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Panel Data Regression Model on Determinant Factors of Open Unemployment Rate in West Java Post-Covid-19

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KEYWORDS

Economic Growth, Minimum Wage, Open Unemployment Rate, Panel Data Regression, Post-COVID-19 Labor Market.

ABSTRACT

The COVID-19 pandemic significantly impacted West Java's economy, leading to a drastic rise in the open unemployment rate (TPT), which reached 6.75% by 2024. The aim of this study is to provide an overview of the determining factors influencing the open unemployment rate in West Java Province after COVID-19 using a panel data regression model. The sample consists of 27 regencies/cities in West Java Province. The independent variables in this study are Minimum Wage, Labor Force Participation Rate, Economic Growth, and Infrastructure, while the dependent variable is the open unemployment rate. The method used is quantitative, with analysis conducted through panel data regression analysis. The research data was obtained from documents provided by Statistics Indonesia (BPS). The results of the study using the Fixed Effect Model approach indicate that factors such as Minimum Wage, Labor Force Participation Rate, and Gross Regional Domestic Product significantly affect the open unemployment rate, whereas Infrastructure does not have a significant effect. Therefore, to control the open unemployment rate in West Java, the government can regulate minimum wage policies, promote economic growth, and implement training programs to increase labor force participation.

INTRODUCTION

The Coronavirus (COVID-19) pandemic first spread in the Chinese city of Wuhan at the end of 2019, eventually spreading to other countries, including Indonesia (Agustino & Wicaksana, 2020). The first wave of COVID-19 cases in Indonesia occurred in January–February 2020. Since the outbreak, the government has used various terms and policies in handling COVID-19. Initially, large-scale social restrictions (Pembatasan Sosial Berskala Besar or PSBB) took effect on April 17, 2020. Subsequently, the government enforced the Enforcement of Community Activity Restrictions (Pemberlakuan Pembatasan Kegiatan Masyarakat or PPKM), which was later changed to Micro PPKM in February 2021. Despite these policies and the ongoing changes due to the pandemic, West Java's economy has drastically declined since early 2020. The Central Statistics Agency (Badan Pusat Statistik or BPS) of West Java recorded several economic events that resulted in minimal labor participation.

The Head of BPS West java stated that the west java economy contracted by 2.44 percent in 2020, a decrease compared to the 5.07 percent growth in 2019. This decline is reflected not only in economic growth figures but also in mass layoffs. For example, a garment company in Sukabumi, West Java, terminated employment for 19,066 workers due to the pandemic and the global economic recession. Many companies also held hearings with local governments; for instance, the Indonesian Employers Association (Apindo) coordinated with the Sukabumi Regency Government to devise strategic policies providing sustainable protection for the industrial sector in Sukabumi Regency.

Employment remains a central issue in the economic sector, as high labor absorption in a region can stimulate economic growth (Aji Ramadhan, 2023). According to data from the Indonesian Central Statistics Agency (BPS), West Java recorded the highest open unemployment rate (Tingkat Pengangguran Terbuka or TPT) in Indonesia at 6.75 percent in August 2024. The high TPT in West Java is attributed to several factors, including mass layoffs (Pemutusan Hubungan Kerja or PHK), which are frequent in West Java and other regions in Indonesia. Additionally, the number of available job vacancies is low and insufficient relative to the number of job seekers.

This situation poses a serious challenge for the government, as efforts to reduce unemployment require an active role in fostering an environment conducive to economic growth and job creation. The government participates in fiscal policy determination, program implementation to assist job seekers, and initiatives directed at the industrial sector, particularly micro, small, and medium enterprises (Usaha Mikro, Kecil, dan Menengah or UMKM). Government efforts to control TPT are also a concern in other provinces. There are at least three government mechanisms to address unemployment: setting the minimum wage, stimulating economic growth, and population control. Based on Alkhatiri and Santoso's 2024 study in East Java, an increase in the minimum wage raises unemployment, population growth decreases TPT, and economic growth increases job absorption, reducing unemployment.

Lina Marliana's 2022 research in Indonesia found that minimum wage significantly influences the open unemployment rate—an increase in minimum wage lowers TPT. Economic growth also significantly affects TPT; heightened economic growth correlates with a decrease in TPT (Marliana, 2022). Conversely, Reynaldi's 2023 research indicates that rising minimum wages reduce labor demand from companies, increasing unemployment, while labor force participation rates have an insignificant effect on TPT in Indonesia (Simbolon et al., 2023). These conflicting findings reveal inconsistency among variables in mechanisms for government roles in addressing TPT.

Beyond these mechanisms, regional infrastructure development funded by Regional Original Revenue (Pendapatan Asli Daerah, PAD) can facilitate economic access across the 27 regencies/cities of West Java. A Nigerian study categorizing infrastructure asset classes found significant influence on unemployment, with social infrastructure contributing most to reducing unemployment (Nnamdi Lawrence & Nonso John, 2024).

Adequate infrastructure boosts productivity in key sectors such as trade, manufacturing, and services. Efficient transportation supports goods and people mobility, reduces logistics costs, and strengthens local business competitiveness (Anisa et al., 2024). Infrastructure plays a strategic role in regional and national economic growth. The availability of roads, electricity, clean water, and internet access improves production efficiency, labor mobility, and distribution of goods and services. Government infrastructure development can help employers create job opportunities beyond concentrated areas. Previous research in Palembang City shows infrastructure has both positive and negative impacts: good transportation routes increase accessibility, encourage economic activity, and boost competitiveness, but infrastructure development faces challenges such as inadequate planning and quality (Anisa et al., 2024). Additionally, disparities between urban and rural infrastructure in Indonesia lead to unequal employment distribution.

The COVID-19 pandemic has left profound economic scars globally, with West Java experiencing a sharp rise in TPT, reaching 6.75% by 2024. This underscores the urgency to identify and address key unemployment determinants for economic recovery. While prior studies examined factors like minimum wage and economic growth, the post-pandemic context requires updated analyses considering evolving labor market dynamics. Understanding these determinants is crucial for policymakers to design effective interventions to mitigate unemployment and foster sustainable economic resilience.

This study introduces novelty by employing a panel data regression model to analyze the combined impact of minimum wage, labor force participation, economic growth, and infrastructure on TPT in West Java post-COVID-19. Unlike previous research examining variables independently, this study integrates them into a unified framework, capturing their interplay in a disrupted economy. The focus on infrastructure—a less-explored variable in unemployment studies—provides fresh insights, especially on its role in regional job creation. Using recent data (2020–2024), this research provides timely insights into how these factors interact in the pandemic's aftermath.

The study contributes to existing literature by empirically validating the significance of policy-driven variables like minimum wage and economic growth in reducing unemployment, while highlighting the limited short-term role of infrastructure. These findings offer actionable recommendations for governments to prioritize wage policies and labor programs over broad infrastructure investments for immediate TPT reduction. Furthermore, advanced econometric techniques such as the Fixed Effect Model ensure robust results, enhancing academic and practical value. By focusing on West Java, a high-unemployment zone, the research bridges gaps in regional studies, offering localized insights for targeted policy.

The primary objective of this study is to quantify the influence of minimum wage, labor force participation, economic growth, and infrastructure on West Java's TPT post-pandemic. By doing so, it aims to implement evidence-based policies to accelerate job creation and economic stability. Benefits extend beyond academia to provide practical guidance for policymakers on optimal resource allocation, such as funding wage subsidies or vocational training instead of less impactful

infrastructure projects. Ultimately, this study seeks to support West Java's recovery by identifying levers to effectively reduce unemployment and promote inclusive economic growth.

Therefore, it is important to examine the extent of the government's and infrastructure's roles in reducing the open unemployment rate in West Java. The purpose of this study is to provide an overview of the determinants influencing the open unemployment rate in West Java Province post-COVID-19.

RESEARCH METHOD

This research was conducted with the aim of providing an overview of the factors that affect the open unemployment rate in West Java Province. This study uses a total sampling technique so that all 18 districts and 9 cities become the units of analysis in the study because the population is relatively small and the available data allows to be studied all (Sugiyono, 2021) to avoid bias because the sample selection may not be representative of the population and allows researchers to obtain more accurate and comprehensive results. In this study, the data used is secondary data obtained from the Central Statistics Agency (BPS) of West Java Province for 2020-2024. The type of data in this study is quantitative data, with the type of data seen from the time dimension is panel data which is a combination of time series data and cross section. The data used in this study are:

1) Open Unemployment Rate data in all districts and cities in West Java Province for 2020-2024.
2) Minimum Wage Data for districts and cities in West Java Province for 2020-2024.
3) Data on the Labor Force Participation Rate in all districts and cities in West Java Province in 2020-2024.
4) Gross Regional Domestic Product Data at the level of authority of all districts and cities in West Java Province in 2020-2024
5) Infrastructure data by districts and cities in West Java Province in 2020-2024.

In this study, two types of variables were used, namely the dependent variable used was the Open Unemployment Rate in West Java Province with a unit of percentage. The independent variables used are Minimum Wage, Labor Force Participation Rate using working-age population data in percentage units, Gross Regional Domestic Product, Infrastructure using road length data by district/city in kilometers.

The Data Analysis method used Is panel data regression analysis with the panel data regression model as follows:

$$\mathbf{TPTit = \alpha + \beta 1Umit + \beta 2TPAKit + \beta 3PDRBit + \beta 4IFRit + \mu it}$$

Information:

TPT = Open Unemployment Rate
UM = Upah Minimum
TPAK = Labor Force Participation Rate
GDP = Gross Regional Domestic Product
IFR = Infrastructure
A = constant

B = regression coefficient

μ = error

it= time series, cross section

There are several stages that need to be done so that the results of the analysis are valid and can be accounted for, the stages include:

1. Panel data regression model selection

In estimating the panel data regression model, it can be done using 3 approaches, namely the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM).

a. Common Effect Model (CEM): CEM is a panel data regression model assuming that interception and slope are constant both between individuals and between time. Because all are considered equal, it is quite difficult to see changes between individuals. CEM is suitable for homogeneous data (Rizki et al., 2022).
b. Fixed Effect Model (FEM): FEM is a panel data regression model assuming that different individuals can be accommodated from different intercepts but with a fixed slope (Rizki et al., 2022).
c. Random Effect Model (REM): REM is one of the models with the assumption that between individuals and time there is an error term (Gumelar et al., 2023). This REM has a similar model feature to FEM, namely the slope is considered constant. The difference between the two is that REM does not implement the Ordinary Least Square (OLS) principle but uses the General Least Square (GLS) principle.

There are several stage options in choosing the best model. First, compare CEM with FEM by using the Chow test. If the results show that CEM is accepted, then CEM will be further analyzed to compare with REM by using the Lagrange Multiplier test. However, if the results of the Chow test show that FEM is accepted, then ensure that it is necessary to carry out the Haussman test to compare with REM (Widarjono, 2009). Here's a further explanation regarding the best model selection options:

a) Chow Test

This test is used to select the best model between FEM and CEM with the following hypothesis:

H0 : Common Effect Model

H1 : Fixed Effect Model

The results of Chow's test show the probability value of the chi-square cross-section in the Eviews application with the following criteria:

If the value of prob. > 0.05 (H0 accepted)

If the value of prob. < 0.05 (H1 accepted)

b) Hausman Test

This test is used to select the best model between REM and FEM with the following hypothesis:

H0 : Random Effect Model

H1 : Fixed Effect Model

The results of Hausman's test show the probability of cross-section value in the Eviews application with the following criteria:

If the value of prob. > 0.05 (H0 accepted)

If the value of prob. < 0.05 (H1 accepted)

c) Uji Lagrange Multiplier (LM Test)

This test is used to select the best model between REM and CEM with the following hypothesis:

H0 : Common Effect Model

H1 : Random Effect Model

The results of the Lagrange Multiplier Test (LM test) show the value of Breusch-Pagan Chi-Squares in the Eviews application with the following criteria:

If the value of prob. > 0.05 (H0 accepted)

If the value of prob. < 0.05 (H1 accepted)

2. Classic Assumption Test

The classical assumption test aims to find out whether the regression model obtained can produce a good linear estimator. The ideal model means that the best model produces an unbiased linear estimator (Best Linear Unbiased Estimator) this model is free from normality, multicollinearity, heteroscedasticity, and autocorrelation (Ghozali, 2016).

a. Normality Test: The normality test aims to find out whether the variables in the regression model, whether independent, dependent, or both, have a distribution of data that follows a normal distribution. The inconsistency of the data distribution with the normal distribution can affect the validity of the statistical test results, as it can reduce the accuracy of the estimates produced by the model (Ghozali, 2016)
b. Multicollinearity test: The multicollinearity test aims to identify the existence of strong relationships between independent variables in regression. Multicollinearity needs to be avoided because it can affect the accuracy of partial test results (t-test). In this study, multicollinearity is considered strong if the correlation value between independent variables exceeds 0.85 (Widarjono, 2009)
c. Heteroscedasticity Test: The heteroscedasticity test aims to test whether in regression there is variance of variance from one residual observation to another. If the variant from the residual of one observation to the observation of another is fixed, then it is called homoscedasticity and if it is different, it is called heteroscedasticity. A good regression model is one that is free from heteroscedasticity. In this study, the White test and the Harvey test are used by looking at the probability of Chi Squares. If the probability value of Chi Squares of Obs*R-Square is greater than $\alpha = 5\%$ then there is no heteroscedasticity (Widarjono, 2009)
d. Autocorrelation Test: The Autocorrelation test aims to test whether the linear regression model has a correlation between the disruptive error in the t period and the disruptive error in the t-1

(previous) period (Ghozali, 2016). Autocorrelation is a major concern in time series data. However, in panel data, especially when the number of time periods (T) is small and the cross-section (N) is large, autocorrelation is not always a crucial issue and can be ignored in the early stages of analysis. (Gujarati & Porter, 2009)

3. Pengujian Hypothesis

A hypothesis is a provisional statement that is compiled to explain a phenomenon and needs to be proven to be true through testing. The stages in this hypothesis testing design begin with the determination of the null hypothesis (H0) and alternative hypotheses (Ha), the selection of statistical tests, the calculation of statistical values, and the determination of the significance level, the explanation of the steps is as follows:

a. Coefficient of Determination (R2): The coefficient of determination is basically used to assess the extent to which a model is able to explain variations in dependent variables. The value of the determination coefficient is in the range of zero to one. If the adjusted R^2 value is low, then the independent variable has little contribution in explaining the dependent variable. On the other hand, if it is close to number one, then the independent variable can almost completely explain the variation that occurs in the dependent variable (Ghozali, 2016)
b. Individual Parameter Significance Test (Statistical t-test): The t-test is used to determine the extent of the influence of each independent variable on the individual dependent variable. The test was performed with a significance level of 5% ($\alpha = 0.05$), which means that there is a 95% chance that the conclusions drawn are correct. If the value of Thcount ≥ Ttable, then H0 is rejected (there is a significant influence); if Thitung ≤ Ttable, then H0 is not rejected (there is no significant effect) (Ghozali, 2016).
c. Simultaneous Significance Test (Statistical Test F): The F test is a simultaneous regression relationship test that aims to find out whether all independent variables together have a significant influence on the dependent variable. The test was performed with a significance level of 5% ($\alpha = 0.05$), which means that there is a 95% chance that the conclusions drawn are correct. If the value of Fcal ≥ Ftabel is rejected, then H0 is rejected (there is a significant influence); if Fcal ≤ Ftable, then H0 is accepted (no significant influence) (Ghozali, 2016).

RESULTS AND DISCUSSION

The regression of panel data was carried out with cross section data consisting of 27 districts/cities and 5 years of time series data obtained from the Central Statistics Agency (BPS) using the Eviews 13 analysis tool. This regression was carried out on dependent variables, namely the Open Unemployment Rate (TPT) and independent variables, namely Minimum Wage (UM), Gross Regional Domestic Product (GDP), Labor Force Participation Rate (TPAK), and Infrastructure (IFR). The test is carried out by looking for the best model to perform regression.

The first test carried out was the Chow test with the results in table 1. The results of the chow test modeling to compare the CEM model with the FEM, the result obtained was a prob value of 0.000 which was smaller than 0.05, so it was decided that the test results H1 were accepted, namely

the Fixed Effect Model. Then the results of modeling with FEM were followed by the Hausman test to compare whether the best model was FEM or REM. The results of the Hausman test can be seen in table 2. The Prob value of the Hausman test result of 0.000 is smaller than 0.05 so that the test result H1 is accepted. So the best model of panel data regression used in this study is the FEM model.

Table 1. Chow Test Results

Test cross-section fixed effects			
Effects Test	**Statistic**	**D.F.**	**Prob.**
Cross-section F	18.792299	(26,104)	0.0000
Cross-section Chi-square	234.917327	26	0.0000

Source: Data processed by researchers, 2025

Table 2. Hausman Test Results

Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	154.747313	4	0.0000

Source: Data processed by researchers, 2025

The next test was carried out a classical assumption test in this study, three classical assumption tests were carried out, namely the normality test, the multicollinearity test, and the heteroscedasticity test. Normality testing to measure whether the data is normally distributed with histogram and statistical results in figure 2, The results of the normality test can be seen from the Jarque-Bera value of 3.126568 and the Jarque-Bera Probability value of 0.208402. A probability value above 0.05 then the data is normally distributed.

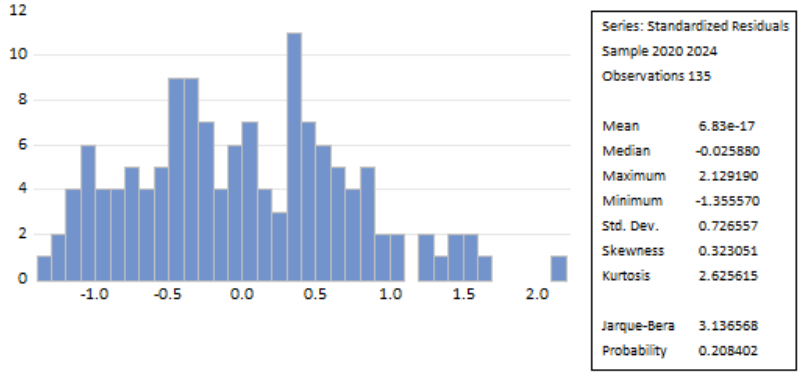

Figure 1. Normality Test Results
Source: Data processed by researchers, 2025

Then it was followed by a multicollinearity test which obtained all the results of the correlation coefficient between independent variables below 0.85 as shown in table 3. So it can be said that the data does not have multicollinearity. Then a heteroscedasticity test was carried out

using the glaxer test by regressing the residual absolute value to all independent variables, with results obtained above 0.05 as shown in table 4, there was no heteroscedasticity. Therefore, it can be concluded that the data used is unbiased.

Table 3. Multicollinearity Test Results

	PDRB	TPAK	AT	IFR
PDRB	1.000000	**-0.161604**	**0.590241**	**0.194388**
TPAK	-0.161604	1.000000	**-0.315123**	**-0.059392**
AT	0.590241	-0.315123	1.000000	**0.178237**
IFR	0.194388	-0.059392	0.178237	1.000000

Source: Data processed by researchers, 2025

Table 4. Heteroscedasticity Test Results

Dependent Variable: ABS(RESID)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	1.240478	1.061648	1.168445	0.2453
PDRB	2.10E-05	3.34E-05	0.630388	**0.5298**
TPAK	0.016827	0.018144	0.927439	**0.3558**
AT	-7.64E-07	3.91E-07	-1.953374	**0.0535**
IFR	-2.21E-07	2.31E-07	-0.955950	**0.3413**

Source: Data processed by researchers, 2025

The results of the panel data regression estimation with the Fixed Effect Model approach, in accordance with the best model in the previous test results are shown in table 5 below:

Table 5. FEM Approach Panel Data Regression Results

Dependent Variable: TPT				
Periods included: 5				
Cross-sections included: 27				
Total panel (balanced) observations: 135				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	**37.75468**	2.297696	16.43154	0.0000
PDRB	**-0.000171**	7.22E-05	**-2.361850**	**0.0200**
TPAK	**-0.159776**	0.039268	**-4.068899**	**0.0001**
AT	**-4.35E-06**	8.46E-07	**-5.147065**	**0.0000**
IFR	**1.80E-07**	5.01E-07	**0.359288**	**0.7201**
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.917471	Mean dependent var		8.178593
Adjusted R-squared	**0.893665**	S.D. dependent var		2.529106
S.E. of regression	0.824718	Akaike info criterion		2.650825
Sum squared resid	70.73662	Schwarz criterion		3.317962
Log likelihood	-147.9307	Hannan-Quinn criter.		2.921931

F-statistic	**38.53890**	Durbin-Watson stat	1.653105
Prob(F-statistic)	**0.000000**		

Source: Data processed by researchers, 2025

So the equation of the results of panel data regression analysis using the Fixed Effect Model approach is as follows:

TPT = 37.7547 – 0.0000*UM – 0.1598*TPAK – 0.00012*PDRB + 0.0000*IFR + μit

According to the results of the regression equation, if the variables UM, TPAK, GDP, IFR are 0, then the magnitude of the TPT variable is 37.7547, for the regression coefficient in three independent variables such as UM, TPAK, and GDP all have a negative direction, meaning that every time it increases by 1, the TPT will decrease by the value of the regression coefficient. While every IFR experiences an increase of 1, the TPT will increase by the value of the regression coefficient.

The results of the t test on the UM variable produced a calculated t value of 5.1471 with a prob value of 0.000, then compared to the t table obtained from 135 observations and 5 variables of 1.978, the comparison of t calculated 5.1471 > t of the table 1.978 and the prob value of 0.00 < 0.05 so that it means that Ha1 is accepted. So the Minimum Wage has a significant effect with a negative direction. Every time the Minimum Wage increases, the Open Unemployment Rate will decrease as supported by the results of previous research which states that this increased minimum wage will increase the motivation of job seekers so as to reduce the open unemployment rate (Corolina & Panjawa, 2020 in Alkhatiri & Santoso, 2024). Increasing wages can encourage business actors to expand their businesses, which ultimately opens up more job opportunities and lowers the unemployment rate (Wahab, 2022 in Alkhatiri & Santoso, 2024). The increase in the minimum wage is triggered by the increasing need for a decent living. The increase reflects positive economic growth in Banten Province. Higher wages have the potential to encourage increased labor absorption or future employment expansion (Faizah & Woyanti, 2023). The government is expected to make the right policy related to the Minumum Wage so that employers are not disadvantaged so that they will not reduce or even lay off the workforce.

The results of the t-test on the TPAK variable were produced with a calculated t value of 4.069 with a prob value of 0.0001, then compared to t table, t calculated 4.069 > t table 1.978 and prob value 0.00 < 0.05 so that it means that Ha2 is accepted. So the Labor Force Participation Rate has a significant negative effect. Any increase in the Labor Force Participation Rate, the Open Unemployment Rate will decrease as supported by the results of research by Septiyanto & Tusianti in 2020 in West Java Province, that TPAK has a significant and negative effect (Gessan Septiyanto & Tusianti, 2020). The results of this study are also in line with research by Alkhatiri & Santoso that increased labor force participation can be caused by labor migration, the existence of this migration increases the population and also increases labor force participation in East Java with the contribution of interest in finding jobs so that the unemployment rate decreases (Alkhatiri & Santoso, 2024). The role of West Java residents in economic activities illustrates that the

participation of the active working age population has increased so that labor absorption is more effective in reducing the open unemployment rate. The government is expected to create a job training program that is more useful for the age of the workforce to suit the needs of employers.

The results of the t-test on the GDP variable were produced with a calculated t-value of 2.3619 with a prob value of 0.0200, then compared to the t table, t calculated 2.3619 > t table 1.978 and a prob value of 0.02 < 0.05 so that it means that Ha3 is accepted. So the Gross Regional Domestic Product has a significant negative effect. Every increase in the Gross Regional Domestic Product will decrease the Open Unemployment Rate as supported by the results of previous research in North Sumatra Province if economic growth increases, the open unemployment rate decreases in accordance with Okun's Law which states that if there is an increase in national/regional output, namely economic growth, it will cause labor demand to increase and unemployment to decrease (Aisyaturridho et al., 2021). This increase in economic growth can also be shown by increased investment so as to expand employment and can encourage labor absorption so that it can reduce unemployment. (Marliana, 2022)

The results of the t-test on the IFR variable were produced with a calculated t-value of 0.3593 with a prob value of 0.7201, then compared to the t table, t calculated 0.3593 < t table 0.7201 and prob value 0.72 > 0.05 so that it means that Ha4 is rejected. So Infrastructure does not have a significant effect in a positive direction. The limitations of the use of infrastructure indicators, only one type, namely transportation infrastructure with a supporter of road length, is considered to represent that equitable distribution of transportation begins with open access to remote areas. This result is also shown by previous research with the indicator used being infrastructure funds. The expenditure of infrastructure funds does not affect the high and low open unemployment in Gorontalo Province (Pakaya et al., 2023). The government has made an infrastructure development program to provide jobs, but perhaps the program built for example in rural areas has not been able to reduce unemployment, so it is better to carry out regional development it is hoped that it can be more relevant and on target by paying attention to the potential and geographical conditions of each district/city, so that in addition to infrastructure development evenly to the regions and can also attract employers to provide employment for the local population.

Based on the results of the data processing that has been carried out, the Minimum Wage, the Labor Force Participation Rate, the Gross Regional Domestic Product, and Infrastructure simultaneously have a significant effect on the Open Unemployment Rate in West Java Province after Covid-19. This is evidenced by the value of F calculated 38.5389 > from f table 2.4413 and a probability value of 0.000 < compared to 0.05 so that it means that Ha5 is accepted. The test results are known to have a determination coefficient value of 0.893665, this value illustrates that four independent variables, namely Minimum Wage, Labor Force Participation Rate, Gross Regional Domestic Product, and Infrastructure, have an influence contribution of 89.37% to the Open Unemployment Rate and the rest are explained by other variables outside the variables that are not included in this study model.

CONCLUSION

Based on the panel data regression analysis for West Java Province, the study concludes that Minimum Wage, Labor Force Participation Rate, and Gross Regional Domestic Product each have a significant and negative effect on the Open Unemployment Rate, meaning that increases in these variables are associated with reductions in unemployment. In contrast, infrastructure does not show a significant impact, likely due to uneven and misaligned infrastructure development and limitations in the representativeness of the infrastructure indicators used. Nonetheless, when considered simultaneously, all variables collectively influence the Open Unemployment Rate. For future research, it is suggested to incorporate more comprehensive and precise infrastructure indicators, possibly including qualitative assessments of infrastructure quality and accessibility, to better capture its role in unemployment dynamics and to explore potential lag effects of infrastructure investments on labor market outcomes.

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