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An Analysis of the Determinants of Unemployment Rate in West Java

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Abstract: Unemployment is a social and economic issue that affects economic stability and is quite seriously faced by developing countries, especially Indonesia. This is influenced by various interrelated factors, including average length of schooling, investment, minimum wage. This research aims to analyze the influence of average length of schooling, investment, minimum wage, sector industry, and COVID-19 on the unemployment rate in West Java Province for the period 2010-2022. This research uses a quantitative research approach and secondary data types. The analysis technique used to determine the factors that influence the unemployment rate uses panel data regression. The research results show that the average length of schooling has a negative and significant influence, the sector industry and COVID-19 have a positive and significant influence. Meanwhile, investment and minimum wages have no influence on the unemployment rate in West Java Province. The implications of the findings in this research are that the government needs to support industrial growth so that it can achieve a more inclusive labor market and increase cooperation with the private sector, academics and society regarding more effective and targeted policy implementation.

Keywords: Average Length of Schooling; Investment; Minimum Wage; Sector Industry; COVID-19; Unemployment



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INTRODUCTION

Quality economic development in a country can occur when income can be distributed to society fairly and comprehensively (Todaro, 2006). An indicator that can describe development progress is the unemployment rate. Unemployment is a social and economic issue that can affect the economic stability of a region or country, both in developing and developed countries. The unemployment problem that occurs in Indonesia is due to the increasing population factor which is not accompanied by an increase in employment opportunities. The largest population is occupied by Java Island with the highest population density in West Java Province reaching 1,379 people/km² (Badan Pusat Statistik, 2023c).

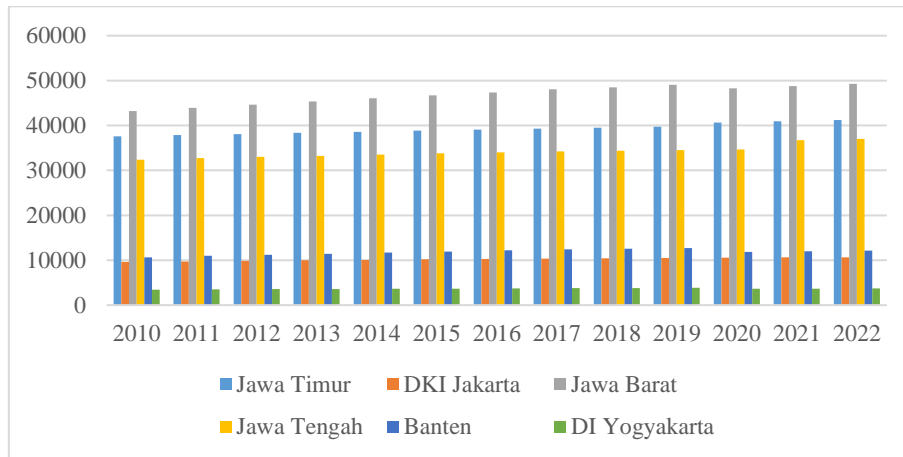


Figure 1. Population by Province on Java Island 2010-2022
Source: Badan Pusat Statistik (2023b)

The graph above shows the population by province on the island of Java. Based on data from 2010 to 2022, West Java Province is the region with the highest population, with the highest peak in 2022 reaching 49,306.8 thousand people (Badan Pusat Statistik, 2023b). This large population indicates that more and more people are of productive age and want to work. If these conditions are not accompanied by adequate employment opportunities, excess supply will occur which will result in an increase in the number of unemployed in the area. Figure 2 shows the unemployment rate in provinces on the island of Java from 2010 to 2022. West Java Province has the highest unemployment rate, ranking first with the highest unemployment rate on the island of Java, even exceeding the national unemployment rate (Badan Pusat Statistik, 2023).

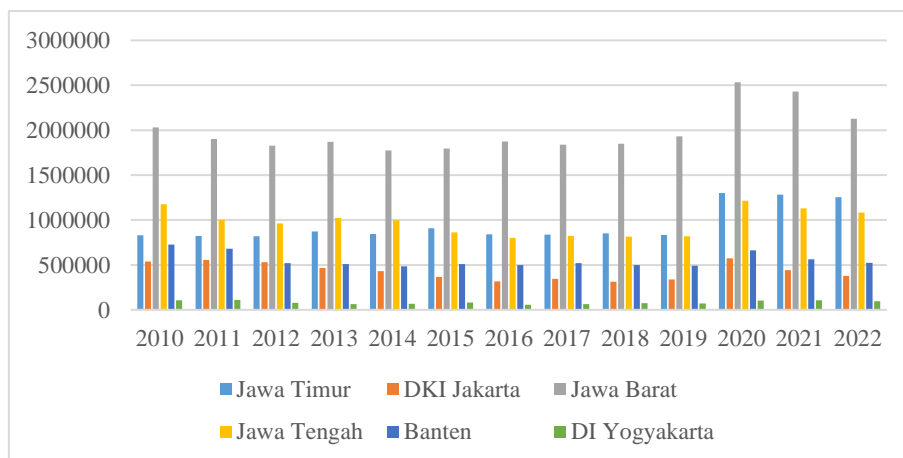


Figure 2. Unemployment Rate by Province on Java Island 2010-2022
Source: Badan Pusat Statistik (2023)

The relationship between education and unemployment is complex and influenced by various socio-economic factors. According to human capital theory, it states that a high level of education will be able to increase productivity so that it can increase output and absorption of the workforce will be higher (Mahdali, 2024). Based on BPS or *Badan Pusat Statistik*, the quality of education is measured using the average number of years of schooling.

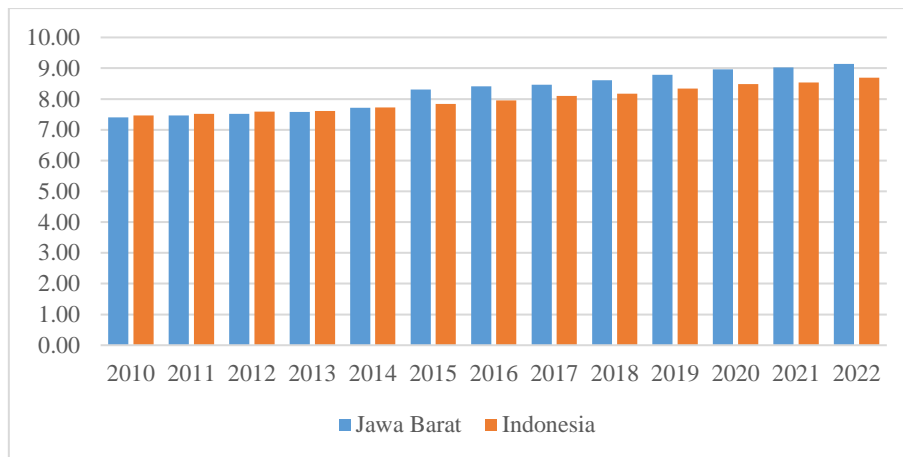


Figure 3. Average Years of Schooling for West Java Province and Nationally 2010-2022
 Source: Badan Pusat Statistik (2023)

Based on Figure 3, West Java Province over the last eight years has had an average that is quite higher than the average in Indonesia. This indicates that the quality of people in West Java Province is relatively good which should be followed by good labor productivity and a low unemployment rate. Investment plays an important role in reducing unemployment because investment can encourage economic growth and job creation by encouraging business development and expanding industrial activities.

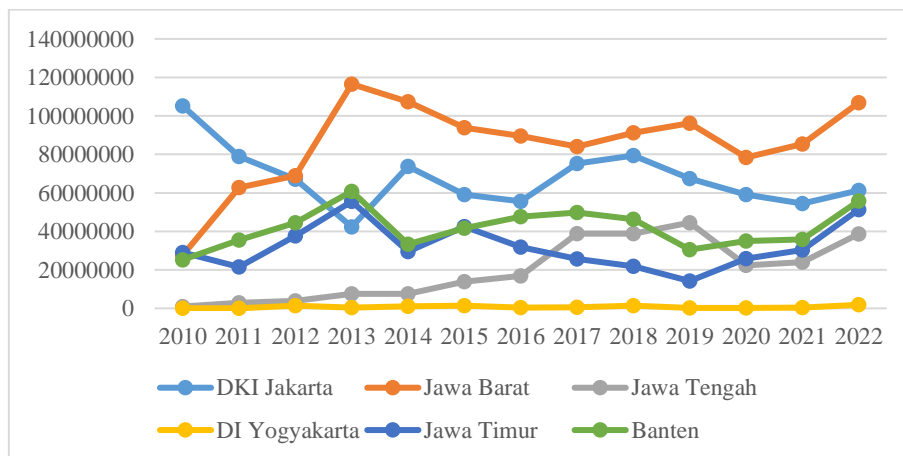


Figure 4. Investment Realization for Each Province on Java Island 2010-2022
 Source: Badan Pusat Statistik (2024)

The Harrod-Domar theory emphasizes that higher savings and efficient investment will result in increased economic output and job creation, which in turn will reduce the unemployment rate. Apart from investment, unemployment will not be separated from wages. Minimum wage policies are designed to protect workers and ensure a decent standard of living. Figure 4 shows that the largest investment realization was in West Java Province. Under these conditions, labor absorption in West Java Province should increase so that it can reduce the unemployment rate.

The theory of efficiency wages states that when wages increase it will increase worker productivity and loyalty. So, unemployment can be reduced because workers will be more productive (Bradley, 2007). However, Figure 5 shows that the provincial minimum wage always increases every year which should reduce the unemployment rate in each province, especially West Java. If we look at the average unemployment rate in West Java Province, the increase in the minimum wage actually makes the unemployment rate in the province remain high.

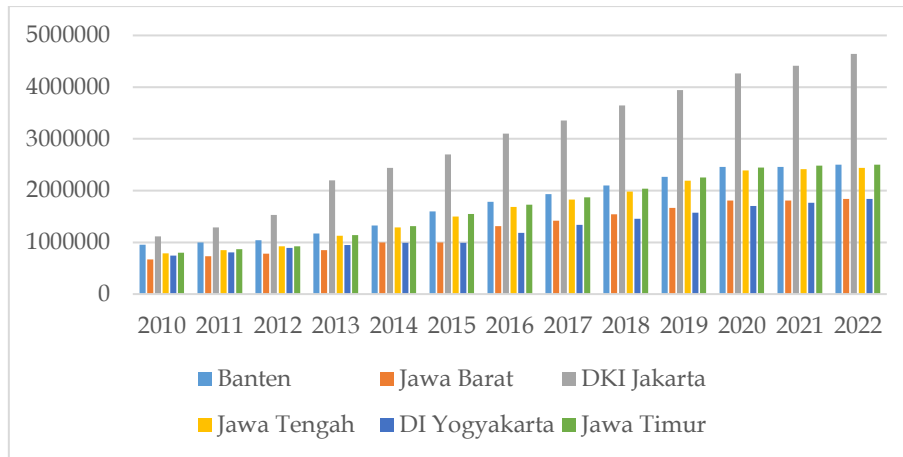


Figure 5. Minimum Wage for Each Province on Java Island 2010-2022
 Source: Badan Pusat Statistik (2023)

The industrial sector is the main driver of labor absorption in West Java (Badan Pusat Statistik, 2024). The economic structure and industrial activities in this region have a significant impact on the availability of employment opportunities. Understanding the role of various industrial sectors in employment can guide policies to support sectors with high job creation potential and address structural problems in the labor market.

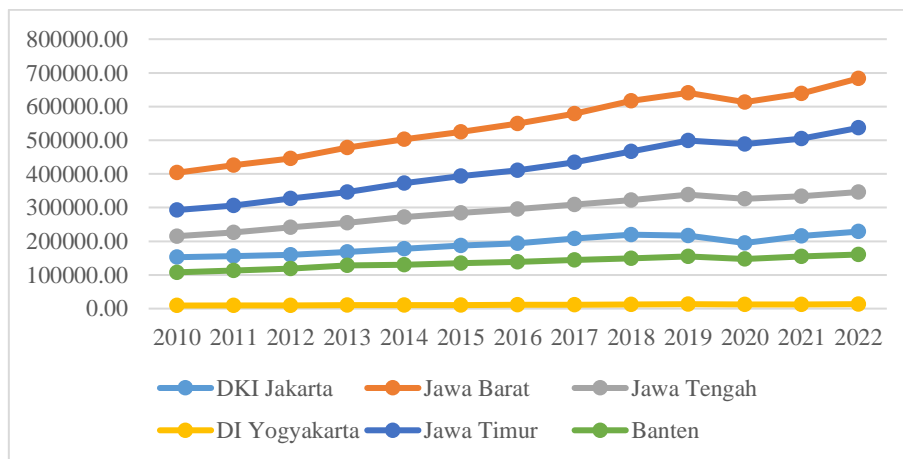


Figure 6. Development of the Industrial Sector on Java Island 2010-2022
 Source: Badan Pusat Statistik (2023)

Figure 6 shows the development of the industrial sector in six provinces on the island of Java in 2010-2022 based on GRDP at constant prices in 2010 according to business fields. The largest industrial sector development is in West Java Province with a trend showing an increase every year with the highest peak in 2022 reaching IDR 683,420.25 billion. COVID-19 is a virus that was first discovered in the city of Wuhan, China and spread rapidly throughout the world (Jing Yang, 2020). This virus causes health to continue to decline so that world economic activity globally experiences a decline, causing a decline in human resource productivity and the stability

of the country's economy. The total confirmed cases of COVID-19 in 2020 were 743,198 people with deaths of 22,138 people and increased drastically in 2021, which was confirmed to be 4,262,994 people with deaths of 144,194 people. This causes a decrease in the level of labor absorption in each business field. Where labor absorption in 2020 has a percentage of 3.45% and in 2021 it is 3.32% lower than the previous year (Open Data Jabar, 2024).

In previous research discussing the same concept, there were mixed results regarding the factors that influence unemployment. Regarding the variable average length of schooling, research by Mahdali (2024) shows that average length of schooling has a significant influence on the unemployment rate, while research by Karisma et al (2021) shows that average length of schooling has no influence on unemployment rate. Regarding the investment variable, research by Oluchukwu et al (2019) shows that investment has a negative and significant influence on the unemployment rate, while research by Alalawneh & Nessa (2020) shows that investment has no effect on the unemployment rate. Regarding the minimum wage variable, research by Yacoub & Firdayanti (2019) shows that the minimum wage has a significant influence on the increase in unemployment, while research by Indriani (2019) shows that the partial minimum wage does not have a significant effect on unemployment. In the industry dummy variable, research by Rahmatullah & Khaerudin (2021) shows that industry has an influence on the unemployment rate. Regarding the COVID-19 dummy variable, research by Krisnandika et al (2021) shows that the number of unemployed in Indonesia continues to increase along with the COVID-19 pandemic. Based on the background described, this research aims to analyze the influence of average years of schooling, investment, minimum wage, industrial sector, and COVID-19 on the unemployment rate in West Java Province for the 2010-2022 period.

LITERATURE REVIEW

Average Years of Schooling

The education sector takes a strategic role in supporting economic activity. In this case, the education sector is a benchmark in achieving sustainable targets, especially in the issue of unemployment, namely through formal education which has been recognized by all countries as having a role in improving people's skills. Todaro (2000) stated that the role of formal education not only plays a role in increasing knowledge and skills for development purposes for society, but education is also able to provide goals, aspirations, attitudes and aspirations directly or indirectly related to development interests. Therefore, formal education is better able to guarantee the quality of the community, where the longer people take formal education until they graduate, the higher the community's opportunities, so that it can reduce the unemployment rate in an area. Research by Mahdali (2024) found that the average length of schooling had a significant influence on the unemployment rate. Thus, the average length of schooling has a negative and significant effect on the unemployment rate in West Java Province.

Investment

Investment plays a key role in stimulating a country's economic growth. Through investment in capital formation, production capacity can be increased, national income increases, and opportunities for the creation of new jobs are created (Todaro, 2006). Therefore, this measure has the potential to expand employment opportunities, which in turn could result in a reduction in unemployment rates. According to Harrod Domar's theory, investment has a role in expanding production capacity. Where the greater the investment, the production capacity will increase so that the demand for labor will be greater. This will reduce the unemployment rate in an area. Research by Oluchukwu et al (2019) found that investment has a significant influence on the unemployment rate. Thus, investment has a negative and significant effect on the unemployment rate in West Java Province.

Minimum Wage

In *Undang-Undang* No. 13 Tahun 2003 concerning employment, it is stated that wages are a worker's right which is received and expressed in the form of money as a reward from the entrepreneur or employer to the worker/laborer, which is determined and paid according to a work agreement, agreement or statutory law. applies, including allowances for workers or laborers and

their families for work that has been carried out. Labor wages are very important for both parties. For producers, wages are production costs that must be as efficient as possible. For workers, wages are a source of income for themselves, their families and a source of public spending. The level of wages is an important factor that determines people's standard of living.

The theory of efficiency wages states that when wages increase it will increase worker productivity and loyalty. So, unemployment can be reduced because workers will be more productive (Bradley, 2007). Research by Megatara & Budhi (2020) found that the minimum wage had a significant influence on the unemployment rate. The results of this research are relevant to research by Prakoso (2021) which found that the minimum wage has a negative and significant influence on the level of unemployment. Thus, the minimum wage set has a negative and significant effect on the unemployment rate in West Java Province.

Sector Industry

Industrialization is a process of interaction between technological development, innovation, specialization of production and trade between countries which is ultimately in line with increasing people's incomes, encouraging changes in the economic structure in many countries. The industrial sector plays an important role in economic progress. Bearing in mind that the industrial sector has a role in encouraging economic growth, eradicating poverty, and also creating jobs in reducing unemployment rates (Heruet et al., 2012). Thus, regions that have superior sectors in the industrial sector have an impact on the unemployment rate in West Java Province

COVID-19

The COVID-19 pandemic has had a very significant impact on the Indonesian economy, starting from changes in world supply chains to a decline in foreign investment into Indonesia. This decline can be seen through the slowdown in economic growth which fell from 5.02% in 2019 to 2.97% in 2020. The slowdown in economic growth was also accompanied by an increase in the number of unemployed, which according to World Bank data, increased from 5.28% in 2019 to 7.07% in 2020 (Direktorat Jenderal Kekayaan Negara, 2023). According to Rizal (2020), the decline in Indonesia's economic growth as a result of the PSBB has limited people's economic activities.

In research by Friska (2023) it is stated that there are 6.52% of the population who are temporarily unemployed due to the COVID-19 pandemic and there are 8.53% of the population in Indonesia who are unemployed due to the impact of the COVID-19 pandemic. Research by Krisnandika et al (2021) shows that the number of unemployed continues to increase in line with the COVID-19 pandemic. Thus, the influence of COVID-19 has a positive and significant relationship to the unemployment rate in West Java Province.

Research Framework

The framework of this research includes:

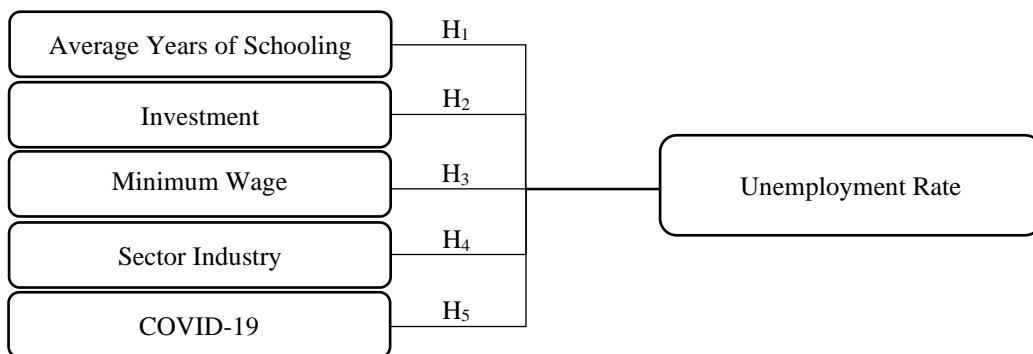


Figure 7. Research Framework

Source: Author (2024)

Hypothesis Development

Regarding the variable average length of schooling, research by Mahdali (2024) shows that average length of schooling has a significant influence on the unemployment rate. This is in line with research by Mustakim et al (2022) where the results show that the level of education has a significant negative effect on the unemployment rate. Regarding the investment variable, research by Oluchukwu et al (2019) shows that investment has a negative and significant influence on the unemployment rate. Regarding the minimum wage variable, research by Yacoub & Firdayanti (2019) shows that the minimum wage has a significant influence on the increase in unemployment. In the industry dummy variable, research by Rahmatullah & Khaerudin (2021) shows that industry has an influence on the unemployment rate. Regarding the COVID-19 dummy variable, research by Krisnandika et al (2021) shows that the number of unemployed in Indonesia continues to increase along with the COVID-19 pandemic. Based on previous research, the following hypothesis can be put forward.

H1: It is suspected that the average length of schooling has a negative and significant effect on the unemployment rate in West Java Province.

H2: It is suspected that investment has a negative and significant effect on the unemployment rate in West Java Province.

H3: It is suspected that the minimum wage has a negative and significant effect on the unemployment rate in West Java Province.

H4: It is suspected that the sector industry has a negative and significant influence on the unemployment rate in West Java Province.

H5: It is suspected that COVID-19 has had a negative and significant effect on the unemployment rate in West Java Province.

METHOD

Type of Research

The type of research used is quantitative research. Quantitative research, according to Sugiyono (2018), is a research method based on concrete data, and is research data in the form of numbers that will be measured using statistics as a calculation test tool, related to the problem being studied to produce a conclusion.

Operational Definition of Variables

Table 1. Operational Definition of Variables

Variable	Definition	Scale	Source
Unemployment (Y)	Average district/city unemployment rate.	Nominal	BPS.
Average Years of Schooling (X1)	Calculation of the total years of formal education taken divided by the population in each district/city.	Nominal	BPS.
Investment (X2)	Total investment realization of domestic investment and realization of foreign investment investment in each district/city.	Nominal	Open Data Jabar.
Minimum Wage (X3)	Minimum wage value for each district/city	Nominal	BPS, Open Data Jabar.
Sector Industry (D1)	The number 0 is used for regions that are classified as having leading non-industrial sectors. The number 1 is used for regions that are classified as having leading industrial sectors.	Giving numbers 0 and 1 to leading sectors according to districts/cities in West Java Province.	BPS.

COVID-19 (D2)	The number 0 is used for 2010 to 2019 and 2022. The number 1 is used for 2020 and 2021 as an indicator of the entry of COVID-19.	Awarding numbers 0 and 1 for thirteen years of research	Worldometers, Ministry of Health
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Data Types and Data Sources

The type of data used in this research is quantitative secondary data, namely data in the form of numbers. This data was obtained through the official website, namely *Badan Pusat Statistik*, West Java Open Data, Worldometers, Ministry of Health with research locations in 27 regencies/cities in West Java Province for the 2010-2022 period.

Data Analysis Methods

The classification of sector industry areas is classified based on the GRDP value at constant 2010 prices according to the business field of each district/city. In GRDP according to business fields, there are seventeen types of business field classifications, where to classify these areas you can compare the industrial and non-industrial components (OECD, 2022).

This research uses panel data regression analysis which is a combination of time series data and cross section data (Gujarati, 2012). Time series data is data from one object over several specific time periods, while cross section data is data obtained from one or more research objects in the same period. Panel data regression analysis was carried out to determine the relationship between variables. So, the basic panel data regression equation model used is as follows:

$$TPT_{it} = \beta_0 + \beta_1 LnRLS_{it} + \beta_2 LnINV_{it} + \beta_3 LnUMK_{it} + \beta_4 DIND_{it} + \beta_5 DCOVID_{it} + \epsilon_{it}$$

Information:

- TPT = Unemployment rate
- $\beta_0 \beta_1 \beta_2 \beta_3 \beta_4 \beta_5$ = Regression coefficient
- LnRLS = Natural log of mean length of schooling
- LnINV = Natural log of investment
- LnUMK = Natural log of minimum wage
- DIND = Dummy industry
- DCOVID = Dummy COVID-19
- i = Regency/city
- t = Time
- ϵ = Error

Then, in panel data regression analysis there are three models, namely Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). So, several tests were carried out to determine the model used, namely the Chow Test (CEM or FEM), Hausman Test (FEM or REM), and Lagrange Multiplier Test (CEM or REM). Apart from that, classical assumption tests were carried out such as multicollinearity test, heteroscedasticity test, autocorrelation test and normality test. Then, hypotheses such as the Coefficient of Determination, T Test, and F Test are also carried out.

RESULTS AND DISCUSSION

Model Selection Test

In selecting the model, the Chow test, Hausman test and Langrange Multiplier test were used. Below are presented the test results to determine the best model.

Table 2. Best Model Selection Test Results

Selection Test	Prob > Chi ²	Accepted Hypothesis
Chow Test	0,0000	Fixed Effect Model
Hausman Test	0,0000	Fixed Effect Model

Lagrange Multiplier Test 0,0000 Random Effect Model

Source: Stata 17 output, processed data (2024)

Based on the table above, it shows that the best results from the Chow test can be seen through the probability, namely 0.0000 with a significance level α of 5%. Thus, the best model in the Chow test is Fixed Effect Model. Then the Hausman test is carried out, it can be seen from the probability which is 0.0000 with a significance level α of 5% so that the best model in the Hausman test is Fixed Effect Model. The final model test is by carrying out the Lagrange Multiplier test and shows a probability of $0.0000 < \alpha$ of 5% so that the best model in the Lagrange Multiplier test is Random Effect Model. Based on the test results of the best model, in this research the model accepted is Fixed Effect Model.

Classical Assumption Test

Normality Test

Table 3. Normality Test

Shapiro-Wilk W Test	Prob > z
0,98842	0,01206

Source: Stata 17 output, processed data (2024)

Based on the table above, the normality test results show a probability value > z of 0.01206. This means that all variables in the model in the study are not normally distributed. However, the model in this research can still be used because research using large samples can ignore normality (Gujarati & Porter, 2012).

Multicollinearity Test

Table 4. Multicollinearity Test

	LnRLS	LnINV	LnUMK	IND	COVID
LnRLS	1,0000				
LnINV	0,1381	1,0000			
LnUMK	0,4693	0,5346	1,0000		
IND	0,4326	0,4041	0,2653	1,0000	
COVID	0,1293	0,0289	0,3695	-0,0514	1,0000

Source: Stata 17 output, processed data (2024)

Table 4 shows that in this model there are no symptoms of multicollinearity. This is indicated by the results of partial correlation between independent variables, where the correlation coefficient value is > 0.8.

Heteroscedasticity Test

Table 5. Heteroscedasticity Test

Wald Test	
P-Value > Chi ²	0,0000

Source: Stata 17 output, processed data (2024)

Based on table 4.6, it shows that the heteroscedasticity test results have a probability value of 0.0000. Where this is below the 5% significance level, which means that the regression model contains heteroscedasticity.

Autocorrelation Test

Table 6. Autocorrelation Test

Wooldridge Test	
Prob > F	0,0056

Source: Stata 17 output, processed data (2024)

Based on table 4.7, the results of the autocorrelation test show that the probability value is 0.0056. Where the probability value is less than α of 5% so that the regression model in the research has autocorrelation symptoms. Therefore, it is necessary to cure models affected by classical assumption problems, namely heteroscedasticity and autocorrelation using the Robust method. Table 7 shows the results of the robust method where the estimation model in this study is guaranteed to be free from heteroscedasticity and autocorrelation problems.

Data Analysis Results

After testing the best model, it is produced Fixed Effect Model as the model used in this research. The following is a panel data regression estimate with Fixed Effect Model.

Table 7. Fixed Effect Model Estimation Results

TPT	Fixed Effect Model	Fixed Effect Model Robust
<i>Ln</i> RLS	-7,273565 (0,019)	-7,273565 (0,044)
<i>Ln</i> INV	0,0387959 (0,486)	0,0387959 (0,459)
<i>Ln</i> UMK	-0,8285423 (0,038)	-0,8285423 (0,149)
IND	2,46591 (0,000)	2,46591 (0,000)
COVID	2,229669 (0,000)	2,229669 (0,000)
_cons	34,61618 (0,000)	34,61618 (0,000)
Number of Observations		319
Number of Groups		27
Observation per Groups		5
Prob > F		0,0000
R-Squared		0,2821
Estimation Model		Fixed Effect Model

Source: Stata 17 output, processed data (2024)

Based on table 7, it shows the estimation results using the best model, namely Fixed Effect Model. So, the regression model equation can be written as follows:

$$TPT_{it} = 34,61618 - 7,273565(RLS) + 0,0387959(INV) - 0,8285423(UMK) + 2,46591(IND) + 2,229669(COVID)$$

Then it can be seen from the R-squared value of 0.2821 which shows that the ability of all independent variables in explaining the dependent variable (Y) has a ratio of 28.21%, while the other 71.79% is influenced by other variables outside the research model. Furthermore, the F-statistic value from the regression results is 0.0000 with an F probability value of $0.00 < 0.05$, which means that all independent variables have a significant effect on the dependent variable simultaneously or together.

Hypothesis Testing

Based on the results of the T test, it is stated that the variable average length of schooling has a coefficient value on the variable average length of schooling of -7.273565 with a probability of 0.044. Thus, when the average length of schooling increases by 1% assuming other variables are constant, the unemployment rate in West Java Province will also decrease by 7.273565%. The

investment variable has a coefficient value on the investment variable of 0.0387959 with a probability of 0.459. So, it can be concluded that the investment variable at the significance level α (5%) has no effect on the unemployment rate. The minimum wage variable has a coefficient value on the minimum wage variable of -0.8285423 with a probability of 0.149. So, it can be concluded that the minimum wage variable at the significance level α (5%) has no effect on the unemployment rate.

The sector industry variable has a known coefficient value for the sector industry variable of 2.46591 with a probability of 0.000. Thus, the unemployment rate in West Java Province will increase by 2.46591% in industrial sector areas compared to non-industrial sector areas when it increases by 1% assuming other variables are constant. The COVID-19 sector variable has a coefficient value on the COVID-19 variable of 2.229669 with a probability of 0.000. Thus, the unemployment rate in West Java Province will increase by 2.229669% during the COVID-19 period compared to the period before or after COVID-19 assuming other variables are constant.

The Effect of Average Years of Schooling on the Unemployment Rate in West Java Province

The variable average length of schooling at the significance level α (5%) has a negative and significant effect on the unemployment rate. The results of this study support human capital theory or Human Capital Theory which states that a high level of education will be able to increase productivity so that it can increase output and absorption of the workforce will be higher (Mahdali, 2024). According to data, the average length of schooling continues to increase every year. This shows that the level of population awareness of the importance of education is getting better.

Then, the results of this research are in line with research by Mustakim et al (2022) where the results show that the level of education has a significant negative effect on the unemployment rate. However, the results of this research are contrary to research by Suaidah & Cahyono (2013) where the results show that the level of education has a positive relationship with the unemployment rate. In this research, the phenomenon was also caused by the high number of graduates at high school level which was not followed by the number of job opportunities available which in the end would increase the unemployment rate.

The Effect of Investment on the Unemployment Rate in West Java Province

The investment variable at the significance level α (5%) has no effect on the unemployment rate. This condition rejects the hypothesis in this research which suspects that investment has a negative and significant effect on the unemployment rate in West Java Province. The results of this research are in line with research by Alalawneh & Nessa (2020) which states that investment has no influence on the unemployment rate in the short term. The results of this research reject the Harrod-Domar theory which states that greater investment will increase production capacity so that demand for labor will be greater. This will reduce the unemployment rate in an area.

The discrepancy between the research results and the hypothesis in this study is due to the fact that investment in West Java Province is still dominant in the capital-intensive sector. In 2022, the realization of capital-intensive investment in West Java Province will be IDR 72,839,372,684,599.00 compared to the labor-intensive sector which is only IDR 20,929,995,244,365.00 (Open Data Jabar, 2024). Where capital intensive sectors do not require a lot of labor but predominantly use high technology. Thus, the effect of investment on unemployment may depend on whether investment is labor intensive or capital intensive.

The Effect of Minimum Wage on the Unemployment Rate in West Java Province

Based on statistical tests that have been carried out on the minimum wage variable with the unemployment rate with a coefficient value of -0.8285423 and a probability value of 0.149. These results indicate that the minimum wage has no effect on the unemployment rate in West Java Province. This finding rejects the hypothesis of a minimum wage variable with the unemployment rate in this study and is in line with research (Mahdali, 2024).

According to Mahdali (2024), the rigid nature of the minimum wage means that the minimum wage does not have a real impact on employment, where the determination of the minimum wage has a long-term impact in that year. Thus, in the short term, minimum wage changes do not necessarily lead to changes in hiring practices or unemployment rates because employers and employees are bound by other factors that maintain employment levels regardless of wage

changes. This condition is explained in the book entitled "What Does the Minimum Wage Do?" which states that changes to the minimum wage have no impact on employment elasticity (Belman & Wolfson, 2014).

The Effect of Sector Industry on the Unemployment Rate in West Java Province

Based on statistical tests that have been carried out on the sector industry variable with the unemployment rate with a coefficient value of 2.46591 and a probability value of 0.000. These results indicate that the unemployment rate in West Java Province will increase by 2.46591% in industrial sector areas compared to non-industrial sector areas when it increases by 1% assuming other variables are constant.

This phenomenon occurs because the level of labor absorption in industrial sector areas decreases every year. So, when industry in the industrial sector area experiences an increase, it has no effect on reducing the unemployment rate. Based on the realization of industrial investment, the increase in industry in West Java Province is not in labor-intensive industries but tends to be in capital-intensive industries. This is only accompanied by improvements in industrial sector technology which only involves a small workforce. Thus, when the realization of industrial investment only focuses on capital-intensive industries, it will reduce labor absorption and will actually experience a spike in the increase in unemployment rates in West Java Province.

The Effect of COVID-19 on the Unemployment Rate in West Java Province

Based on statistical tests that have been carried out on the variable COVID-19 and unemployment rate with a coefficient value of 2.229669 and a probability value of 0.000. These results indicate that the unemployment rate in West Java Province will increase by 2.229669% during the COVID-19 pandemic period compared to the period before or after the COVID-19 pandemic assuming other variables are constant.

This condition is in accordance with the hypothesis in this research which suspects that COVID-19 has a positive and significant effect on the unemployment rate in West Java Province. The results of this research are in line with research conducted by Krisnandika et al (2021), the results of this research state that as the COVID-19 pandemic increases, the number of unemployed will increase. A similar thing is also found in research by Fahri et al (2019) which states that the unemployment rate will continue to increase amidst the COVID-19 pandemic because many companies are closing and closing, which will encourage companies to lay off their workers. Thus, the COVID-19 pandemic can increase unemployment rates due to decreased productivity due to the pandemic which can be seen based on labor absorption which has experienced a significant decline in 2020 and 2021 compared to other years (Open Data Jabar, 2024)

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the research results, the factors that influence the unemployment rate, namely the variables average length of school, sector industry, and COVID-19 have an influence on the unemployment rate in West Java Province. Meanwhile, the investment and minimum wage variables have no influence on the unemployment rate in West Java Province. The sector industry variables and COVID-19 have a positive influence, while the average length of schooling has a negative influence on the unemployment rate in West Java Province.

Suggestion

The implications of the results of this research indicate that the government needs to improve alignment between education programs and market needs by introducing more industrial training and certification programs, focusing more on labor intensive industries rather than capital-intensive industries in order to create jobs for the community, considering minimum wages according to sectors in terms of productivity levels, further industrial revitalization by encouraging the growth of labor intensive industries to help create more jobs, and the need to carry out a post-pandemic economic recovery program by supporting job creation in sectors affected by the pandemic.

IMPLICATIONS

It is hoped that this research can increase insight and become literacy material regarding surrounding issues, especially regarding problems with the unemployment rate. It is also hoped that the results obtained from this research can become information material for the government in preparing and implementing policies that will be implemented, especially regarding problems with the unemployment rate in terms of education, investment and minimum wages in West Java Province.

LIMITATIONS

In this study, 71% was still influenced by other variables outside the research model. So it is hoped that future research can add more complex variables to explain the influence of the unemployment rate.

REFERENCES

- Alalawneh, M., & Nessa, A. (2020). The Impact of Foreign Direct Investment on Unemployment: Panel Data Approach. *Emerging Science Journal*, 4(4), 228–242.
- Aziz, A. A., & Julia, A. (2022, August). Pengaruh Jumlah Industri, Upah Minimum, dan Pertumbuhan Ekonomi terhadap Pengangguran Kabupaten dan Kota di Provinsi Jawa Barat Tahun 2017-2020. In *Bandung Conference Series: Economics Studies* (Vol. 2, No. 2, pp. 400-410).
- Badan Pusat Statistik Kabupaten Sumedang. (15 Juli 2024). Pertumbuhan Ekonomi Jawa Barat tahun 2022 sebesar 5,45 persen. <https://sumedangkab.bps.go.id/id/pressrelease/2024/07/15/221/pertumbuhan-ekonomi-jawa-barat-tahun-2022-sebesar-5-45-persen.html>
- Badan Pusat Statistik. (2023b). Jumlah Penduduk Menurut Provinsi di Indonesia (Ribu Jiwa), 2020-2022. <https://sulut.bps.go.id/indicator/12/958/1/jumlah-pendudukmenurut-provinsi-di-indonesia.html>
- Badan Pusat Statistik. (2023c, May 17). Kepadatan Penduduk Menurut Kabupaten/Kota - Tabel Statistik. <https://jabar.bps.go.id/id/statistics-table/2/MjQ1IzI=/kepadatan-penduduk.html>
- Badan Pusat Statistik. (2023, December 12). Rata-Rata Lama Sekolah Penduduk Umur 15 Tahun ke Atas Menurut Provinsi - Tabel Statistik. <https://www.bps.go.id/id/statistics-table/2/MTQyOSMy/rata-rata-lama-sekolah-penduduk-umur-15-tahun-ke-atas-menurut-provinsi.html>
- Badan Pusat Statistik. (2024a, March 1). Realisasi Investasi Penanaman Modal Dalam Negeri Menurut Provinsi (Investasi) - Tabel Statistik. <https://www.bps.go.id/id/statistics-table/2/NzkzIzI=/realisasi-investasi-penanaman-modal-dalam-negeri-menurut-provinsi--investasi---milyar-rupee-.html>
- Belman, D., & Wolfson, P. (2014). *What Does the Minimum Wage Do?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Bradley, M. E. (2007). Efficiency Wages and Classical Wage Theory. *Journal of the History of Economic Thought*, 29(2), 167–188.
- Direktorat Jenderal Kekayaan Negara. (2023). Pandemi Covid-19 Dan Menurunnya Perekonomian Indonesia. [Kemenkeu.go.id. https://www.djkn.kemenkeu.go.id/artikel/baca/16064/Pandemi-Covid-19-Dan-Menurunnya-Perekonomian-Indonesia](https://www.djkn.kemenkeu.go.id/artikel/baca/16064/Pandemi-Covid-19-Dan-Menurunnya-Perekonomian-Indonesia).
- Fahri, Jalil, abd, & Kasnelly, S. (2019). MENINGKATNYA ANGKA PENGANGGURAN DITENGAH PANDEMI (COVID-19) (pp. 45–60). *Jurnal Ekonomi Syariah*.
- Friska, M. (2023). Dampak Pandemi COVID-19 Terhadap Tenaga Kerja Di Indonesia. *Media Edukasi Data Ilmiah dan Analisis (MEDIAN)*, 6(01), 35-52.
- Gujarati, D., & Porter, D. (2012). *Basic Econometrics* (5th ed.). Salemba Empat.

- Indriani, D. (2019). Pengaruh Upah Minimum dan Jumlah Penduduk Terhadap Tingkat Pengangguran di Provinsi Lampung dalam Perspektif Ekonomi Islam (Doctoral dissertation, UIN Raden Intan Lampung).
- Jing Yang, Y. Z. (2020). Prevalence of comorbidities and its effects in patients infected with SARS-CoV-2: a systematic review and meta-analysis. *International Journal of Infectious Diseases*, 91-95
- Karisma, A., Subroto, W. T., & Hariyati, H. (2021). Pengaruh pendidikan dan investasi terhadap pengangguran di Jawa. *Journal of Economic, Bussines and Accounting (COSTING)*, 5(1), 441-446.
- Keynes, J. (2003). *The General Theory of Employment, Interest, and Money* (p. 404). Springer. (Original work published 1936)
- Krisnandika, V., Aulia, D., & Jannah, L. (2021). Dampak Pandemi Covid-19 Terhadap Pengangguran Di Indonesia. *Jurnal Ilmu Sosial Dan Pendidikan (JISIP)*, 5(4).
- Layard, R., & De Neve, J. (2023). Unemployment. In *Wellbeing: Science and Policy* (pp. 166-177). Cambridge: Cambridge University Press. doi:10.1017/9781009298957.015
- Mahdali, A. (2024). The Impact of Population Growth Rate, Minimum Wage, and Education on The Unemployment Rate in 2022. *Jambura Equilibrium Journal*, 6(1), 48–59.
- Mankiw, N. G. (2003). *Pengantar Ekonomi (Jilid 2)*. Jakarta: Erlangga.
- Megantara, D. E., & Budhi, M. K. S. (2020). Pengaruh Angka Melek Huruf dan Upah Minimum terhadap Tingkat Pengangguran dan Indeks Pembangunan Manusia Kabupaten/Kota di Provinsi Bali. *Jurnal Ekonomi Pembangunan*, 9(1), 91-119.
- Mustakim, A., Ferlin, & Rizal. (2022). Pengaruh Rata-Rata Lama Sekolah terhadap Tingkat Pengangguran Terbuka di Kota Kendari Tahun 2010-2021. *Arus Jurnal Sosial dan Humaniora*, 2 (3), 209-216.
- OECD (2022), *OECD Labour Force Statistics 2021*, OECD Publishing, Paris, <https://doi.org/10.1787/177e93b9-en>
- Oluchukwu, A., Chinyere, U., & Francisca, C. (2019). How Investment Does Affect Unemployment in a Developing Economy Chikwendu Nneka Francisca. *Sumerianz Journal of Economics and Finance*, 2(7), 82–88.
- Open Data Jabar. (2024, May). Jumlah Pengangguran Terbuka Berdasarkan Pendidikan di Jawa Barat. [Opendata.jabarprov.go.id;](https://opendata.jabarprov.go.id/) [diskominfojabar. https://opendata.jabarprov.go.id/id/dataset/jumlah-pengangguran-terbuka-berdasarkan-pendidikan-di-jawa-barat](https://opendata.jabarprov.go.id/id/dataset/jumlah-pengangguran-terbuka-berdasarkan-pendidikan-di-jawa-barat)
- Prakoso, E. S. (2021). Analisis pengaruh tingkat pendidikan, upah minimum, inflasi dan investasi terhadap tingkat pengangguran di indonesia periode 2010-2019. *Jurnal Ilmiah Mahasiswa FEB*, 9(2).
- Rahmatullah, A., & Khaerudin, D. (2021). Analisis Dampak Ketidaktersedian Industri Terhadap Peningkatan Angka Pengangguran dan Urbanisasi di Kabupaten Pandeglang Banten. *Jurnal Manajemen STIE Muhammadiyah Palopo*, 7(1), 60–72.
- Todaro, M., & Smith, S. (2014). *Economic Development* (12th ed.). PEARSON.
- Yacoub, Y., & Firdayanti, M. (2019). Pengaruh Inflasi, Pertumbuhan Ekonomi Dan Upah Minimum Terhadap Pengangguran Di Kabupaten/Kota Provinsi Kalimantan Barat. *Prosiding SATIESP*, 132-142.