Policy Paper

Does the Pandemic Affect Unemployment Rate in East Java? (A Study of Pre and Post COVID-19 Pandemic in 2016 to 2021)

Mochamad Kevin Romadhona

Faculty of Social and Political Science, Universitas Airlangga, Surabaya, Indonesia

mochamad.kevin.romadhona-2020@alumni.unair.ac.id

ABSTRACT

This paper aimed to identify the problems caused by labor policy in the 2016 – 2020 period in the province of East Java. This study can be a response to the employment problems being experienced by the people of East Java before and after the COVID-19 pandemic in Indonesia. Thus, it is necessary to conduct further studies to provide relevant recommendations regarding appropriate labor policies. The method used in this research was the descriptive method and analytical techniques using the unemployment rate, fully employed, and underemployed formulas. The results showed that the unemployment rate in East Java in the 2019-2020 period increased significantly by 1.92%. Meanwhile, the population working full-time decreased by 3.81%, whereas the population working part-time grew by 1.9%2. This can be due to the unavailability of sufficient employment opportunities for the working-age population in East Java as well as the government policies such as large-scale social restrictions, work from home, and termination of employment relationships by many companies.

Keywords: Labor Policy; Unemployment Rate; Fully Employed; Under Employed; Labor Matters

1. Introduction

In 2022, the unemployment rate in Indonesia as of February 2022 was 5.83%, which was lower by 0.43% than that of 2021 (Badan Pusat Statistik [BPS], 2022). In detail, 11.53 million people (5, 53%) of the working-age population were affected by COVID-19. A recent decline in the unemployment rate is certainly a tremendous success for the government and the wider community. Various policies have been made by the government to tackle and suppress the unemployment rate caused by the COVID-19 pandemic. One form of mitigation is the availability of labour market information with the support of the "karirhub" labour market information service that is integrated with the employment information system (Sisnaker) (Binalovotas, 2020). Meanwhile, based on the data published by the Office of Manpower and Transmigration of the East Java Province in 2021, there are at least 50,000 thousands of unemployed people in East Java (Dinas Komunikasi dan Informatika Jawa Timur, 2021).

The COVID-19 pandemic has significantly impacted various sectors, one of which is the industrial sector and the job market (Ruspendi, 2021).

In East Java, the proportion of unemployment in the last three years has fluctuated. In 2019, it was reported to reach 3.82%, which rose to 5.84% in 2021 (BPS Jawa Timur, 2021). According to Herniwati and Handayani (2019), unemployment is one of the most complex problems. As stated in Law No. 13 of 2003 which regulates employment, manpower is anything related to the workforce before, during, and after the work period ([Undang-undang Republik Indonesia tentang ketenagakerjaan], 2003). The unemployed refers to the group of people who do not work but are looking for job opportunities, preparing a new business, or having been accepted for work but have not started yet (Nasrullah, 2015). Unemployment is a macroeconomic problem that affects humans directly and is the most severe (Mankiw, 1997/2003).

The unemployment problem is caused by several factors, one of which is the wage level, which plays a very large role in labor conditions (Sholeh, 2007). It affects the demand and supply of labor (Nanga, 2005). A wage system is a policy and strategy to determine the compensation received by workers as remuneration or the result of their hard work (Mujanah, 2019). For workers, the problem of the wage system is a serious problem because it involves job sustainability and workers' welfare (Trimaya, 2014). Meanwhile, for companies, the wage issue is important because it can reach 80% (Jumena & Ikhsanti, 2015). An overly high wage will result in the cost of goods being too expensive to compete effectively in the market (Rahmawati, 2016). Meanwhile, according to the National Research Council, a wage is defined as a reward from an employer for work performed by the employees; it serves as a warranty for the continuity of a decent life and production (Zainal, 2006).

According to the data published by the Central Statistics Agency for East Java (BPS Jawa Timur, 2022), the number of unemployed people in the East Java Province in February 2022 was 23.04 million people, which was higher compared to the numbers in February 2021 and 2020, namely 22.97 and 23.1 million people, respectively. The open unemployment rate (TPT) in February 2022 reached 4.81%, while the underemployment rate fell by 0.64. Meanwhile, part-time workers increased by 0.41%. There were 1.64 million people (5.04% of the working-age population) affected by the pandemic; 116.65 thousand of them were unemployed (BPS Jawa Timur, 2022).

The data published by the Indonesian National Development Planning Agency (Bappenas RI) showed that the unemployment rate in East Java for the last five years has fluctuated. In 2018, it was 3.91%, which decreased to 3.83% in 2019. Then, it rose significantly to 5.84% in 2020 and fell to 5.74% and 4.81 in 2021 and 2022, respectively (Kementerian Perencanaan Pembangunan Nasional/ Badan Perencanaan Pembangunan Nasional, 2022). The open unemployment rate (TPT) in East Java reached 1.11 million people (Hakim, 2022).

East Java is one of the provinces with the highest population in Indonesia and the second highest number of unemployed in Indonesia. It is also one of the provinces with workers coming from various regions of Indonesia and industrial areas spread across multiple regions.

Table 1: Industrial Areas in East Java

No.	Industrial Areas	Locations
1.	Tuban Industrial Area (KIT)	Tuban
2.	Ngoro Industrial Park (NIP)	Mojokerto

No.	Industrial Areas	Locations
3.	Sidoarjo Rangkah Industrial Estate (SiRiE)	Sidoarjo
4.	Safe n Lock	Sidoarjo
5.	Gresik Industrial Area (KIG)	Gresik
6.	Java Integrated Industrial and Ports Estate (JIPE)	Gresik
7.	Maspion Industrial Area	Gresik
8.	Pasuruan Industrial Estate Rembang (PIER)	Pasuruan
9.	Surabaya Industrial Estate Rungkut (SIER-Berbek)	Surabaya
10.	Surabaya Industrial Estate Rungkut (SIER-Rungkut)	Surabaya

Source: Siki.jatimprov.go.id/RisetJatimnet.com

Table 1 shows that East Java has ten industrial zones. However, these seem insufficient to tackle the unemployment issue in the province. Thus, this research is required to provide some alternatives and policy recommendations for the issue.

2.   Methodology

This study used a descriptive method and a problem-solving procedure related to the research objects based on factual information. The purpose of descriptive research is to make a systematic, factual, and accurate description or illustration of the facts about the phenomena being investigated (Nazir, 1988). Another source explained that the descriptive method is used to describe or analyze a certain phenomenon to find research results (Sugiyono, 2005). This type of method is fact-finding with a correct interpretation. In other words, it is research that attempts to describe signs or an event that is happening in the present time (Whitney, 1960).

2.1   Theoretical Framework

Unemployment Theory

Unemployment is a condition in which a person in the labor force wants to get a job.
Sukirno (2000) classified unemployment into four groups:
1. **Open unemployment**
    This type of unemployment is common because the number of labours exceeds the number of vacancies. As a result, many people remain employed for a long time. Open unemployment can also be a result of declining economic activities due to technological advances that reduce human labour at work.
2. **Disguised Unemployment**
    Disguised unemployment occurs when a small company has too many workers, thus resulting in inefficiency. Excess labor is also known as hidden unemployment.
3. **Underemployment**
    Underemployment is a condition where labourers work less than 35 hours a week. They may only work one to two days a week or one to four hours a day.
4. **Seasonal Unemployment**
    This type of unemployment is tied to a particular season. For example, farmers generally are not very active between planting and harvesting periods.

3.   Results and Discussion

3.1   Unemployment Categories

There are three categories of unemployment as follows:
1. **Disguised Unemployment**
    Employees do not work optimally for a certain reason. In addition, disguised unemployment is people who are forced to work in a job that is not in their area of expertise because of the economic domain (Hussmanns, 2018);

2. **Underemployment**

   Employees who do not work optimally because there are no job opportunities. Usually these underemployment workers work less than 35 hours per week, wages, and productivity (Abomaye-nimenibo & Samuel, 2021);

3. **Open Unemployment**

   Open unemployment is a situation where people are not working or are still looking for work. Unemployment is caused by the unavailability of sufficient job opportunities and the abilities and skills of job applicants that are not in accordance with the qualifications and needs of the company.

3.2   Unemployment Rates in Java Island (2016—2021)
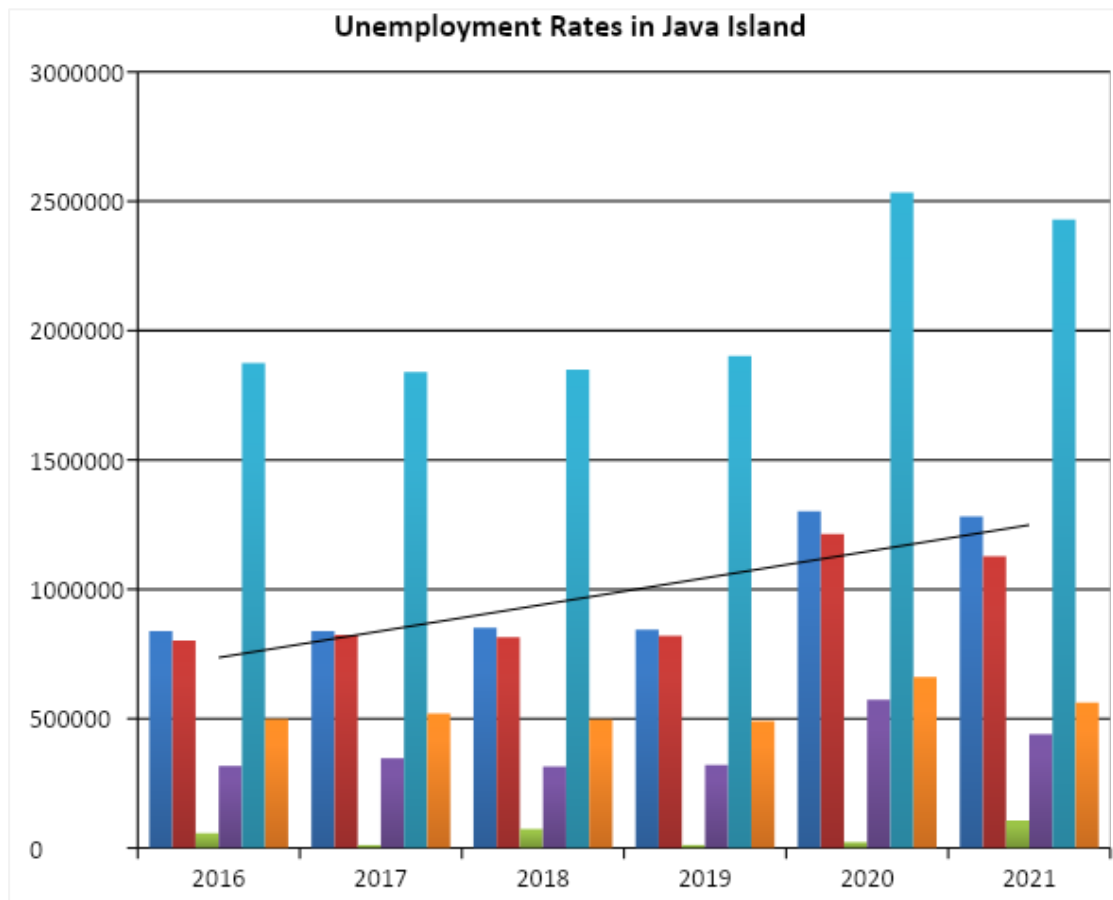

Figure 1. Diagram of the Unemployment Rate in Each Province of Java Island in the Period of 201-2021

As shown in Figure 1, East Java has the second highest unemployment rate after West Java Province. Every year, this rate fluctuates. In 2016, the number of unemployed people was 839,284 which decreased to 838,496 in 2017. In the following year, it increased by 11,978 people, making the total number 850,474 people. In 2019, it declined to 6,720 people. In the 2016 – 2019 period, there was a fluctuation. There was also a spike in 2020 by 452,391, with the total unemployment rate being 1,301,145 people. This suggests that the COVID-19 pandemic contributed significantly to the unemployment problem in East Java. In the next year, the number decreased by19,750 people, making the total unemployment rate in East Java 1,281,395 people.

3.3   Total Unemployment Rate of Each Province in Java Island (2016 - 2021)
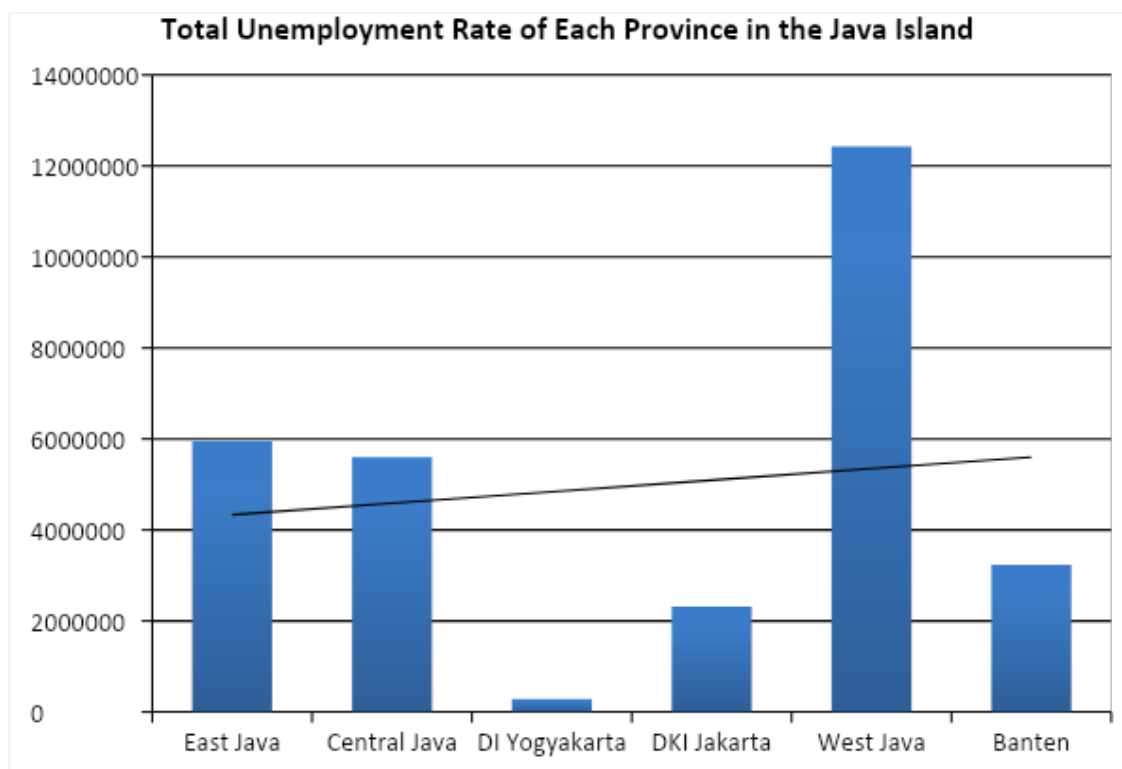

Figure 2. Diagram of Total Unemployment Rate of Each Province in Java Island in the Period of 2016 – 2021

Figure 2 shows the total number of unemployed people in the 2016-202 period in various provinces of Java Island. The province with the highest number of unemployed people was West Java (12,426,244 people), followed by East Java (5,954,548 people), Central Java (5,601,535 people), Banten (3,229,070 people), DKI Jakarta Province (2,312,373 people), and DI Yogyakarta Province (282,558 people). These data indicate that East Java had employment problems after the COVID-19 pandemic.

3.4   Fully Unemployed

East Java is one of the provinces in Indonesia with the largest population. In 2021, it had 40,878,789 people (BPS Jawa Timur, 2020) with the workforce being 22,180,000 people. When compared to 2021, the number of labor force in 2020 was lower by 86,340. The proportion of the working population recorded in 2021 was 21,030,000, while the number of jobless people was 1,146,706, with a labor force participation rate of 69.75% (Ryo, 2022).

Table 2: Job Seekers, Labor Force, and Unemployment Rates in the East Java Province (2016 – 2021)

Year	Number of Job Seekers	Number of Labor Force	Unemployment Rate (%)	⇓⇑
2016	646.414	11.920.804	5.42	
				1.42
2017	838.496	20.937.716	4.00	
				0.01

Year	Number of Job Seekers	Number of Labor Force	Unemployment Rate (%)	↓↑
2018	850.474	21.300.423	3.99	
				0.07
2019	843.754	21.499.386	3.92	
				1.92
2020	1.301.145	22.264.112	5.84	
				0.1
2021	1.281.395	22.319.145	5.74	

Sources: The calculation used the unemployment formula and statistical report central agency

Based on the mathematical calculations of the unemployment rate per year presented in Table 1, the unemployment rates in East Java in the last six years (2016 – 2021) fluctuated. In 2016, the rate was significantly higher (5.42%), which declined to 4% in 2017. This decline seems to be due to an increase in employment in East Java. In 2018, it declined again by 0.01%. Even though it was small, it indicates progress as the unemployment rate had reduced in the province that year. In the following year, there was also a decrease of 0.07%, with the total percentage being 3.92%, indicating East Java the labor population increased. However, in 2020 the unemployment rate rose dramatically by 1.92%, implying that the number of the labor force exceeded the number of available jobs, with layoffs being present. Then, in 2021, the percentage of the unemployed population decreased by 0.1%, with a total percentage of 5.7%4. This small decrease positively impacted employment absorption in East Java Province and the availability of job opportunities. The demand in the labor market also increased the absorption of labor in East Java. An explanation of the dynamics of the unemployment rate in East Java before and after the COVID-19 pandemic is shown in Figure 3 below.
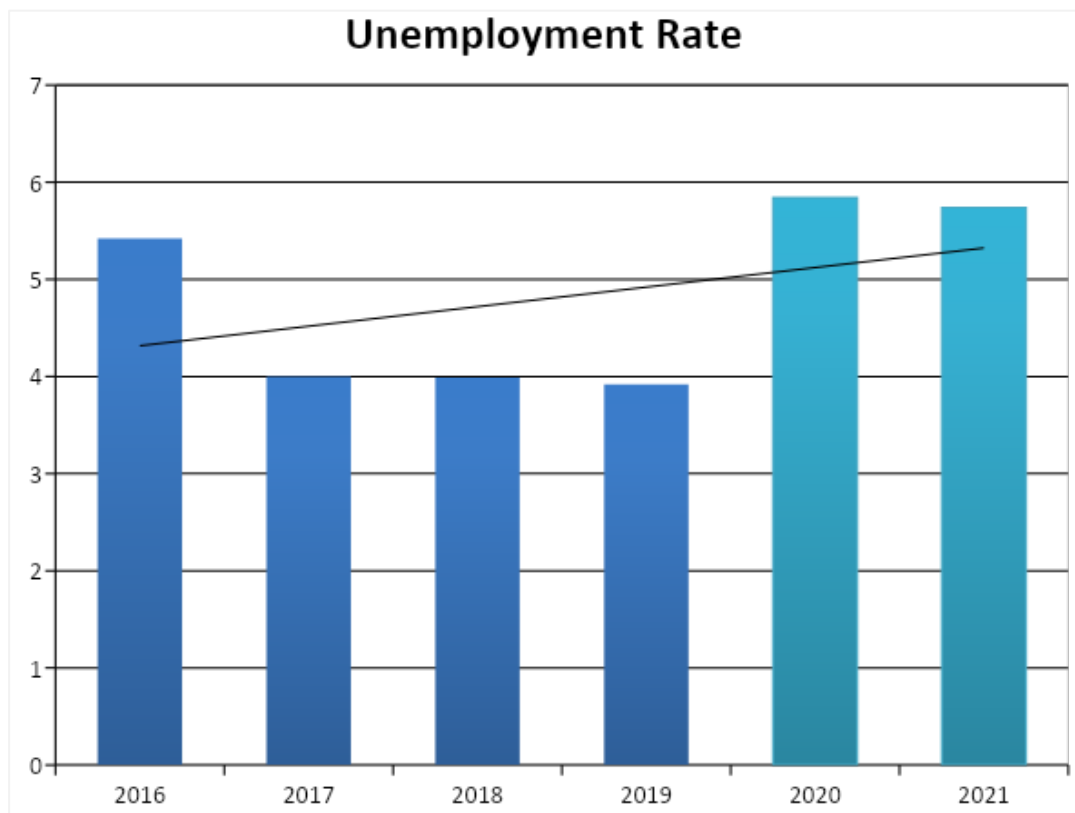

Figure 3. Diagram of the Unemployment Rate in East Java in the Period of 2016 - 2021

- The unemployment rate in East Java from 2016 to 2019 prior to the COVID-19 pandemic showed a positive direction, namely a steady decrease in the unemployment rate. This proves that prior to the pandemic, the workforce and employment opportunities were available for job seekers in East Java. There were employment opportunities in various sectors, absorption of labor, and reduced unemployment. Meanwhile, during the pandemic, the rate tended to increase, implying that the pandemic led to the emergence of employment problems in the province due to large-scale social restrictions (PSBB), which reduced the interaction intensity of the community. In the industrial sector, many companies terminated their employment relationships with their employees because of the deficits they experienced. The available job opportunities were limited, but the number of workers increased.

3.5   Fully Employed

Table 3. Fully Employed Rates

Year	Total of Employed People	Total of Unemployed People	Labor Force	Fully Employed Rates (%)	↓↑
2016	19.114.563	839.283	19.953.846	91.58	
					0.41
2017	20.099.220	838.496	20.937.716	91.99	
					0.02
2018	20.449.949	850.474	21.300.423	92.01	
					0.14
2019	20.655.632	843.754	21.499.386	92.15	
					3.84
2020	20.962.967	1.301.145	22.264.112	88.31	
					0.2
2021	21.037.750	1.281.395	22.319.145	88.51	

Sources: calculation with unemployment formula and central agency statistics report.

Table 2 above shows the rate of fully employed people in 2016 was 91.58. it means that the population working full-time in East Java was very high that year. Then, in 2017, the rate increased to 91.99%, indicating that the working population was increasing and the available job opportunities met the needs of job seekers, thus having a significant impact on the increase of fully-working people. In 2018, there was an increase of 0.02%, with the total percentage of the fully-working being 92.01%, meaning that the employment opportunities were balanced with the increase in the workforce in East Java. In 2019, the rate increased by 0.14%, with a total percentage of 92.15%, showing that the available job opportunities can meet the needs of the labor market in this province, and the absorption of labor was optimal. However, in 2020 the percentage decreased by 3.84%, with a total percentage of 88.31%, seemingly due to the decrease in employment opportunities and an increase in the number of jobless people. Then, in 2021 the percentage of the fully-working population rose by 0.2%, with a total percentage being 88.51%. This suggests that the availability of job opportunities and labour absorption in East Java started to recover. The dynamic rate of the fully-employed population can be seen in Figure 4 below.
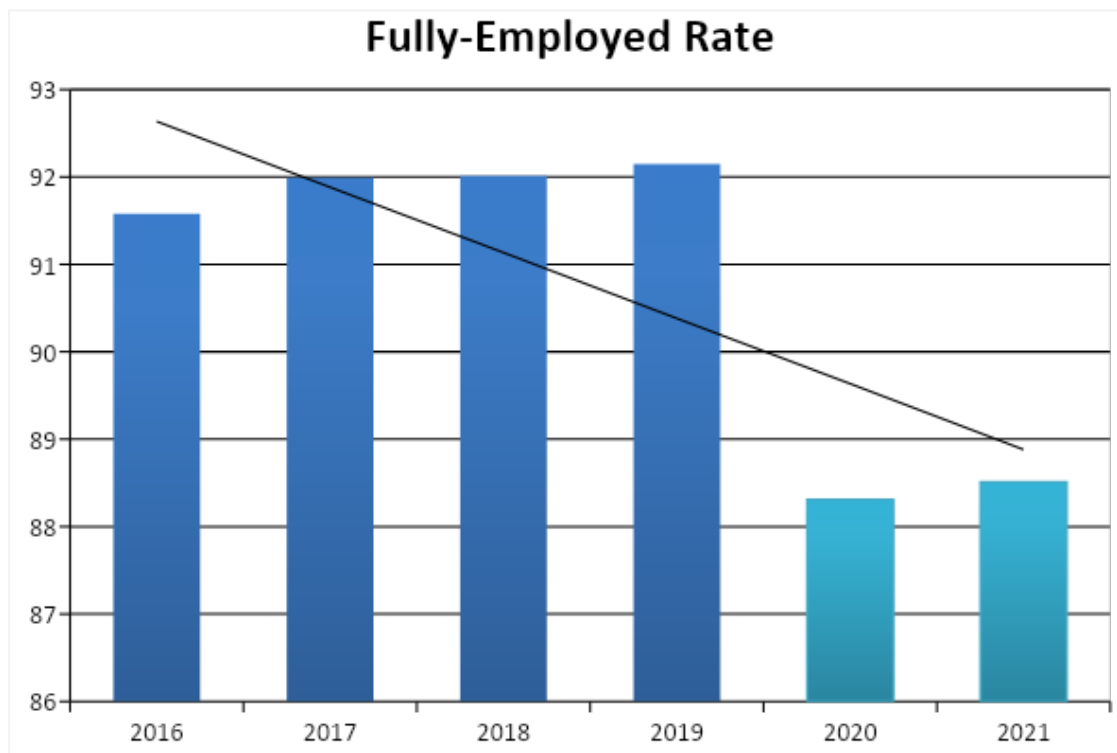
Figure 4. Diagram of Fully Employed Rate Pre-COVID-19 and Post-Covid-19 Pandemic in the Period of 2016 – 2021 in East Java

The rate of the fully-working population in the 2016 – 2019 period or before the COVID-19 pandemic tended to increase, which had a significant positive impact because workers were absorbed optimally. There were also sufficient job opportunities to meet the needs of the population who were looking for work. Meanwhile, the dynamic population rate which worked fully in the 2020-2021 period or after the COVID-19 pandemic tended to fluctuate because, in 2020, the rate of the fully employed population experienced a highly significant decrease, indicating that there was less amount of workforce absorption in the East Java, which may be due to employment relationship termination as a result of the COVID-19 pandemic. Meanwhile, in 2021, the percentage of the population fully employed increased significantly by 0.2%, with a total percentage of 88.51, meaning that the absorption of labor and employment has increased significantly.

3.6   Disguised Unemployed

Unemployment can be defined as workers with total working hours of less than 34 hours a week (Marini & Putri, 2020). Workers with relatively low working hours generally have low positions and wages that are directly proportional to their positions. This causes the population's work productivity to be low (Ukkas, 2017). The formula for determining Underemployed is as follows:

Table 4. Disguised Unemployment Rate

Year	Total of Unemployed People	Labor Force	Disguised Unemployed Rate (%)	↓↑
2016	839.283	19.953.846	4.20	
				0.2
2017	838.496	20.937.716	4.00	
				0.01

Year	Total of Unemployed People	Labor Force	Disguised Unemployed Rate (%)	↓↑
2018	850.474	21.300.423	3.99	
				0.07
2019	843.754	21.499.386	3.92	
				1.92
2020	1.301.145	22.264.112	5.84	
				0.1
2021	1.281.395	22.319.145	5.74	

Sources: calculation with unemployment formula and statistical report center

Table 3 shows that the percentage of disguised unemployed in East Java in 2016 was 4.20%. This means that the labor working less than 34 hours per week was quite high. In the next year, the rate decreased by 0.2%, with a total percentage of 4.00%, suggesting that the number of workers operating less than 34 hours was low. In 2018, the percentage of under-employed also decreased by 0.01%, with a total percentage of 3.99%. These show that the occurrence of unemployment or workers working less than 34 hours a week had decreased. In 2019, the percentage of under-employed decreased by 0.07%, with a total percentage of 3.92%. This shows that the rate of the fully-employed population had decreased. In 2021, the percentage of under-employed in East Java experienced a significant increase of 1.92%, with a total percentage of 5.84%. This proves that there is an increase in the population working less than 34 hours a week. In 2021, the percentage of under-employed decreased by 0.1%, with a total percentage of 5.74%, indicating that the population working less than 34 hours had decreased, and the availability of full-time employment significantly impacted reducing the under-employed population. The dynamic rate of the under-employed and its explanation pre-COVID-19 and post-COVID-19 pandemics can be seen in the following diagram.
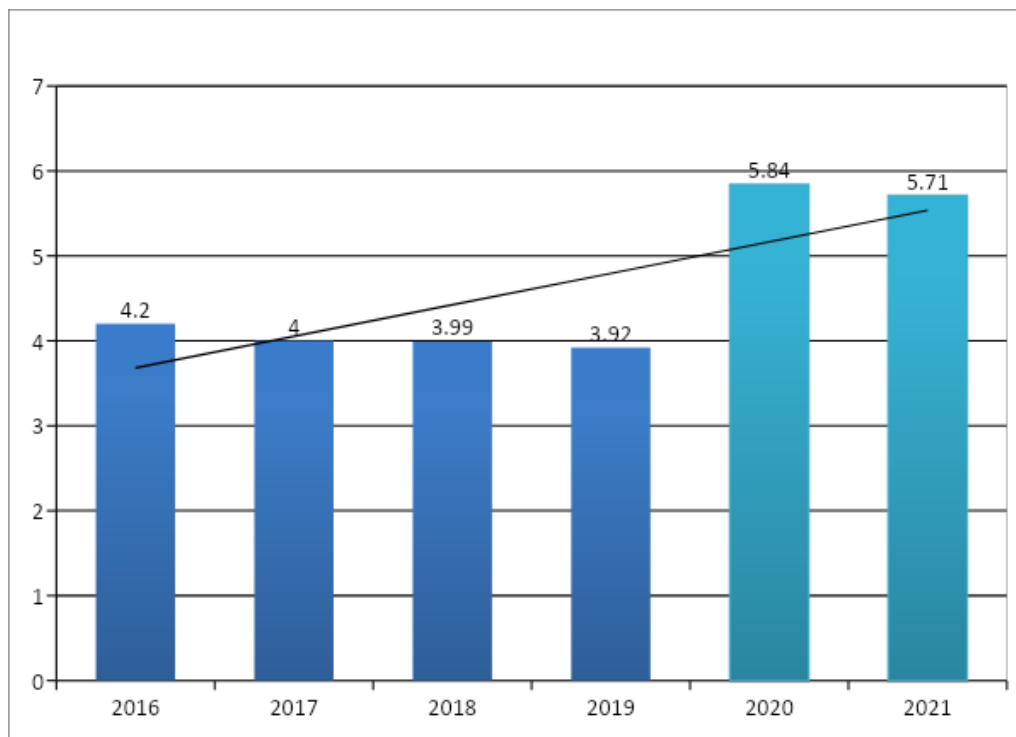

Figure 5. Diagram of Underemployment Rate during Pre-Covid-19 and Post-Covid-19 Pandemic in East Java in the Period of 2016 - 2021

The rate of disguised unemployment in East Java during the 2016 – 2019 period had been steady and tended to comply with a small decrease. This proves that in the pre-COVID-19 pandemic, the population working less than 34 hours or being partially unemployed was low because many companies set a full-time work system. However, the rate of under-employment in East Java for the 2020-2021 period experienced a gradual increase, showing that after the pandemic, many companies reduced the working hours and work intensity in the office by applying the working-from-home policy, or even temporarily laying off the employees.

3.7   Under Unemployment

Underemployed workers are those who work under normal working hours (less than 35 hours a week) and are still looking for job opportunities or are still willing to accept work (formerly called forced underemployment). The formula for determining Under Unemployment is as follows:

$$Under\ Unemployment\ (year) = \frac{PBJK < 35\ Hours}{PB}\ x\ 100\% =$$
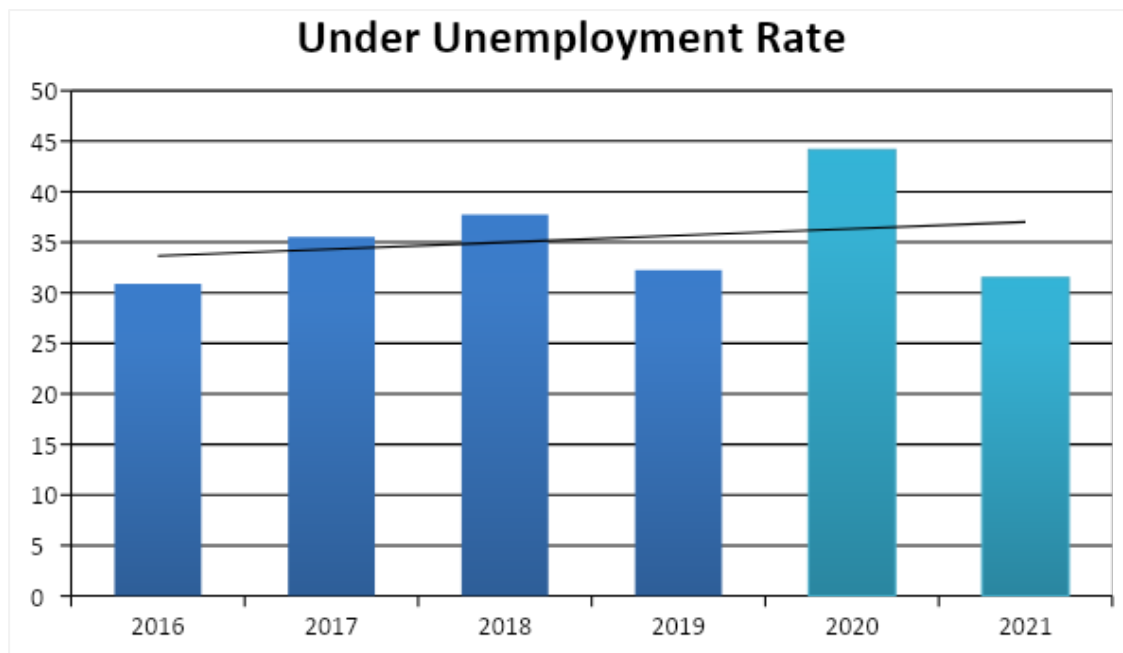

Figure 6. Diagram of the Unemployment Rate in East Java in the Period of 2016 - 2021

Conclusions

The government has made certain policies to tackle the impacts of the COVID-19 pandemic. Support from governmental institutions and non-governmental institutions can also contribute to tackling the impacts of the COVID-19 pandemic in various sectors. Prior to the COVID-19 pandemic, the available job opportunities met the needs of job seekers in the East Java Province. There were employment opportunities in various sectors, good labour absorption, and a low unemployment rate. During the pandemic, in the industrial sector, many companies terminated their employment relationships with their employees because of a deficit they encountered. The available job opportunities became limited, but the number of unemployed people increased.

Meanwhile, the percentage of the fully-employed population in the 2020-2021 period or after the COVID-19 pandemic tended to fluctuate because, in 2020, the percentage of the population fully employed experienced a highly significant decrease. This had a significant impact on the amount of labor absorption. The decrease in the proportion can also be interpreted as an increase in the population who did not work because of the employment relationship termination by many companies as a result of the COVID-19 pandemic.

Meanwhile, the rate of under-employment in the East Java Province for the 2020-2021 period experienced a dramatic increase, which shows that after the pandemic, many companies reduced the working hours and work intensity in the office by applying the work-from-home policy or even temporarily laying off their employees. This contributed to an increase in the rate of the under-employed population.

Recommendations

Policy recommendations that can be implemented by the government to solve the unemployment problems in East Java are as follows: (1). Creating Jobs, Unemployment is caused by an imbalance between the number of available job opportunities and labor. Therefore, the government can provide employment opportunities-based labour-intensive jobs as many as possible. Labour-intensive industries can also accommodate the creativity of the community. In addition to labour-intensive industries, the government can also seek capital-intensive industries by facilitating industrial development permits, and stabilizing domestic political conditions so that investment can run smoothly in Indonesia. (2). Improving the Quality of Manpower, One of the factors behind the high unemployment rate in Indonesia is the labour's poor skill or work performance. Therefore, it is highly necessary for an unemployed person to improve the quality of his work performance so that the unemployment rate will decrease. To improve work performance quality, training can be provided for professional development in addition to apprenticeship training in the workplace and holding a certification of skills that can support workers to get a job. (3). Development of the Informal Sector, The government can also improve the businesses in the informal sector. The informal sector saved Indonesia from the 1998 monetary crisis because bank interest rates did not bind the informal sector. Thus, the government can facilitate the informal sector by providing business areas for workers with low rent, easing access to obtain operating permission, and many others. This can solve unemployment problems because a high level of education is not compulsory to be able to work in this sector. The rapid population growth has made several companies in the formal sector experience problems in providing job opportunities. (4). Entrepreneurial Power, to increase the number of entrepreneurs, it is necessary to provide counselling, training, and capital or loans to raise people's enthusiasm to start a business. The presence of entrepreneurs can save the country's economy and help overcome unemployment control. The government needs supervision so these entrepreneurs can continue running their businesses properly.

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