

Increasing Risk Of Poverty In Central Java Due To The Covid-19 Pandemic

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ABSTRACT

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The COVID-19 pandemic is a multidimensional crisis that started from a health crisis that eventually caused a global crisis to a global recession. Various efforts have been made by the government to prevent the spread of the Covid-19 virus, including by limiting community activities, which have an effect on decreasing people's income. The purpose of this study is to the factors that influence the increase in the number of poor people in 35 districts/cities in Central Java due to the Covid-19 pandemic in 2020, using multiple regression analysis. The results showed that the variables depicting the number of covid cases, life expectancy, economic growth, and hotel room occupancy rate significantly affected the number of poor people. While partially the four variables simultaneously also significantly affect the number of poor people.

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Introduction

The SARS-CoV-2 virus or commonly known as the corona virus is the cause of the outbreak of the COVID-19 disease. Symptoms are mild to moderate, and will recover without special treatment experienced by most of those who contract the Covid-19 virus. However, there are also those who are seriously ill and require medical assistance. Activities when coughing, sneezing, talking, singing, or breathing can cause the virus to spread through tiny fluid particles from the mouth or nose of an infected person. Larger droplets from the respiratory tract to smaller aerosols are manifestations of these particles. Being near people who are already infected with COVID-19 while breathing air that contains the virus can lead to contracting this disease. Touching your eyes, nose, or mouth after touching a contaminated surface can cause you to become infected. Conditions indoors and in crowded places are media that make it easy for the virus to spread (The World Bank, 2006).

Covid-19 patients in Central Java, based on data from the Ministry of Health, increased

by 2.036 people, and took first place. The second position was occupied by DKI Jakarta which experienced an addition of 1.431 people. The total number of COVID-19 cases in Central Java on Sunday, November 29, 2020, based on data on the covid19.go.id website was 52.961 cases. From the same data source, the total number of recovered Covid-19 patients in Central Java was 43.383 people, while the number of patients who died was 3.690 people. The city of Semarang with 8.733 cases ranks first for the distribution of Covid-19 cases in 35 cities/districts in Central Java (Ministry of Health, 2022).

Table 1. Reported Coronavirus Cases in Central Java by Regency/City, 2020

Regency/City	Total Cases	Healed	Die
Semarang City	8.733	7.258	829
Kendal	2.611	1.930	106
Kudus	2.564	2.050	283
Jepara	2.524	2.069	165
Magelang	2.388	1.866	67
Kebumen	2.366	1.684	39
Demak	2.322	1.770	307
Wonosobo	2.110	1.666	108
Boyolali	1.652	1.383	47
Semarang	1.629	1.322	93
Sukoharjo	1.604	1.288	75
Temanggung	1.477	1.028	48
Tegal	1.406	1.092	115
Banyumas	1.371	791	48
Pemalang	1.364	1.016	96
Cilacap	1.355	1.127	33
Seragen	1.320	963	61
Surakarta City	1.251	907	81
Klaten	1.227	1.055	42
Blora	1.175	1.046	52
Karanganyar	1.161	898	75
Batang	1.129	787	62
Pati	1.098	778	187
Purworejo	1.035	950	29
Rembang	997	832	85
Brebes	992	695	90
Pekalongan	896	672	38
Grobogan	777	595	107
Banjarnegara	721	507	50
Purbalingga	698	419	26
Tegal City	662	553	31
Pekalongan City	655	474	59
Wonogiri	654	551	29
Magelang City	584	423	38
Salatiga City	420	285	6
Central Java	54.928	42.730	3.607

Source : (Ministry of Health. 2022)

The corona virus epidemic spread throughout the world in early January 2020. This prompted researchers to conduct research on the issue and provide a number of suggestions or recommendations or policy implications to countries to prevent it from this

pandemic virus. Thienemann et al (2020) researched the causes and prevention of the Corona virus in low-income countries. The study concluded that the Covid-19 pandemic was influenced by, among other things, a high population density with an increasing incidence of poverty, and patients with HIV, TB, and other parasitic diseases. Effective health care policies and prevention strategies are needed to help minimize the incidence of coronavirus in slum areas with social distancing policies and sanitation policies defined throughout the country.

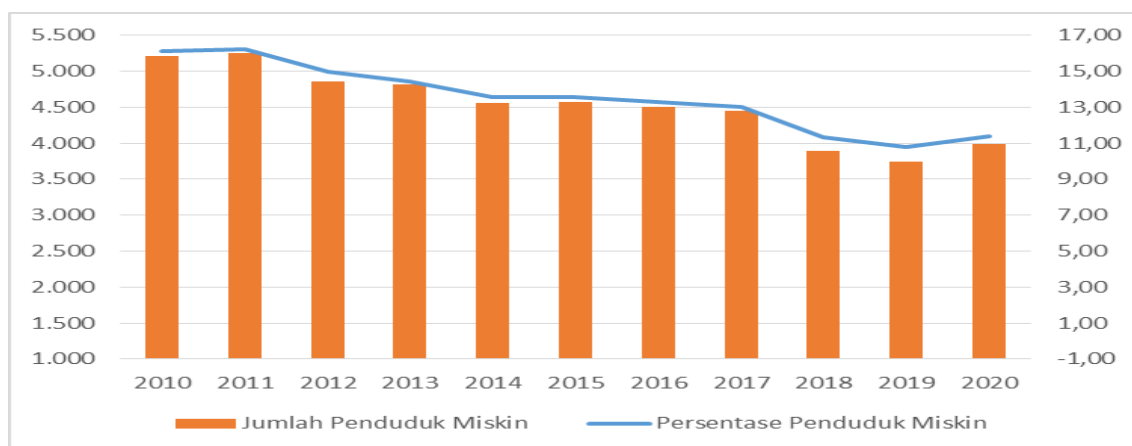
The results of the research by Khan et al (2020) concluded that both in developed and developing countries Covid-19 was very influential and resulted in death. The health care strategy to deal with COVID-19 that developed countries have is better than that of developing countries which have difficulty avoiding it, due to lack of access to basic facilities and the incidence of pneumonia cases which also cause high mortality rates even though treatment and vaccination are available. This causes in low-income countries, Covid-19 cases are more vulnerable.

Rollins (2020) conducted research on the impact of Covid-19 on children, the elderly, and the poor. The results of the study concluded that groups experiencing difficult times to survive in the face of the COVID-19 pandemic were low-income groups and poor people. Meanwhile, children are the group that tends to be unaffected, while parents play an important role in prevention efforts. Suryahadi et al (2020) in their research estimates the impact of COVID-19 on poverty by predicting the impact on the distribution of household income or expenditure. Based on the theory, borrowed from other contexts, or apply the historical pattern of the distribution is assumed. Several quite large shocks in Indonesia have led to an increase in poverty rates in the last decade. The first shock occurred in 1997–1998 due to the Asian financial crisis. Meanwhile, the second shock occurred in 2005–2006 due to a large increase in fuel prices, exacerbated by the increase in rice prices (The World Bank, 2006). Meanwhile, the COVID-19 pandemic in 2020 was the third shock that resulted in an increase in the number of poverty in Indonesia.

Research that reviews the impact of the covid-19 pandemic has also been carried out by several researchers. Study the impact of covid-19 on workers in Indonesia (Syahrial, 2020), education disparities in Indonesia (Santosa, 2020), population issues in Indonesia (Goma, 2021), poverty and social inequality in East Java during and after the COVID-19 pandemic (Rosyadi, 2021), Nurhayati & Pandin (2021) regarding poverty analysis during the pandemic, covid-19 in Indonesia from a historical perspective; poverty in Indonesia (Tarigan et al., 2020) and the grouping of districts/cities in Java Island based on Socio-Economic Conditions Before and After Entering the COVID-19 Pandemic (Hadist & Utomo,

2021).

Figure 1 shows that the number and percentage of poor people in Central Java trend to decrease during 2010-2020. The increase in the number and percentage of the poor occurred in 2011. 2015 and 2020. In 2015, the increase in the number and percentage of poor people was due to an increase in fuel prices which led to an increase in the price of basic necessities. Meanwhile, in 2020 the increase in the number and percentage of poor people was caused by the Covid-19 pandemic that hit Indonesia, which also affected Central Java.



Source : (BPS Central Java Province 2021b)

Figure 1. Total Population and Percentage of Poor Central Java. 2010-2020

Research conducted by Atkinson (2020) concluded that key financial and economic infrastructure would be shaken if 10 percent of the workforce were infected. The next conclusion is that part of efforts to suppress disease transmission is to limit activity. Physical distancing must be carried out up to 75 percent as an effort to control COVID-19. This causes a demand shock (Guerrieri, 2020), in their research concluded that initial supply shocks can cause larger demand shocks to occur in countries with incomplete markets and liquidity-constrained consumers. Eichenbaum et al (2021) compiled a model of the effects of unemployment hysteresis and supply-side chain breakdown over the long term. The study shows the occurrence of economic recession due to disease suppression policies to save lives. Millions of people fell into poverty due to the recession. The results of a quick simulation conducted by Sumner et al (2020) in 138 developing countries and 26 high-income countries concluded that the mildest impact of COVID-19 was an additional 85 million poor people. Previous research has concluded that infectious disease (COVID-19) can push millions of people into the poverty trap, especially in developing countries such as Indonesia. The purpose of this study is to estimate whether infectious disease (COVID-19) can increase the risk of poverty in Central Java, as part of a developing country, namely

Indonesia.

Method

The purpose of this study is to analyze the impact of infectious diseases in this case Covid-19 in increasing the risk of poverty in Central Java in 2020. In this study, the type of data used is quantitative data, which is data in the form of numbers and explained the results of calculations based on literature. The secondary data used in this study is data obtained from the publication of the Central Java Provincial Statistics Agency on the website jateng.bps.go.id and the distribution of Covid-19 from the website covid19.go.id. The data processed in this study include data on the number of positive confirmed cases of COVID-19, life expectancy, income inequality, GRDP per capita, and the amount of poverty. From the results of the data analysis carried out then conclusions are drawn.

In this research, the analytical method used is the multiple regression analysis methods using cross-section data from 35 districts/cities in Central Java. As independent variables to analyze the risk of poverty in Central Java in 2020 are the number of positive cases of COVID-19, life expectancy, hotel room occupancy rate and economic growth. From this, the model used is as follows:

$$POV = f(\text{COVID, AHH, PE, TPK})$$

While the multiple regression analysis model used is as follows:

$$POV_{it} = \beta_0 + \beta_1 \text{COVID}_i + \beta_2 \text{AHH}_i + \beta_3 \text{PE}_i + \beta_4 \text{TPK}_i + \varepsilon_i \quad (1)$$

Where POV denotes poverty (thousands of people); COVID is positive cases of COVID-19 (people); AHH is life expectancy (years); PE denotes economic growth (percent); TPK is hotel room occupancy rate (percent); ε : error component of the model; i: Cross-sectional Identity (35 Regencies/Cities in Central Java).

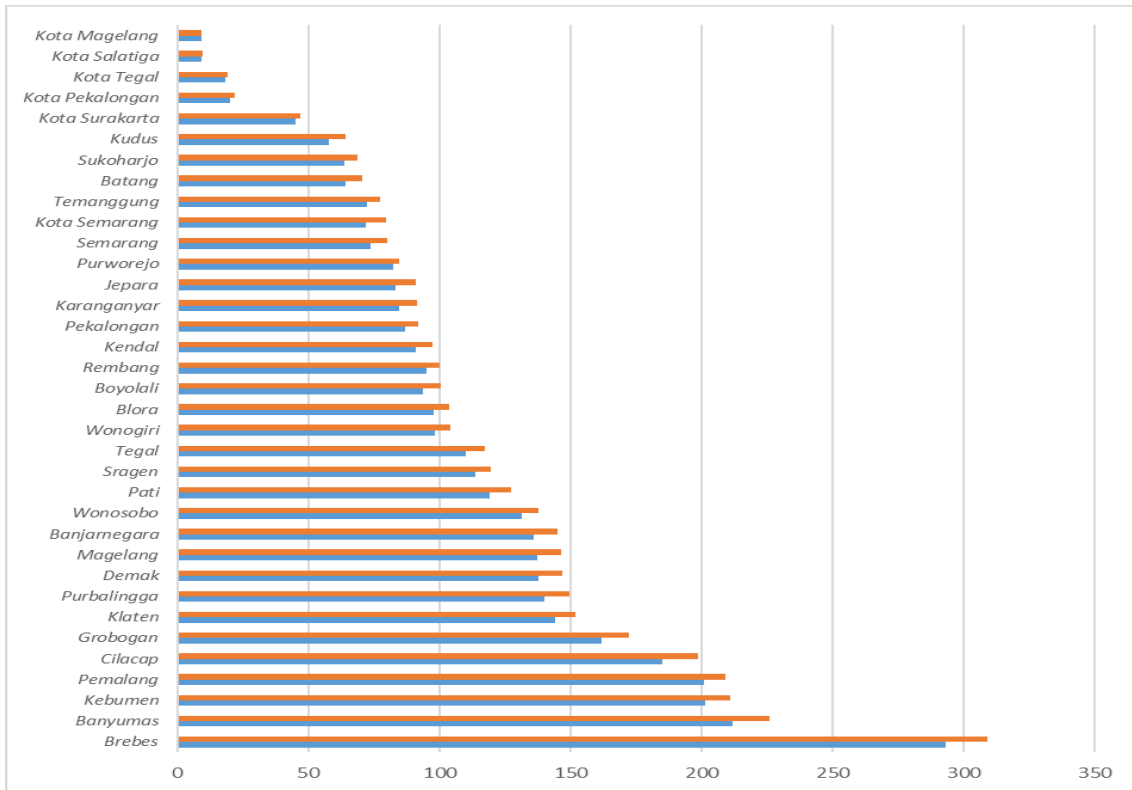
The increase in COVID-19 cases has caused a contraction in economic growth, due to the hampered economy. Restrictions on community activities result in decrease in hotel occupancy rates. The decrease in TPK causes an increase in unemployment in the accommodation service sector, resulting in a decrease in people's income in this sector. And the outbreak of COVID-19 cases also affects public health so life expectancy decreases. The increasing number of COVID-19 cases, the economic contraction, the decreasing occupancy rate of hotel rooms, and the decreasing life expectancy have contributed to the increasing number of poor people.

Discussion

Several studies related to the impact of the COVID-19 pandemic on poverty have been carried out. Tarigan et al. (2020) regarding the impact of the COVID-19 pandemic on poverty in Indonesia concluded that the Covid-19 pandemic which had an impact on changes in behavior and economic activity had driven an increase in the number and rate of poverty, both nationally and regionally rural-urban, as well as island-provincial. Meanwhile, Rosyadi (2021) suggest that East Java, which before the pandemic was recorded as one of the regions in Indonesia that had problems of poverty and inequality, during the pandemic experienced a significant increase in poverty rates. Meanwhile, Setyadi & Indriyani (2021) found that the variable that had an effect and significance on the number of poverty in 34 provinces throughout Indonesia was the number of positive cases of COVID-19. While the variables that have no effect and are not significant are the variables of life expectancy and income inequality.

Descriptive analysis results

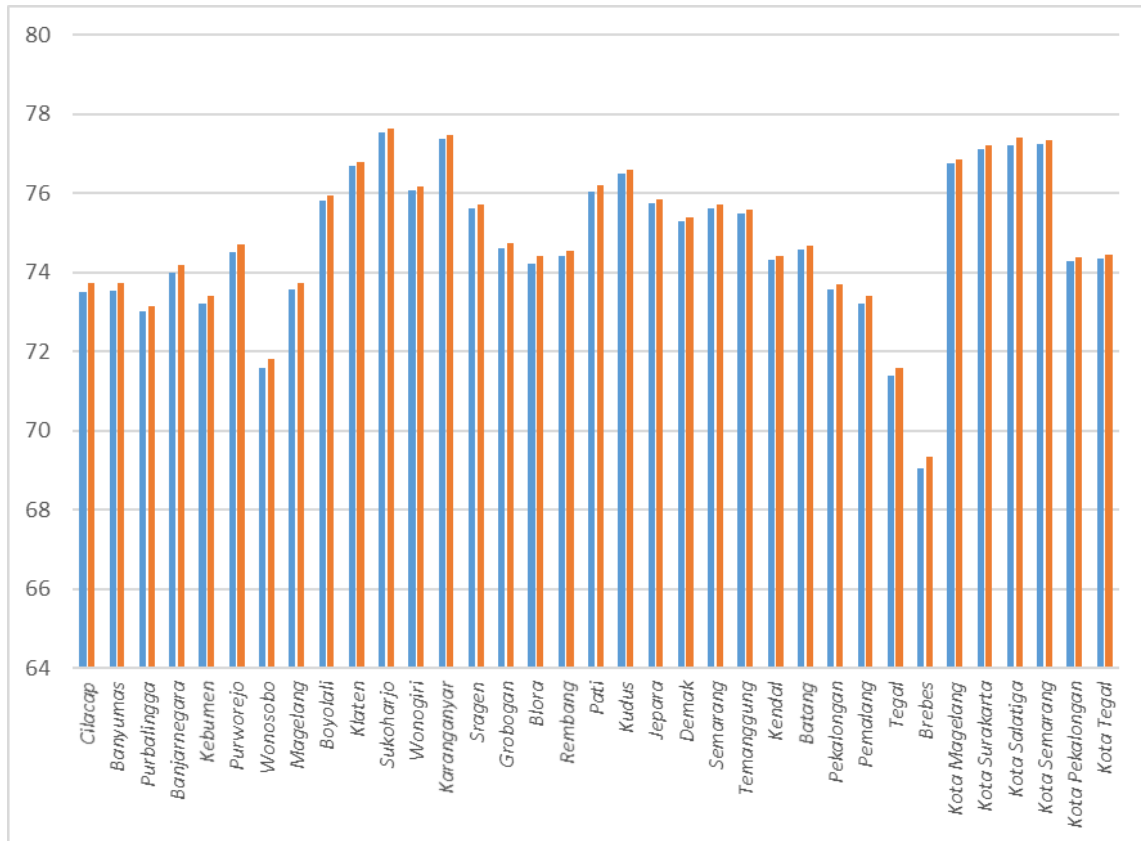
To describe the indicators in this study used descriptive statistical analysis through tables and graphs. The occurrence of the COVID-19 pandemic has caused an increase in poverty in all districts/cities in Central Java. This can be seen in Figure 2, where in 2020 all districts/cities in Central Java experienced an increase in the number of poor people. Regencies/cities which are poverty enclaves, with the highest number of poor people are Brebes Regency with 308.8 thousand people, followed by Banyumas Regency with 225.8 thousand people and Kebumen Regency with 211.1 thousand people. Meanwhile, the district/city with the least number of poor people is Magelang City with 9.34 thousand poor people.



Source : (BPS Central Java Province, 2021b)

Figure 2. Number of Poor Regency/City Populations in Central Java 2019 – 2020 (Thousand People)

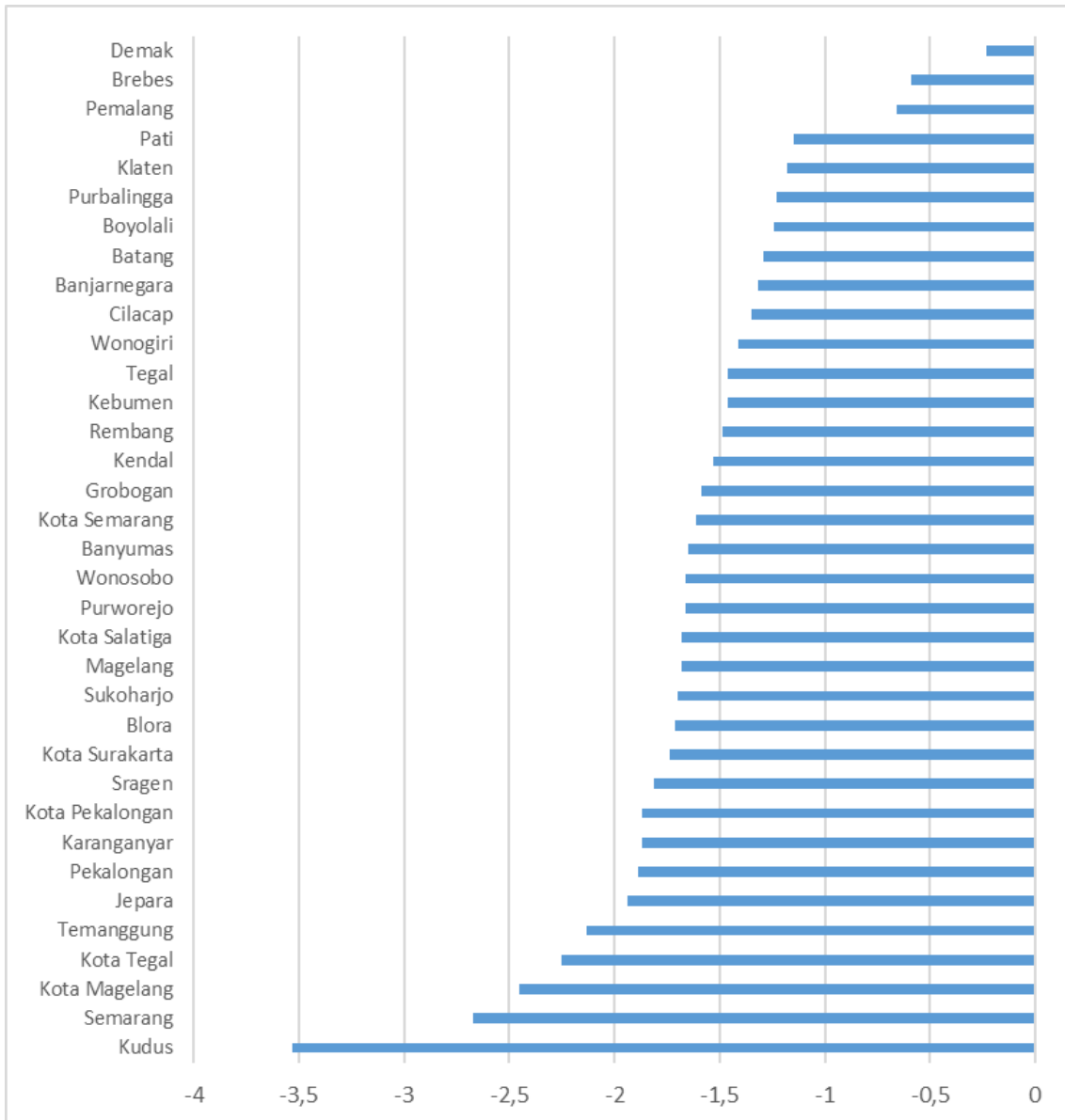
The occurrence of the Covid-19 pandemic did not cause a decrease in life expectancy. AHH districts/cities in Central Java continue to show an increase. Life Expectancy (AHH) at Birth is defined as the estimated average number of years a person can travel from birth. AHH is an indicator in the health dimension, one of the dimensions in the preparation of the Human Development Index (IPM). The regency/city in Central Java that has the highest AHH is Sukoharjo at 77.65 years. This means that babies in Sukoharjo who are born by 2020 will be able to live to be 77 or 78 years old. The only district with AHH below 70 is Brebes Regency which is recorded at 69.33 years.



Source : (BPS Central Java Province. 2021c)

Figure 3. Regency/City Life Expectancy in Central Java 2019-2020 (Year)

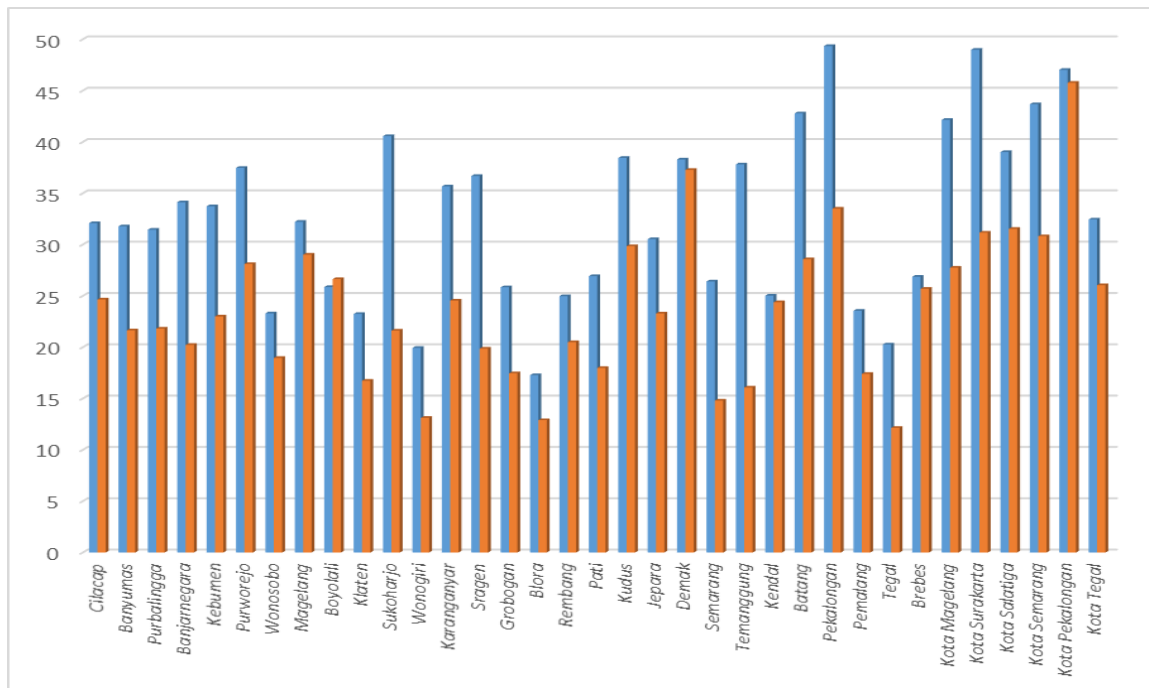
Economic growth is an increase in the ability of an economy to produce goods and services. In other words, economic growth refers to changes that are quantitative in nature and are usually measured using data on gross domestic product or per capita output income. The economic growth of districts/cities in Central Java until 2019 continued to show an increase (positive growth). The occurrence of the COVID-19 pandemic caused the economic growth of districts/cities throughout Central Java to experience contraction or negative growth. If you look at the economic growth without oil and gas with the smallest contraction, Demak Regency has -0.23 percent, followed by Brebes Regency at -0.59 percent and Pemalang Regency at -0.66 percent. Meanwhile, other districts contracted by minus 1 percent, with the deepest contraction of -3.53 percent in Kudus Regency.



Source : (BPS Central Java Province. 2021a)

Figure 4. District/City Oil-Free Economic Growth in Central Java 2020 (Percent)

Tourism is one of the sectors most affected by the COVID-19 pandemic. Accommodation services, such as hotels, which are one of the supporting elements in tourism, have experienced a decline in hotel room occupancy rates due to restrictive policies to reduce the impact of the COVID-19 pandemic. Tourists who reduce travel, affect the occupancy of hotel rooms. This can be seen in Figure 5, where the TPK for all regencies/cities in Central Java has decreased compared to the previous year. In 2020, the highest TPK for hotels is owned by Pekalongan at 45.77 percent, while the lowest is Tegal at 12.15 percent. The biggest decline was experienced by national tourist destinations such as Surakarta City, Semarang City and Magelang City.



Source : (BPS Central Java Province. 2021)

Figure 5. Regency/City Hotel Room Occupancy Rates in Central Java 2019-2020 (Percent)

Multiple Regression Analysis Results

In Table 2 shows F test. it is proven that the number of covid cases. life expectancy. economic growth and hotel room occupancy rates simultaneously have a significant effect on the number of poor people.

Table 2. Analisis of Varian (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	101049.707	4	25262.427	18.073	0.000*
Residual	41934.957	30	1397.832		
Total	142984.664	34			

From Table 3 related to the coefficient of determination. it can be seen that the number of covid cases. life expectancy. economic growth and hotel room occupancy rates can explain variation of the number of poor people by 84.1 percent. While the remaining 15.9 percent is influenced by other variables outside the model.

Table 3. Coefficient of Determination

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.841	0.707	0.668	37.38759

While in Table 4 shows the number of covid cases. life expectancy. economic growth. and hotel room occupancy rates also partially have a significant effect on the number of poor people. The coefficient of the number of Covid-19 cases is positive. this means that the

increasing number of COVID-19 cases significantly causes an increase in the number of poor people.

Table 4. Multiple Regression Analysis Results

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1502.349	274.120		5.481	0.000
COVID	0.002	0.001	0.308	3.077	0.004
AHH	-17.425	3.781	-0.496	-4.608	0.000
PE	41.455	11.910	0.372	3.481	0.002
TPK	-1.821	0.891	-0.205	-2.043	0.049

Partially the four variables, namely the number of cases of Covid-19 patients, life expectancy, economic growth, and hotel room occupancy rates, significantly affect the number of poor people. This can be seen from the significance value (sig) < 0.05 probability. The coefficient of a constant is 1502.349, which means that the number of poverty districts/cities in Central Java in 2020 is 1.502.349 thousand people even though there are no variables from the number of covid cases, life expectancy, economic growth, and Hotel Room Occupancy Rates. The coefficient value of Covid is 0.002, which means that every increase in 1 case of positive Covid-19 patients, will increase the number of poor people by 2 people. The value of hotel room occupancy rates coefficient is -17.425 means that every 1 year increase in life expectancy will reduce the number of poor people by 17.425 thousand people. Furthermore, the coefficient of economic growth is 41.455, it means that every 1 percent increase in economic growth will cause an increase in the number of poor people by 41.455 thousand people. The value of hotel room occupancy rates coefficient is -1.821 means that every 1 percent increase in the hotel room occupancy rate will be able to reduce the number of poor people by 1.821 thousand people.

Conclusion

The occurrence of COVID-19 has an impact on an increase in the number of poor people due to the large number of workers who have lost their jobs. The increase in unemployment causes people to lose their source of income, thereby reducing purchasing power. For this reason, it is necessary to prevent termination of employment by the government, such as the provision of wage subsidies, to help entrepreneurs who are experiencing the impact of COVID-19. This research is limited to the scope of the province, it would be better if it could be expanded to the district/city level.

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