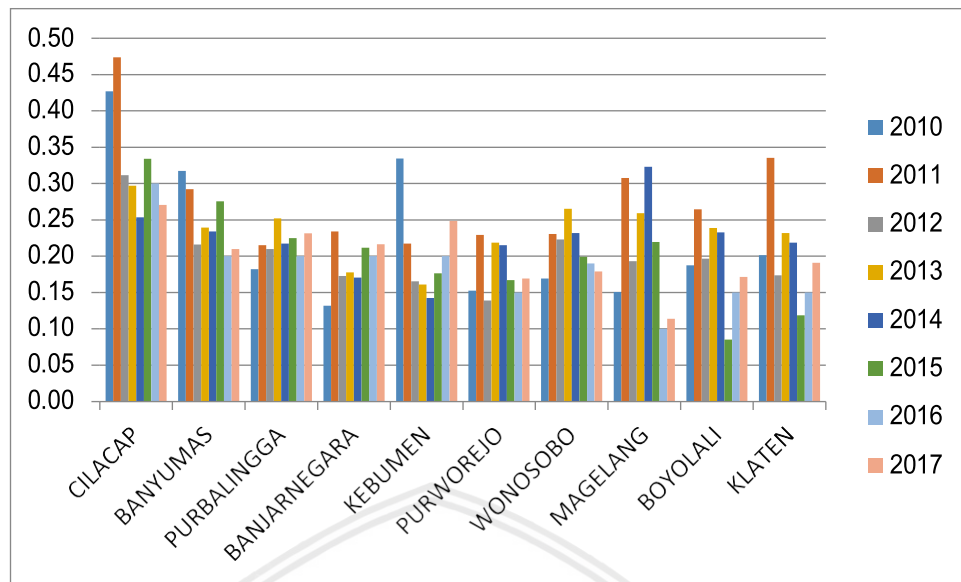


Figure 4.1 Open Unemployment in 10 districts

Based on the graph above we can see that the unemployment level in 10 districts tends to fluctuate. In Cilacap the unemployment rate tends to fluctuate, but in 2011 there was an increase in the open unemployment rate with a percentage increase from the previous level of 0.47%. Banyumas and Klaten are regions that tend to have low unemployment rates. The crisis that hit Indonesia in 2011 had an impact on the regions in Indonesia, including the province of Central Java. Therefore in that year the percentage of open unemployment rates tends to be high.

4.3.2 Total populations (X1)

The population in a region is something that must be accompanied by equality of life. Central Java is a province that has a dense population, with a strategic location the province has the opportunity to improve its economy. Population growth in Central Java tends to be low compared to neighboring regions such as West Java and East Java. The population has a positive impact, because the more the population, the higher the productivity of an area. But, a high population will cause new problems if it is not balanced with adequate policies and employment, there will be considerable unemployment if a region with high growth but there are narrow jobs. The chart below will explain the growth in the population in Central Java.

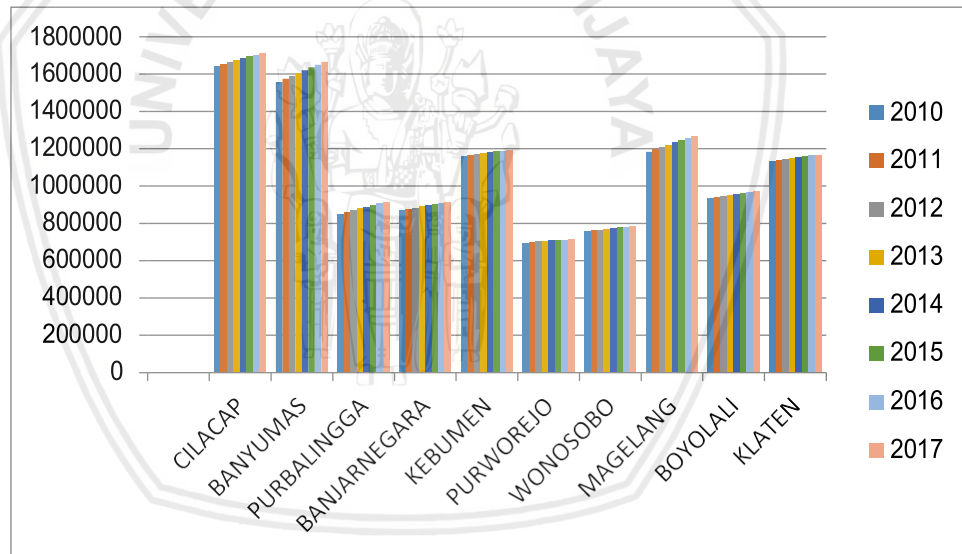


Figure 4.2 Total population

From the graph above we can conclude that every year the population growth in 10 districts in Central Java increases every year. Population with a high percentage growth rate is still dominated by regions which are regions with high

economic activity. For example Cilacap and Banyumas were ranked first and second in population growth. Population growth in this case is open from birth rates only, new population movements in managing the resources there, and many of them settled in the area. Conversely, the least population growth rate is the Purworejo area, one of the factors that influenced it was the Hinterland area, the small birth rate in the area also had a negative impact on the rate of population growth.

4.3.3 Inflation (X2)

The inflation rate is one of the references in looking at the economic condition of a region or country. If an area or country has high inflation it will have a negative impact. For this reason, controlling inflation is stable and tends to fall very important. For West Java, the inflation rate tends to fluctuate. According to BPS, the highest contributor to inflation in Central Java is dominated by food and transportation. For the end of 2017, transportation has over 0.70% of Central Java's inflation, this is due to homecoming activities that have become a tradition for Indonesians every year.

In the next page, this table below shows how inflation rate from 2010 to 2017

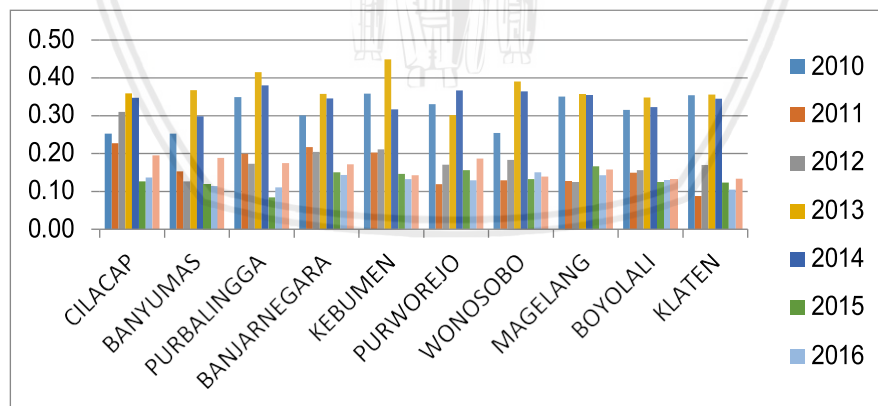


Figure 4.3 Inflation rate in 10 districts of Central Java Period 2010-2017
Sources : BPS Central Java (data processed)

We can see that the inflation rate in 10 districts is volatile. It seems that almost all of them have the same trend. There are significant decreases and increases. 2012-2013 is a year that has the highest inflation rate compared to the year before and after. The influencing factor is that the Indonesian economy still faces high risks of global uncertainty. This is none other than the impact experienced by the global crisis, it takes at least 1 year to start stabilizing inflation, as well as Central Java is also affected by it all.

4.3.4 Economic Growth

Economic growth is the process of continuously changing the economic condition of a country or region towards a better condition for a certain period. Economic growth can also be interpreted as a process of increasing the production capacity of an economy which is realized in the form of an increase in national income. Below is the growth rate of the 10 districts / cities in Central Java.

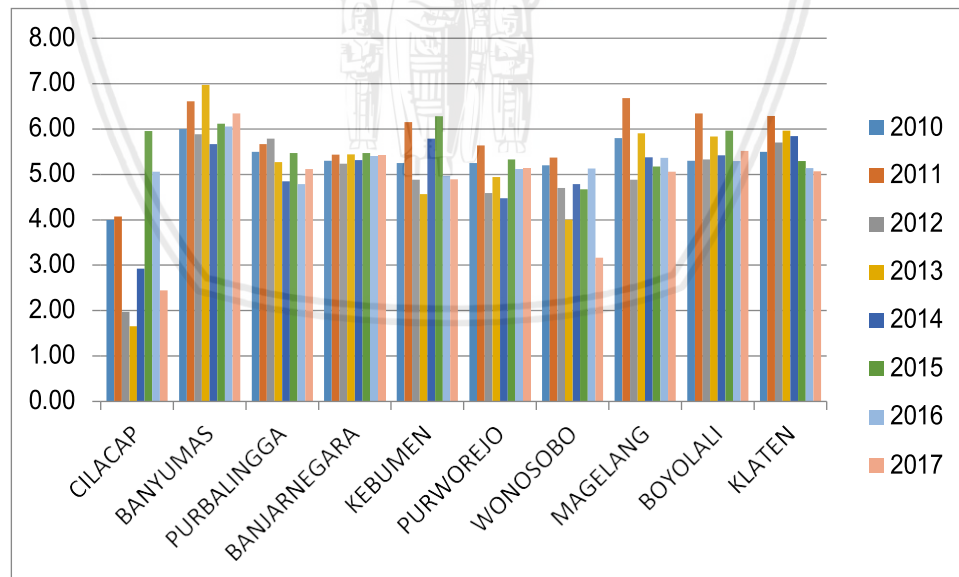
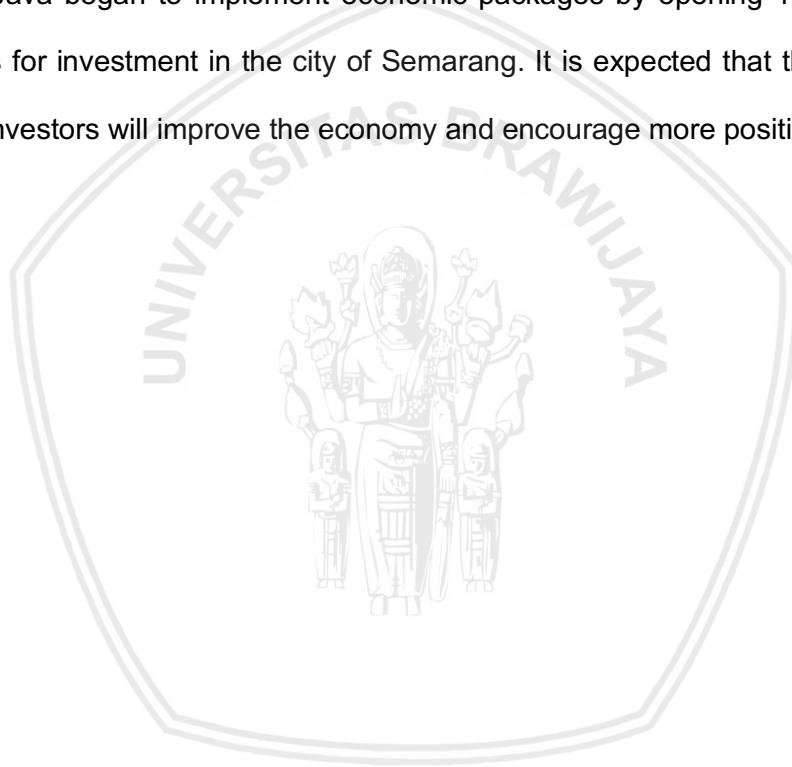


Figure 4.4 The constant GDP rate of 10 districts in central Java period 2010-2017
Sources : BPS Central Java (data processed)

From the graph above we can draw the analysis that almost all the districts above tend to fluctuate in their economic growth. What is interesting here is Cilacap which is still inferior to Banyumas in its economic growth. The highest point of Banyumas economic growth was in 2013, but this growth still depends on household consumption in Banyumas, while Cilacap is still weaker in its economic development, especially in the agricultural sector. Klaten from 2013 has decreased every year, due to the lack of investors who came for them. For this reason, all regencies and cities in Central Java began to implement economic packages by opening 100% of foreign investors for investment in the city of Semarang. It is expected that the presence of foreign investors will improve the economy and encourage more positive growth.



4.3.5 Poverty

Poverty is a situation where there is an inability to fulfill basic needs such as food, clothing, shelter, education, and health. Poverty can be caused by scarcity of basic needs fulfillment tools, or difficult access to education and employment.

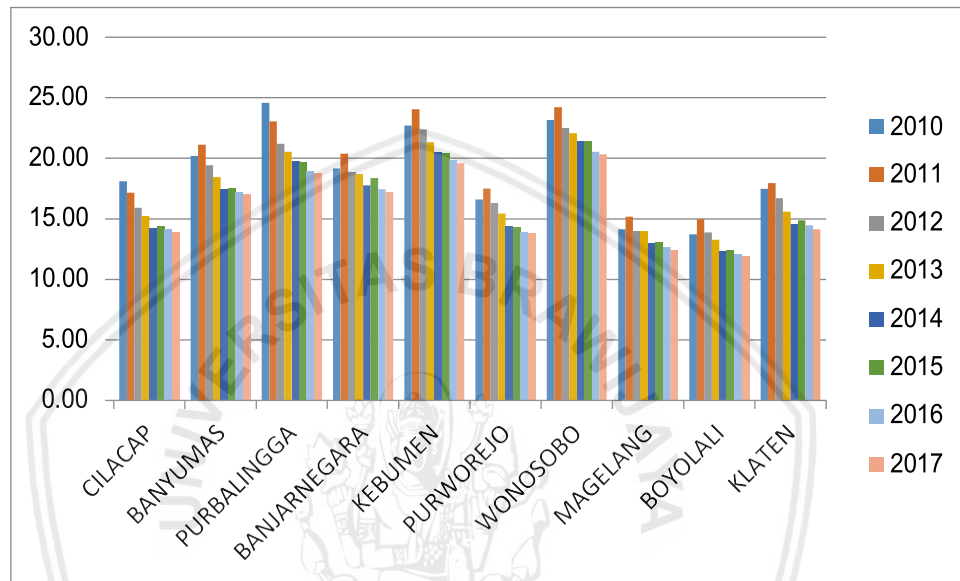


Figure 4.5 Poverty Rate in 10 districts of Central Java 2010-2017
Sources: BPS (Processed data)

The data above shows the level of poverty in 10 districts in Central Java in 2010-2017. Districts with the lowest poverty rates are Boyolali and Magelang. Apart from a relatively small population, income distribution in the districts tends to be more evenly distributed compared to Wonosobo and Kebumen. Wonosobo excels in agriculture, but because of the uneven distribution of income resulting in high poverty rates. Infrastructure in Wonosobo is still less effective due to mountainous areas, it affects the pace of the economy and income distribution is not optimal.

4.4 Data Analysis

The data analysis in this study used the STATA program to determine the effect of the independent variables, namely economic growth (X1) inflation (X2), total population (X3), and poverty (X4), on the dependent variable of the research, namely open unemployment (Y). The analysis is carried out in several stages, namely: 1) model estimates; 2) classical assumption test; and 3) hypothesis test.

4.4.1. Estimasi Model

Model estimation is done to find out the most appropriate model for research among three panel data models, namely pooled least square (PLS), fixed effect (FE), and random effect (RE). Model estimation is done in three steps, namely 1) conducting chow test to find out the best panel data model between PLS and FE; 2) conduct hausman test to find out the best model between FE and Re; and 3) test lagrange multiplier (LM) to find out the best model between PLS and RE.

1. Chow Test

The basis of determining the choice between the PLS model and Fixed effect on the Chow test is the significance value ($\text{prob} > F$) from the Fixed effect test results. If the significance value ($\text{prob} > F$) is greater than 0.05, then the chosen model is PLS. Conversely, if the significance value ($\text{prob} > F$) is smaller than 0.05, then the chosen model is Fixed effect. In accordance with the test results using the Fixed effect model (see attachment) which has a significance value ($\text{prob} > F$) = 0.0016, where the value is smaller than 0.05, the most appropriate model to use is the Fixed effect model.

2. Hausman Test

The basis for determining the choice between the Fixed effect and Random effects models in the Hausman test is the significance value ($\text{prob} > \text{Chi}^2$) from the Hausman test results. If the significance value ($\text{prob} > \text{Chi}^2$) is greater than 0.05, then the chosen model is Random effect. Conversely, if the significance value ($\text{prob} > \text{Chi}^2$) is smaller than 0.05, then the chosen model is Fixed effect. In accordance with the Hausman test results (see attachment) that have a significance value ($\text{prob} > \text{Chi}^2$) = 0.0702, where the value is greater than 0.05, the most appropriate model to use is the Random effect model.

3. Lagrange Multiplier Test

The Lagrange multiplier test is done because the Chow test results show that the best model is Random effect, so it must be selected between the best Random Effect or PLS models to use. The basis of determining the choice between the Random effect and PLS models in the Lagrange multiplier test is the significance value ($\text{prob} > \text{Chibar}$) from the Lagrange multiplier test results. If the value is significant ($\text{prob} > \text{Chibar}$) greater than 0.05, then the model chosen is PLS. Conversely, if the significance value ($\text{prob} > \text{Chibar}$) is smaller than 0.05, then the chosen model is Random effect. In accordance with the results of the Lagrange multiplier test (see attachment) which has a significance value ($\text{prob} > \text{Chibar}$) = 1,000, where the value is greater than 0.05, the most appropriate model used is the PLS model.

4.4.2. Classical Assumption

1. Normality Test

Based on the results of the normality test (see attachment), it can be seen that the Prob> Chi2 value is 0.0334, where this value is less than 0.05. Therefore, it can be stated that the residual is not normally distributed. Thus, it is necessary to do robust regression on the model to determine the normality of this data problem.

2. Multicollinearity Test

Multicollinearity test refers to VIF and $1 / \text{VIF}$ values. If the VIF value > 10 and $1 / \text{VIF} < 0.1$ means that there is multicollinearity in the model. Based on the results of the multicollinearity test (see appendix), it can be seen that VIF values < 10 and $1 / \text{VIF} > 0.1$, so it can be stated that the model is free of multicollinearity.

3. Heteroscedasticity Test

Heteroscedasticity test refers to the prob value> Chi2. If the prob value> Chi2 is greater than 0.05, then the model is said to be free of heteroscedasticity. Conversely, if prob> Chi2 is smaller than 0.05, there is heteroscedasticity. Based on the test results (see attachment), it can be seen that the prob value> Chi2 is 0.0057 where the value is smaller than 0.05, so there is a heteroscedasticity in the model. Therefore, it is necessary to do robust regression on the model to overcome this heteroscedasticity problem.

4.4.3. Partial Test

This study analyzed the effect of four independent variables partially on one dependent variable. The provisions used to determine the significance of influence are as follows:

1. If $p\text{-value} > 0.1$, then H_0 is accepted and H_1 is rejected, which means that the independent variable does not have a significant effect on the dependent variable.
2. If $p\text{-value}$ is < 0.1 , then H_0 is rejected and H_1 is accepted, which means that the independent variable has a significant influence on the dependent variable.

The results of the robust Pooled Least Square regression test using STATA can be seen in the table below:

Variabel Independen	P-Value
Total population	0,000
Inflation	0,363
Economic Growth	0,215
Poverty	0,041

Table 4.2. Partial Test Result
Sources: attachment study

Based on the above test results it can be seen that:

1. Number of Population

The results of the robust PLS regression test showed that at a 90% confidence level, the $p\text{-value}$ of the effect of economic growth on open unemployment was 0,000. Thus it can be concluded that H_0 was rejected and H_1 was accepted, which means the total population had a significant influence on open unemployment.

2. Inflation

The results of the robust PLS regression test showed that at a 90% confidence level, the p-value of the effect of inflation on open unemployment was 0.363. Thus it can be concluded that H0 was accepted and H1 was rejected, which means that inflation did not have a significant effect on open unemployment.

3. Economic Growth

The results of the robust PLS regression test showed that at a 90% confidence level, the p-value of the effect of economic growth on open unemployment was 0.215. Thus, it can be concluded that H0 was accepted and H1 was rejected, which means that economic growth did not have a significant effect on open unemployment.

4. Poverty

The results of the PLS robust regression test showed that at a 90% confidence level, the p-value of the effect of economic growth on open unemployment was 0.041. Thus, it can be concluded that H0 was rejected and H1 was accepted, which means that poverty had a significant influence on open unemployment.

Based on the results of the robust PLS regression above, it can be seen that among the four independent variables of this study, only the total population and Poverty had a significant influence on open unemployment, while the other two independent variables, namely Inflation and economic growth have no significant effect on open unemployment .

4.4.4. Coeficient Intrepetation

The influence of the independent variable on the dependent variable needs to know its significance and direction of influence. If the partial test above analyzes the

significance (p-value) of the independent influence on the dependent variable, then in this section we will analyze the PLS robust regression coefficient to determine the direction of that influence.

A positive regression coefficient indicates a unidirectional influence, on the contrary, a negative regression coefficient indicates an opposite effect. Thus, if the independent variable has a significant positive effect on the dependent variable, then an increase in the independent variable will also cause an increase in the dependent variable. Conversely, if the independent variable has a significant negative effect on the dependent variable, then an increase in the independent variable will cause a decrease in the dependent variable.

Robust PLS regression coefficient can be seen in the table below:

Variabel Independen	Koefisien	P-Value
Total population	0,000000108	0,000
Inflation	0,0565127	0,363
Economic Growth	-0,0078429	0,215
Poverty	0,003788	0,041

Table 4.3. Robust Coefficient Regression PLS
Sources: attachment study

Based on the test results above, the interpretation of the regression coefficient on the effect of the independent variables on the dependent variable of this study are as follows:

1. Robust PLS regression coefficient for the number of population variable had a positive sign, so it can be stated that the total population had a significant positive effect on open unemployment. The coefficient of 0.000000108 showed that an increase in the population of 1 million will cause an increase in open unemployment of 0.1%, assuming that other variables that affect open unemployment are permanent. The robust PLS regression coefficient

for the Inflation variable had a positive sign, so it can be stated that inflation had a positive but not significant effect on open unemployment.

2. The robust PLS regression coefficient for the economic growth variable had a negative sign, so it can be stated that economic growth had a positive but not significant effect on open unemployment.
3. The robust PLS regression coefficient for the poverty variable had a positive sign, so it can be stated that poverty had a significant positive effect on open unemployment. The coefficient of 0.003788 indicated that poverty increment of 1% will cause open unemployment increase of 0.0037%, assuming that other variables that affect open unemployment are permanent.

The summary for the results of data analysis described above can be seen in the table below:

Independent Variable	Significant	Coefficient	Hypotesis Testing
Number of Populaton	Significant	Positive	Accepted
Inflation	No Significant	Positive	Rejected
Economic Growth	No Significant	Negative	Rejected
Poverty	Significant	Positive	Accepted

Table 4.4. Summary of Results of Research Data Analysis
Sources: attachment study

4.3 Economic Analysis

4.5.1. Effect of Number Population on Open Unemployment

In accordance with the results of the robust PLS regression, it is known that the total population variable had a significant positive effect on open unemployment. These results indicated that the increase in the total population will cause an increase in open unemployment in 10 districts in Central Java which is the object of this research. Conversely, if there is a decrease in the total population, then this will also cause a decrease in the number of open unemployment in the area. Thus, the

first hypothesis of this study which stated that there was a positive influence between the population number on the level of open unemployment, that the higher the population, the higher the level of open unemployment, was accepted.

This result is in line with the findings of previous research conducted by Sidania et al. (2017) which states that the population amount variable has a positive and significant influence on the level of open unemployment. The population is actually one of the main capital in the economy. However, population growth must be balanced with increased employment opportunities to be able to move the economy in a region. The increase in population which is not followed by an increase in the number of employment opportunities will cause more and more people to not work and become unemployed. Thus, the results not only show the existence of a connection between the population in Central Java and the open unemployment rate, but also explain the existence of problems of employment opportunities that are unable to keep pace with the increase in the population in the area.

4.5.2. The Effect of Inflation on Open Unemployment

In accordance with the results of the robust PLS regression, it is known that the inflation variable has a positive but not significant effect on open unemployment. These results indicated that the increase in the total population was not able to cause an increase in open unemployment in 10 districts in Central Java which is the object of this research. Conversely, if there is a decrease in inflation, then this also will not cause a decrease in the number of open unemployment in the area. Thus, the second hypothesis of this study which states that there was a positive influence between the rates of inflation on the level of open unemployment, that the higher the level of inflation the level of open unemployment will be higher, was rejected.

This result is in line with the findings of previous research conducted by Poyoh et al. (2017) which states that inflation did not have a significant effect on open unemployment. According to Prasetyo (2008: 195), inflation is interpreted as an increase in general prices in a sustainable manner over a certain period of time and region. The increase in general prices can be triggered by an increase in production costs, one of which can be an increase in labor costs. In this case, labor costs can increase if there is an increase in minimum wages in accordance with government regulations or because of the recruitment of more workers to meet production needs. Thus, theoretically, an increase in inflation can actually have a significant effect on increasing employment opportunities, so it will reduce open unemployment. However, the results of this study which stated that inflation had a positive and insignificant effect indicated that an increase in general prices occurred not because of an increase in production needs to meet market demand, but could be caused by other factors. According to Samurida & Soekarnoto (2014), inflation that does not affect open unemployment is inflation caused by factors such as the presence of the global economic crisis, an increase in fuel prices, or an increase in basic electricity tariffs.

The results of this study were not in accordance with the inflation theory proposed by A.W. Phillips (1958) which described the correlation between the value of currencies and employment opportunities in an economic curve called the Phillips curve. According to Phillips's analysis, the higher the value of the currency (low inflation) and the more employment opportunities are two things that cannot exist simultaneously, so as to get an increase in the number of employment opportunities in a region, or in other words to reduce the unemployment rate open, it must accept the consequences of high inflation in the area.

4.5.3. Effect of Economic Growth on Open Unemployment

In accordance with the results of the robust PLS regression, it is known that the economic growth variable had a negative but not significant effect on open unemployment. These results indicated that the increase in economic growth was not able to cause an increase in open unemployment in 10 districts in Central Java which became the object of this research. Conversely, if there is a decline or a slowdown in economic growth, then this also will not cause a decrease in the number of open unemployment in the area. Thus, the third hypothesis of this study which stated that there was a negative influence between economic growth on open unemployment, that the higher the economic growth, the less the open unemployment, was rejected.

The results of this study are in line with the findings of previous research by Mada & Ashar (2015) and Poyoh et al. (2017) who found that economic growth had no significant effect on open unemployment. According to an economic theory called Okun's Law, economic growth has a relationship with the unemployment rate, where an increase in economic growth of 3% will cause a decrease in unemployment by 1%. This is because economic growth is generally an indication of economic improvement based on increased productivity. The increase in productivity occurs because of an increase in labor requirements, so the number of unemployed will decrease. Thus, theoretically economic growth will have a significant negative effect on unemployment. However, the results of this study which stated that economic growth had no significant effect on open unemployment can be caused by several reasons. According to Mada & Ashar (2015), the effect of economic growth on open unemployment can occur when a growing economy is not a labor intensive field, but

a capital intensive economy. Another thing that can cause economic growth does not affect open unemployment is the economic slowdown. According to research data, it is known that in the period 2010-2017 there were fluctuations in economic growth in 10 districts in Central Java. This can be seen in the picture below:

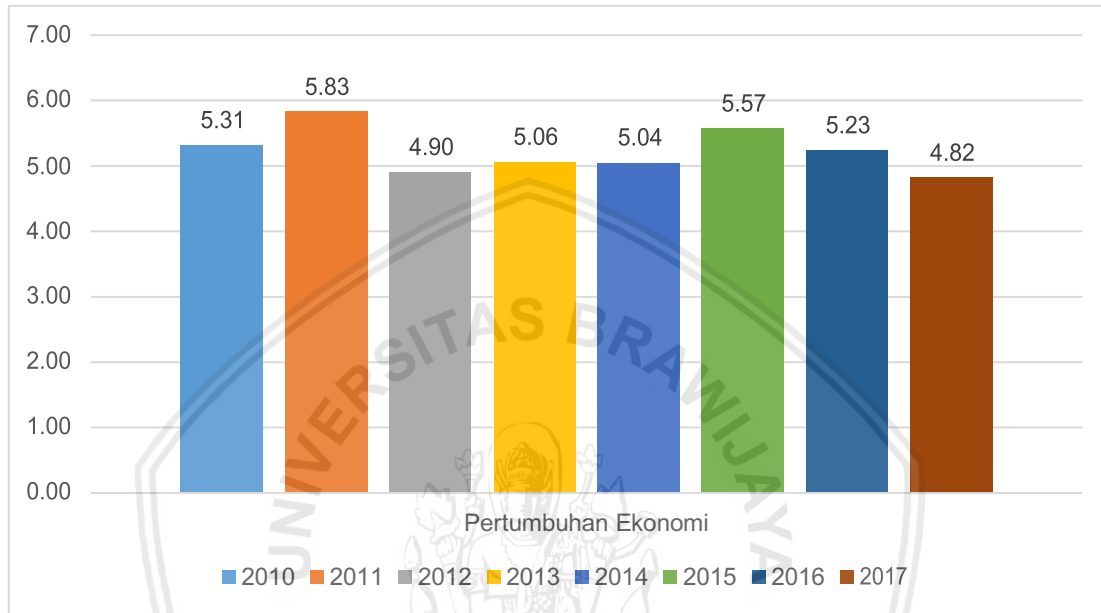


Figure 4.6. Average Economic growth for the period 2010-2017

The data in the figure above shows that economic growth in the 2010-2017 period in 10 districts in Central Java not only experienced fluctuations, but also experienced a slowdown since 2015, namely from 5.57% to 5.23% in 2016, then declined again to 4.82 in 2017. Thus, the results of this study did not only show that economic growth in 10 districts in Central Java had no influence in reducing open unemployment, but also showed that in the period 2010-2017 there was a slowdown in economic growth in the region and the concentration of economic growth in the capital-intensive sector. The labor intensive sector that is expected to open employment opportunities for the community still has not experienced significant economic growth.

4.5.4. The Effect of Poverty on Open Unemployment

In accordance with the results of the robust PLS regression, it is known that the poverty variable has a significant positive effect on open unemployment. These results indicated that the increase in the poverty level caused an increase in open unemployment in 10 districts in Central Java that were the object of this research. Conversely, if there is a decrease in the level of poverty, then this will also cause a decrease in the number of open unemployment in the area. Thus, the first hypothesis of this study which stated that there was a positive influence between poverty on the open unemployment rate, that the higher the poverty, the higher the level of open unemployment, was accepted.

Previous research examining the effect of poverty on open unemployment has not been done much. As far as the researchers conducted a search, one previous study was found, namely by Quy (2016) with results that differed from the findings of this study, that poverty had a significant negative effect on open unemployment. That is, Quy (2016) found that the higher the level of poverty in an area, then this will lead to the decline in the level of open unemployment in the area.

The results of this study are in accordance with the concept of poverty and open unemployment described in the study by Akwara et al. (2013). According to Akwara et al. (2013), poverty is a condition that makes a person unable to utilize the resources around him to develop his own situation, both in the economic, social, political, and development fields in other important fields. While unemployment is a situation where someone has entered work age but still does not have a job.

Furthermore, Akwara et al. (2013) explained that someone can become unemployed if he is unable to manage the resources around him to develop the self-

abilities needed to work. In other words, poverty will make a person unable to have sufficient abilities needed by the world of work, so that poverty that is not immediately addressed will cause more unemployment.

3.6 Implications of Research Result

Based on the results of the description of the research variables, it is known that the number of open unemployment in ten regions in Central Java had fluctuated from year to year. Cilacap was the region with the highest number of open unemployment in the period 2010 to 2017, while Purworejo was the region with the lowest average number of unemployment in the same period. In addition, Cilacap was also the region that had the highest average population compared to other regions in Central Java, while Purworejo was the region with the lowest average population.

The highest average inflation in the period 2010-2017 among the 10 regions in Central Java was owned by four regions, namely Cilacap, Purbalingga, Banjarnegara, and Kebumen, while the lowest average inflation was owned by Banyumas. Regions that had the highest average economic growth in Central Java in the 2010-2017 period was Banyumas, while the regions with the lowest economic growth was Cilacap. The region with the highest average poverty rate was Wonosobo, while the region with the lowest average poverty rate was Boyolali.

Based on the positive and significant discussion of the influence of the population number on open unemployment, the implications obtained were related to the need for regional government intervention in creating a business sector that absorbs labor in Central Java to compensate for the continual increase in population

from year to year. In addition to creating labor-intensive business fields, the government can also intervene by actively providing counseling or training to the community regarding entrepreneurship to encourage people who do not get jobs to become entrepreneurs. Both of these interventions are a form of human resource management which in the long run will be able to encourage a decrease in the number of open unemployment through empowering the population in 10 regions in Central Java as regional economic capital.

Based on the results of the discussion on the positive but not significant effects of inflation on open unemployment, the implications obtained were related to the need for policy decisions from local governments that aim to protect regional economies from international and national economic instability. One policy that can be determined is to prioritize the use of products in the region to meet the needs of the people who live in them rather than bring in products from outside the region. This policy can encourage stable pricing and reduce the increase in prices of public goods not to follow price fluctuations outside the region.

Based on the results of the discussion of the negative but not significant effects of economic growth on open unemployment, the implications obtained are related to the need for regional policy setting to encourage the development of labor-intensive business sectors to comprehensively strengthen the basis of the regional economy. This is based on an indication that the economic growth in ten regions in Central Java originates from the development of capital-intensive business sectors, so that economic growth is not able to significantly push down the number of open unemployment. Policies that are set can be realized in the form of programs that are able to facilitate the development of existing labor-intensive businesses, such as

incentives or business capital programs, or by giving top priority to the establishment of labor-intensive businesses rather than capital intensive businesses. With the existence of these policies and programs, the economy in 10 regions in Central Java can grow healthily through the utilization of existing human resources in the region.

Based on the results of the discussion of the influence of poverty on open and positive unemployment, the implications obtained are related to the need for an active role from all parties, both from the regional government and from all elements of society to prevent and overcome poverty in 10 regions in Central Java. The first active role of the local government is to monitor the number of people belonging to the poor to know the number of developments from time to time. This data is very important because it is a reference for the determination of policies and programs for prevention and poverty reduction. The second role of the local government is to actively provide assistance to the people who want to set up businesses, either by providing incentives or capital assistance, or by providing entrepreneurship training. The third active role of the government is by fostering efforts that have been established by the community to maintain the continuity of the business so that it can significantly improve people's living standards. In addition to requiring an active role from the government, efforts to tackle poverty in 10 regions in Central Java must also be supported by the active role of the community. The first active role of the community is by participating in various programs implemented by the government to overcome poverty problems, for example by participating in entrepreneurship development programs or business education programs. The second active role is to apply the knowledge gained from government programs into actual business practices to develop business skills and experience. With the active role of both parties, the poverty that drives the increase in open unemployment in 10 regions in

Central Java can be overcome, which in the long run will further reduce the number of unemployed people in the region.



CHAPTER V

CLOSING

5.1. Conclusion

Based on the results of the discussion conducted, the conclusions obtained to answer the research problem formulations include:

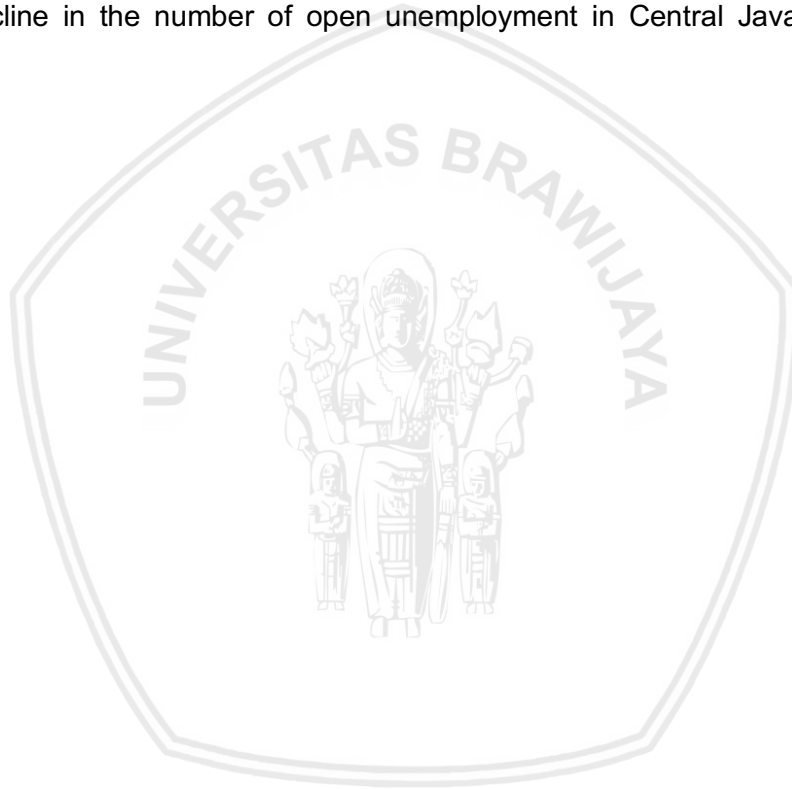
1. The total population in 10 regencies in Central Java in the period 2010-2017 had a positive and significant influence on open unemployment. The increase in population is actually one of the vital economic capital, but this must be balanced by the increasing number of job opportunities. If the increasing population is not balanced by the increasing number of job opportunities, it will cause an increase in the number of open unemployment.
2. Inflation that occurs in 10 districts in Central Java in the 2010-2017 period did not have a significant effect on open unemployment. This is because inflation occurs not because of an increase in production needs to meet market demand, but because of other problems such as the global economic crisis, an increase in fuel prices, or an increase in basic electricity tariffs.
3. The economic growth of 10 districts in Central Java in the period 2010-2017 was not able to encourage a decrease in open unemployment in the region. This can occur because the business sector that experiences economic growth is not a labor intensive field that requires human resources for its development, but more in the capital intensive business sector. Another factor that could be the cause is the economic slowdown in the 2010-2017 period in 10 districts in Central Java which were the object of this research.

4. Poverty levels in 10 Regencies in Central Java in the 2010-2017 period had a positive and significant influence on open unemployment. Poverty will cause the community to not be able to increase their ability to meet the level of ability required by the world of work, so poverty was able to encourage the increasing number of open unemployment in 10 districts in Central Java in the 2010-2017 period.

5.2. Suggestion

1. The government needs to design an economic strategy to encourage the creation of employment opportunities, especially in the Central Java region. This is based on the ongoing population growth from year to year in the region, which is not balanced by an increase in employment opportunities, leading to an increase in unemployment.
2. The issue of inflation requires intervention from the local government in order to maintain an increase in general prices not to burden the people in the Central Java region. Moreover, this inflation was not able to reduce the level of open unemployment in the region. Local governments can implement a self-sufficiency strategy to reduce the dependence of people from other regions in fulfilling their basic needs, while at the same time maintaining the price of these basic commodities does not experience a high increase.
3. The government needs to prioritize economic development in labor-intensive sectors to reduce unemployment in the Central Java region. This is because economic development in the period 2010-2017 in the Central Java region was still concentrated in capital intensive business sectors only, so economic growth achieved was not able to reduce the level of open unemployment.

4. Efforts to alleviate poverty have indeed been a government program for a long time. However, these efforts need to be prioritized on concrete efforts to overcome the root causes of poverty, namely the inability of the community to develop their potential and resources around them. Therefore, the government can implement a capacity-building program for the community, both through formal and non-formal channels, to improve the capacity of the community in accordance with the needs of the workforce, which in turn will encourage a decline in the number of open unemployment in Central Java region.



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APENDICES

Running data (Observation)

individu	tahun	Pengangguran terbuka	Pertumbuhan Ekonomi	Inflasi	Jumlah Populasi	kemiskinan
1	2010	0.43	4.00	0.25	1644990	18.11
1	2011	0.47	4.07	0.23	1655668	17.15
1	2012	0.31	1.98	0.31	1666192	15.92
1	2013	0.30	1.66	0.36	1676098	15.24
1	2014	0.25	2.92	0.35	1685631	14.21
1	2015	0.33	5.96	0.13	1694726	14.39
1	2016	0.30	5.06	0.14	1703390	14.12
1	2017	0.27	2.45	0.20	1711627	13.94
2	2010	0.32	6.00	0.25	1557480	20.20
2	2011	0.29	6.61	0.15	1574002	21.11
2	2012	0.22	5.88	0.22	1589930	19.44
2	2013	0.24	6.97	0.37	1605585	18.44
2	2014	0.23	5.67	0.30	1620772	17.45
2	2015	0.28	6.12	0.12	1635909	17.52
2	2016	0.20	6.05	0.11	1650625	17.23
2	2017	0.21	6.34	0.19	1665025	17.05
3	2010	0.18	5.50	0.35	850729	24.58
3	2011	0.22	5.67	0.20	860725	23.06
3	2012	0.21	5.79	0.17	870423	21.19
3	2013	0.25	5.27	0.41	879880	20.53
3	2014	0.22	4.85	0.38	889172	19.75
3	2015	0.23	5.47	0.08	898376	19.70
3	2016	0.20	4.78	0.11	907507	18.98
3	2017	0.23	5.12	0.18	916427	18.80
4	2010	0.13	5.30	0.30	870528	19.17
4	2011	0.23	5.44	0.22	877201	20.38
4	2012	0.17	5.23	0.20	883710	18.87
4	2013	0.18	5.44	0.36	889894	18.71
4	2014	0.17	5.31	0.35	896038	17.77
4	2015	0.21	5.47	0.15	901826	18.37
4	2016	0.20	5.41	0.14	907410	17.46
4	2017	0.22	5.42	0.17	912917	17.21
5	2010	0.33	5.25	0.36	1161920	22.70
5	2011	0.22	6.15	0.20	1166989	24.06

5	2012	0.17	4.88	0.21	1171998	22.40
5	2013	0.16	4.57	0.45	1176622	21.32
5	2014	0.14	5.79	0.32	1180894	20.50
5	2015	0.18	6.28	0.15	1184882	20.44
5	2016	0.20	4.97	0.13	1188603	19.86
5	2017	0.25	4.89	0.14	1192007	19.60
6	2010	0.15	5.25	0.33	696607	16.61
6	2011	0.23	5.64	0.12	699682	17.51
6	2012	0.14	4.59	0.17	702678	16.32
6	2013	0.22	4.94	0.30	705527	15.44
6	2014	0.22	4.48	0.37	708006	14.41
6	2015	0.17	5.33	0.16	710386	14.27
6	2016	0.15	5.12	0.13	712686	13.91
6	2017	0.17	5.14	0.19	714574	13.81
7	2010	0.17	5.20	0.25	756182	23.15
7	2011	0.23	5.37	0.13	760828	24.21
7	2012	0.22	4.70	0.18	765113	22.50
7	2013	0.27	4.00	0.39	769396	22.08
7	2014	0.23	4.78	0.36	773391	21.42
7	2015	0.20	4.67	0.13	777122	21.45
7	2016	0.19	5.13	0.15	780793	20.53
7	2017	0.18	3.16	0.14	784207	20.32
8	2010	0.15	5.80	0.35	1183996	14.14
8	2011	0.31	6.68	0.13	1196895	15.18
8	2012	0.19	4.88	0.12	1209486	13.97
8	2013	0.26	5.91	0.36	1221673	13.96
8	2014	0.32	5.38	0.35	1233701	12.98
8	2015	0.22	5.18	0.17	1245496	13.07
8	2016	0.10	5.37	0.14	1257123	12.67
8	2017	0.11	5.06	0.16	1268396	12.42
9	2010	0.19	5.30	0.32	932311	13.72
9	2011	0.26	6.34	0.15	939020	14.97
9	2012	0.20	5.33	0.16	945511	13.88
9	2013	0.24	5.83	0.35	951809	13.27
9	2014	0.23	5.42	0.32	957913	12.36
9	2015	0.09	5.96	0.12	963690	12.45
9	2016	0.15	5.30	0.13	969325	12.09
9	2017	0.17	5.52	0.13	974579	11.96
10	2010	0.20	5.50	0.35	1131971	17.47
10	2011	0.34	6.29	0.09	1137973	17.95

10	2012	0.17	5.71	0.17	1143676	16.71
10	2013	0.23	5.96	0.36	1149002	15.60
10	2014	0.22	5.84	0.34	1154028	14.56
10	2015	0.12	5.30	0.12	1158795	14.89
10	2016	0.15	5.14	0.10	1163218	14.46
10	2017	0.19	5.07	0.13	1167401	14.15

Regression Result PLS

Source	SS	df	MS	Number of obs	=	80
Model	.10587315	4	.026468287	F(4, 75)	=	8.07
Residual	.246102321	75	.003281364	Prob > F	=	0.0000
Total	.35197547	79	.004455386	R-squared	=	0.3008
				Adj R-squared	=	0.2635
				Root MSE	=	.05728

Pengangguranterbuka	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
PertumbuhanEkonomi	-.0078429	.0070955	-1.11	0.273	-.0219779 .0062921
Inflasi	.0565127	.0662212	0.85	0.396	-.0754066 .1884321
JumlahPopulasi	1.08e-07	2.07e-08	5.23	0.000	6.71e-08 1.50e-07
kemiskinan	.003788	.0019564	1.94	0.057	-.0001092 .0076853
_cons	.0610812	.0607054	1.01	0.318	-.0598501 .1820125

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. xtreg Pengangguranterbuka PertumbuhanEkonomi Inflasi JumlahPopulasi kemiskinan, fe
Fixed-effects (within) regression      Number of obs   =          80
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Regression Result (Fixed Effect)

Fixed-effects (within) regression
 Group variable: individu

Number of obs = 80
 Number of groups = 10

R-sq:
 within = 0.1987
 between = 0.6616
 overall = 0.2092

Obs per group:
 min = 8
 avg = 8.0
 max = 8

corr(u_i, Xb) = -0.9791

F(4,66) = 4.09
 Prob > F = 0.0050

Pengangguranterb~a	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
PertumbuhanEkonomi	.0164017	.0097873	1.68	0.099	-.0031391	.0359426
Inflasi	.0408503	.0639783	0.64	0.525	-.0868865	.1685871
JumlahPopulasi	-4.39e-07	5.37e-07	-0.82	0.416	-1.51e-06	6.33e-07
kemiskinan	.0074256	.0075369	0.99	0.328	-.0076222	.0224735
_cons	.480125	.7072222	0.68	0.500	-.9318897	1.89214
sigma_u	.19228482					
sigma_e	.05048953					
rho	.93550046	(fraction of variance due to u_i)				

F test that all u_i=0: F(9, 66) = 3.39 Prob > F = 0.0018

Regression Result (Random Effect)

Random-effects GLS regression
 Group variable: individu

Number of obs = 80
 Number of groups = 10

R-sq:
 within = 0.0054
 between = 0.7501
 overall = 0.3008

Obs per group:
 min = 8
 avg = 8.0
 max = 8

corr(u_i, X) = 0 (assumed)

Wald chi2(4) = 32.26
 Prob > chi2 = 0.0000

Pengangguranterb~a	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
PertumbuhanEkonomi	-.0078429	.0070955	-1.11	0.269	-.0217499	.006064
Inflasi	.0565127	.0662212	0.85	0.393	-.0732784	.1863039
JumlahPopulasi	1.08e-07	2.07e-08	5.23	0.000	6.77e-08	1.49e-07
kemiskinan	.003788	.0019564	1.94	0.053	-.0000464	.0076225
_cons	.0610812	.0607054	1.01	0.314	-.0578991	.1800615
sigma_u	0					
sigma_e	.05048953					
rho	0	(fraction of variance due to u_i)				

Hausman Test

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
Pertumbuha~i	.0164017	-.0078429	.0242447	.0067412
Inflasi	.0408503	.0565127	-.0156624	.
JumlahPopu~i	-4.39e-07	1.08e-07	-5.48e-07	5.36e-07
kemiskinan	.0074256	.003788	.0036376	.0072785

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 7.05
 Prob>chi2 = 0.0702
 (V_b-V_B is not positive definite)

Lagrange Multiplier Test

Estimated results:

	Var	sd = sqrt(Var)
Pengang~a	.0044554	.0667487
e	.0025492	.0504895
u	0	0

Test: Var(u) = 0

chibar2(01) = 0.00
 Prob > chibar2 = 1.0000

Normalitas Test

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint	
				adj chi2(2)	Prob>chi2
residual	80	0.0353	0.0847	6.80	0.0334

Multikolinierity Test

. vif

Variable	VIF	1/VIF
kemiskinan	1.06	0.946886
Inflasi	1.05	0.950485
Pertumbuha~i	1.05	0.951755
JumlahPopu~i	1.05	0.955065
Mean VIF	1.05	

Heterokedastisitas Test

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

H0: Constant variance

Variables: fitted values of Pengangguranterbuka

chi2(1) = 7.64

Prob > chi2 = 0.0057

Regression Robust PLS

Linear regression		Number of obs = 80				
		F(4, 75) = 6.74				
		Prob > F = 0.0001				
		R-squared = 0.3008				
		Root MSE = .05728				
Pengangguranterb~a	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
PertumbuhanEkonomi	-.0078429	.0062665	-1.25	0.215	-.0203264	.0046405
Inflasi	.0565127	.0617281	0.92	0.363	-.0664559	.1794814
JumlahPopulasi	1.08e-07	2.18e-08	4.97	0.000	6.49e-08	1.52e-07
kemiskinan	.003788	.0018203	2.08	0.041	.0001618	.0074143
_cons	.0610812	.0468718	1.30	0.197	-.0322922	.1544546

