

Analysis of the Effect of Population, Education Level, and Minimum Wage on Open Unemployment Rate in West Java Province

Priska Cintya Amarta^{1*}, Ririt Iriani Sri Setiawati²

Program Studi Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis,
Universitas Pembangunan Nasional “Veteran” Jawa Timur

Corresponding Author: Ririt Iriani Sri Setiawati ririt.iriiani.ep@upnjatim.ac.id

ARTICLE INFO

Keywords: Open Unemployment, Population, Education Level, Minimum Wage, West Java

Received : 3, August

Revised : 17, August

Accepted: 18, September

©2025 Amarta, Setiawati : This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This study aims to analyze the influence of the population, education level, and minimum wage on the open unemployment rate in West Java Province. The research uses a quantitative method with secondary time series data from 2009–2023 obtained from BPS West Java. The analysis was carried out by multiple linear regression as well as classical assumption tests. The results of the study show that the number of population has a significant negative effect, education level has a significant positive effect, and the minimum wage does not have a significant effect on the open unemployment rate. These findings show that improving the quality of education and expanding employment are more important than wage policies in overcoming unemployment in West Java.

INTRODUCTION

Developing countries are countries that are in the process of improving their living standards, economy, quality of education, and income. A notable feature of developing countries is their high unemployment rate, which is a common problem, including in Indonesia. As the largest archipelagic country with a population of more than 240 million people, Indonesia occupies the fourth position as the most populous country in the world (A. P. Sari & Hasmarini, 2023). This large population can trigger high unemployment rates, which is an important macroeconomic issue because it can hinder regional development and cause various social problems (Ardian et al., 2022). High unemployment has a direct impact on people's income which is used to meet basic needs (Tkacova et al., 2022). This must be addressed immediately because it has an impact on individuals, society, and the government, such as loss of income, difficulty in improving welfare, and limited employment opportunities due to jobs that are not proportional to the number of labor force (Putra & Hidayah, 2023).

The unemployment rate serves as a significant measure in evaluating a nation's economic condition, whether it is growing, stagnating, or declining (Fajri & Iriani, 2022). Through this indicator, it can be seen how the employment performance of a region, especially in absorbing labor. The rate of open unemployment, which is calculated as a percentage of the total population, illustrates the extent to which human resources are absorbed by the labor market, which directly affects people's welfare. In Indonesia, the increasing unemployment rate shows the need for more responsive and serious handling from the government. The problem of unemployment does not only occur nationally, but has also become a significant labor issue in various provinces, including in West Java (Ishak, 2018).

In West Java, the employment problem, namely unemployment, is a problem that must be studied because this unemployment problem has a relationship with several indicators such as population, education level, and minimum wage. In general, unemployment in West Java is a matter that needs attention and is important to be targeted for resolution because the high and low level of unemployment greatly affects the economic condition of a country. In addition, unemployment can reduce the poverty line. So that it can improve people's welfare (Kasanah et al., 2018).

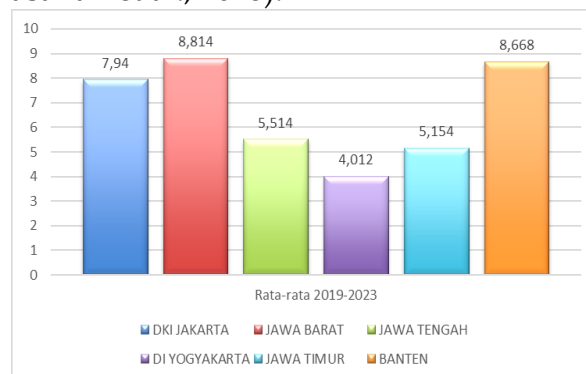


Figure 1. Percentage of Open Unemployment Rate by Province in Java Island in 2019-2023

The figure above shows the open unemployment rate in six provinces in Java Island in 2019-2023, where West Java has the highest rate with an average of 8.8 percent. Even in 2022, West Java ranked as the highest unemployment rate in Indonesia (Ramadhani & Ananda, 2024). Despite being an important province in terms of employment, the high unemployment rate in West Java is influenced by the low competitiveness of local workers compared to newcomers, so companies prefer candidates with higher competencies.

The phenomenon of open unemployment can be caused by many influencing factors, such as education level, population, and minimum wage. Population is a factor that can have an impact on the jobless rate in West Java. The imbalance between the growth of the supply of labor and accessible jobs causes an increase in unemployment. When the population increases, the number of workers also increases so that production can increase and the market becomes wider. The increase in population can also be an inhibiting factor. Because unemployment can occur if the number of people looking for work is greater than the number of vacancies available (Sukirno, 2016).

According to BPS (2023) West Java holds the position of being Indonesia's most heavily populated province. In December 2023, the population of West Java Province reached 49.9 thousand people or 17.78% of the overall population of Indonesia. This is due to the large number of industrial centers. In addition, migration can also accelerate economic growth and urbanization in the West Java region. The high unemployment rate in West Java is due to the lack of employment opportunities, which results in the absorption of labor that is not proportional to the number of available workers.

The second factor that affects the unemployment rate is the level of education. According to (Sumarsono, 2009). Education plays a role in developing knowledge, skills, and individual character, which ultimately aims to improve the quality of life. Indicators of educational success can be seen from the average years of schooling (RLS), which describes the quality of a person's education (Suharlina, 2020). Individuals with low education tend to have difficulty obtaining decent jobs, especially those that require special skills. Conversely, higher education graduates are better prepared to face the world of work because they have better skills and experience.

Therefore, the higher a person's level of education, the greater his or her ability to absorb information and improve skills. This not only opens up wider employment opportunities, but also contributes to lowering the unemployment rate. Skilled human resources can even create new jobs through entrepreneurship or industrial development (Indriani Novita Sari, 2022).

Minimum wage is one of the factors that influence the open unemployment rate, apart from population and education level. High wages, although aimed at providing welfare for workers, can lead to a reduction in the number of workers because it increases the production costs that must be borne by the company. According to Kaufman and Hotckhiss (1999), an increase in the wage level will result in an increase in output costs, so that companies are forced to reduce the number of workers for the sake of efficiency. This causes the higher the wage rate set by the government in a region, the less labor is absorbed.

(Mustaka, 2020) also emphasized that this condition has a direct impact on increasing the unemployment rate. In addition, according to (Desi et al., 2023), unemployment in Indonesia has also increased due to the mismatch between wages offered by companies and labor expectations. The nominal difference in minimum wages between regions and the inability of companies to meet minimum wage standards cause companies to choose to reduce the number of workers. Conversely, if wages are set low, companies tend to recruit more workers (Dewi Indriani, 2019).

The unemployment rate in West Java Province ranks second highest out of 38 provinces in Indonesia and the highest in Java Island in 2019-2023. This is caused by low labor absorption, limited employment opportunities, and a mismatch between the number of job seekers and market needs. Structural unemployment is the main cause, occurring due to the mismatch of labor skills with company needs, low education, and lack of ability to keep up with technological developments. Frictional unemployment also contributes, especially among fresh graduates who find it difficult to find work according to procedures and qualifications. Data shows that 23.26% of unemployment comes from the age group of 15-24 years, with the majority of educational backgrounds being high school and university (Bappeda, 2023). Factors such as digitalization, competition from workers outside the region, and low competence exacerbate unemployment. Therefore, improving education, skills, and cooperation between the government and the community are needed to reduce unemployment in West Java.

This research was conducted because the high unemployment rate in West Java Province is an important economic problem to be studied scientifically. Therefore, the researcher aims to analyze whether population, level, and minimum have an effect on the open unemployment rate in West Java Province.

LITERATURE REVIEW

Malthus' Classical Theory

Malthus' Classical Theory argues that even though population growth raises the number of workers, it is not followed by an equal increase in job availability. As a result, competition for jobs will also be tighter and those who do not succeed will become unemployed (Kuncoro, 2006).

The relationship between population and open unemployment is supported by research (Sambaulu et al., 2022) Which explains that population exerts a positive and significant impact on unemployment. H1: population has a significant influence on the level of open unemployment in West Java.

Human Capital Theory (Gary Becker and Theodore Schultz)

States that a person's knowledge and skills have a value comparable to other forms of capital. Investing in human resources can increase economic output and personal income potential.

The relationship between education level and unemployment according to research (Prakoso, 2021) states that the education variable has a significant influence on the unemployment rate. H2: the level of education has a significant influence on the level of open unemployment in West Java.

Minimum Wage Theory (Keynes)

Keynes argued that when wages rise above the market level, it creates an imbalance between demand and supply, leading firms to cut labor demand and reduce employment, potentially resulting in unemployment.

The relationship between minimum wage and unemployment in research (Baihawafi & Sebayang, 2023) states that the minimum wage variable has a significant influence on the unemployment rate H3: minimum wage has a significant influence on the open unemployment rate in West Java.

METHODOLOGY

This research uses quantitative methods with secondary data in the form of time series from 2009-2023 obtained through the official website of the Central Bureau of Statistics of West Java Province as well as literature sources such as journals, e-books, and government publications. The research population includes all data on the open unemployment rate in West Java Province, with samples in the form of annual data for 15 years. Data analysis was conducted using multiple linear regression with the help of SPSS software version 27. Classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation), model fit test (R^2), and hypothesis tests (F and t tests) were used to test the validity of the model.

RESEARCH RESULT

Table 1. Uji Multikolinieritas

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1							
	(Constant)	30.720	6.649	4.621	<.001		
	Jumlah penduduk	-5.573	1.336	-1.794	.002	.150	6.677
	Tingkat pendidikan	1.704	.759	.820	.246	.208	4.810
	Upah Minimum	.165	.137	.440	1.207	.253	4.794

a. Dependent Variable: TPT

Table 1 shows that the tolerance value of the four variables is greater than 0.10. Variable population tolerance value $0.150 > 0.10$; variable education level tolerance value $0.208 > 0.10$; variable minimum wage tolerance value $0.209 > 0.10$. The VIF value of the four variables is also smaller than 10. The total population variable VIF value $6.677 < 10$; variable education level VIF value $4.810 < 10$; variable minimum wage VIF value $4.794 < 10$. So, it can be concluded that the data does not have multicollinearity symptoms.

Table 2. Heteroscedasticity Test

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1					
	(Constant)	14.951	18.794	.796	.443
	Jumlah penduduk	-7.109	3.776	-1.178	.086
	Tingkat pendidikan	3.116	2.145	.772	.174
	Upah Minimum	.556	.386	.764	.178

a. Dependent Variable: LN_RES

Based on table 2 shows that the results of the heteroscedasticity test with the Park Test of the four variables have a significance value greater than 0.05. Population variable sig value 0.443; education level variable sig value 0.086;

minimum wage variable sig value 0.178 > . 'So, it can be concluded that there are no symptoms of heteroscedasticity.

Table 3. Autocorrelation Test (LM TEST)

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	-2.169	7.710		
	Jumlah penduduk	.524	1.511	.274	.347
	Tingkat pendidikan	-.146	.837	-.120	.175
	Upah Minimum	-.022	.146	-.100	.149
	Lag	.202	.388	.183	.521

a. Dependent Variable: Unstandardized Residual

Based on table 3 shows that Lag has a sig value of 0.615 > 0.05. So, it can be concluded that no autocorrelation symptoms occur.

Table 4. Normality Test

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			15
Normal Parameters ^{a, b}	Mean		.0000000
	Std. Deviation		.56597847
Most Extreme Differences	Absolute		.113
	Positive		.112
	Negative		-.113
Test Statistic			.113
Asymp. Sig. (2-tailed) ^c			.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.		.865
	99% Confidence Interval	Lower Bound	.856
		Upper Bound	.874

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Based on table 4 shows that the Asymp.Sig. (2-tailed) value obtained is 0.200 > 0.05. So, it can be concluded that the residual value is normally distributed or the data is normally distributed.

Table 5. Analysis of the Regresi Linier Berganda

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	30.720	6.649	4.621	<.001
	Jumlah penduduk	-5.573	1.336	-1.794	.046
	Tingkat pendidikan	1.704	.759	.820	.246
	Upah Minimum	.165	.137	.440	.120

a. Dependent Variable: TPT

Based on the table above, the results of multiple linear regression are obtained as follows:

$$Y = 30,720 - 5,573X_1 + 1,704X_2 + 0,165X_3 + e$$

1. Constant value = 30.720. Based on these results, it can be concluded that if the Number of Population (X1), Education Level (X2), Minimum Wage (X3) is assumed to be fixed or constant, then the Open Unemployment Rate (Y) will increase by 30.720 percent.
2. Total Population (X1) = -5,573. This shows that if the variable Number of Population (X1) increases by 1 percent, the Open Unemployment Rate will decrease by 5.573 percent. Assuming that the variables of Education Level (X2) and Minimum Wage (X3) are fixed or constant.
3. Education Level (X3) = 1,704. This shows that if the variable Education Level (X2) increases by 1 percent, the Open Unemployment Rate increases by 1,704. Assuming the variables of Total Population (X1) and Minimum Wage (X3) are fixed or constant.

4. Minimum Wage (X3) = 0.165. This shows that if the Minimum Wage (X3) variable increases by 1 percent, the Open Unemployment Rate increases by 0.165 percent. Assuming that the variables of Population (X1) and Education Level (X2) are fixed or constant.

Table 6. Coefficient of Determination Test (R2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834 ^a	.695	.612	.63851

a. Predictors: (Constant), Upah Minimum, Tingkat pendidikan, Jumlah penduduk

Based on table 6, the R square value is 0.695 or 69%. This shows that independent variables, namely the number of population, education level, and minimum wage, can affect dependent variables, namely the open unemployment rate of as low as 69%. Meanwhile, the remaining 31% was influenced by other variables outside the study.

Table 7. Uji F

ANOVA ^a					
Model		Sum of Squares	df	Mean Square	Sig.
1	Regression	10.233	3	3.411	8.366
	Residual	4.485	11	.408	.004 ^b
	Total	14.717	14		

a. Dependent Variable: TPT
b. Predictors: (Constant), Upah Minimum, Tingkat pendidikan, Jumlah penduduk

Based on table 7, it shows an F-calculation value of 8.366 with a significance value of 0.004 where the significance value is $0.004 < 0.05$. While the result of the F-table is 3.59. Then it can be known that the F-calculation value is $8.366 > F\text{-table is } 3.59$. So it can be concluded that independent variables have a significant effect simultaneously (together) on dependent variables.

Table 8. T Test

Coefficients ^a					
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t
1	(Constant)	30.720	6.649		4.621
	Jumlah penduduk	-5.573	1.336	-1.794	-4.172
	Tingkat pendidikan	1.704	.759	.820	2.246
	Upah Minimum	.165	.137	.440	1.207

a. Dependent Variable: TPT

Based on the results of the T-test in the table above, it is necessary to find out the value of the t-table and get a t-table of 2.201.

1. The Number of Population variable, shows that the variable of the Number of Population is obtained t-count of -4.172 with a significance value of 0.002. Through the test results, it was known that the t-count value was $4.172 > t\text{-table } 2.201$ and the significance value was $0.002 < 0.05$. Therefore, it can be concluded that partially the Number of Population has a significant effect on the Open Unemployment Rate.
2. The Education Level variable, shows that the Education Level variable is obtained t-count of 2.246 with a significance value of 0.046. Through the test results, it was known that the t-count value was $2.246 > t\text{-table } 2.201$ and the

significance value was $0.046 < 0.05$. Therefore, it can be concluded that partially the level of education has a significant effect on the Open Unemployment Rate.

3. Minimum Wage, shows that the Wage variable is obtained t-calculated of 1.207 with a significance value of 0.253. Through the test results, it was known that the t-count value was $1.207 < t\text{-table } 2.201$ and the significance value was $0.253 > 0.05$. Therefore, it can be partially concluded that the Minimum Wage does not have a significant effect on the Open Unemployment Rate.

DISCUSSION

The Effect of Population on Open Unemployment Rate

The results of the analysis demonstrate that population size (X1) has a significant influence on the open unemployment rate in West Java Province during 2009–2023, with a significance value of $0.002 < 0.05$ and a coefficient of -5.573, which means that every 1 percent increase in the number of people reduces open unemployment by 5.573 percent. The increase in the population in West Java is largely influenced by migration to industrial areas, which has an impact on increasing the labor force. However, if not balanced with employment growth, this can actually increase unemployment. In 2013, the number of productive age population reached 33.16 million people. These findings are in line with Malthus' theory and research (S. A. E. Sari & Pangestuty, 2022) which confirms that population growth that is not proportional to the availability of jobs will increase the open unemployment rate.

The Effect of Education Level on Open Unemployment Rate

The findings indicate that education level significantly affects the open unemployment rate in West Java Province during 2009–2023, with a significance value of 0.046 and a coefficient of 1.704, which means that an increase in education of 1 percent can increase open unemployment by 1.704 percent. Although education is important to improve the quality of individuals, the reality is that higher education graduates tend to put off work because they expect suitable positions and wages, thus contributing to increasing unemployment. In West Java, the majority of the population is only educated up to the high school and junior high levels, which causes a mismatch with the needs of the job market. 2020–2023 data shows that unemployment is dominated by graduates of high school, vocational, junior high, and university, reflecting a mismatch of skills with industry demand. The lack of job growth and changes in qualifications exacerbate this situation. These findings are in line with research (Suyanto et al., 2019) which states that the level of education has a significant effect on open unemployment.

The Effect of the Minimum Wage on the Open Unemployment Rate

The test findings reveal that the minimum wage (X3) does not have a significant impact on the open unemployment rate in West Java Province during 2009–2023, with a significance value of $0.253 > 0.05$ and a coefficient of 0.165, which means that an increase in the minimum wage of 1 percent only has the potential to increase open unemployment by 0.165 percent. Although the

minimum wage in West Java continues to increase and attracts many job seekers from outside the region, this does not always have a direct impact on unemployment, as companies tend to be efficient by reducing labor to reduce operational costs. These findings are in line with Keynes' theory and research (Febriani et al., 2024) which states that rising wages above market levels can reduce labor demand, while low wages actually encourage labor absorption.

CONCLUSIONS AND RECOMMENDATIONS

Research results reveal that the number of inhabitants significantly and negatively influences open unemployment in West Java, where the increase in population without job creation actually increases unemployment. The level of education has a significant positive effect, because job expectations and high wages do not always align with market needs. Meanwhile, the minimum wage has no significant effect, as companies consider skills and qualifications more. Therefore, unemployment policies should be focused on improving the quality of the workforce and expanding employment.

Based on the conclusion, the author suggests that the West Java Provincial Government should consider the results of this research in setting policies to overcome open unemployment, focusing on sustainable job creation, improving the quality of education, and encouraging investment and workforce training.

ADVANCED RESEARCH

For researchers, it is recommended to use a longer period of time so that the types of data obtained are more diverse. In addition, based on the results of the determination coefficient test, around 31% can be explained by other variables outside this study in the hope of being able to analyze the open unemployment rate to achieve more optimal results and provide a more in-depth analysis.

REFERENCES

- Ardian, R., Syahputra, M., & Desmawan, D. (2022). Pengaruh pertumbuhan ekonomi terhadap tingkat pengangguran terbuka di Indonesia. *Jurnal Ekonomi, Bisnis Dan Manajemen*, 1(3), 190-198.
- Badan Pusat Statistik Provinsi Jawa Barat. (2023, February). Provinsi Jawa Barat Dalam Angka 2023.
- Baihawafi, M., & Sebayang, A. F. (2023). Pengaruh Upah Minimum, Indeks Pembangunan Manusia dan Laju Pertumbuhan Ekonomi terhadap Pengangguran Terbuka. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, 39-44.
- Bappeda, J. (2023, October 11). Pengenalan Indikator Pengangguran. Bappeda.Jabarprov.
- Desi, D., Simanjuntak, I. G., Siva, L. C., Yohen, S. M., & Angela, S. (2023). PENYELESAIAN MASALAH PENGANGGURAN DI INDONESIA. *JURNAL RECTUM: Tinjauan Yuridis Penanganan Tindak Pidana*, 5(1), 1503-1511.
- Dewi Indriani. (2019). Pengaruh Upah Minimum Dan Jumlah Penduduk Terhadap Tingkat Pengangguran di Provinsi Lampung Dalam Perspektif Ekonomi Islam. i-98.
- Fajri, A. A., & Iriani, R. (2022). Pengaruh Kemiskinan Dan Pengangguran Terhadap Pertumbuhan Ekonomi Di Provinsi Bali Tahun 2002-2021. *Ekopem: Jurnal Ekonomi Pembangunan*, 4(2), 53-66.

- Febriani, A., Rahim, A., Samsir, A., Alam, S., & Astuty, S. (2024). Analisis Pengaruh Upah Minimum Dan Pertumbuhan Ekonomi Terhadap Pengangguran Di Provinsi Sulawesi Selatan. *Inovasi Makro Ekonomi (IME)*, 6(3).
- Indriani Novita Sari, I. (2022). Pengaruh Tingkat Pendidikan, Kualitas Pelatihan, Pemanfaatan Teknologi Informasi, Dan Pengalaman Kerja Aparatur Desa Terhadap Pemahaman Laporan Keuangan Desa Pada Aparatur Desa Di Kecamatan Sambit Kabupaten Ponorogo. Universitas Muhammadiyah Ponorogo.
- Kasanah, Y. T., Hanim, A., & Suswandi, P. E. (2018). Faktor-faktor yang mempengaruhi pengangguran terbuka di Provinsi Jawa Tengah tahun 2009-2014. *E-Journal Ekonomi Bisnis Dan Akuntansi*, 5(1), 21-25.
- Kuncoro, M. (2006). *Ekonomika Pembangunan: Teori, Masalah, Dan Kebijakan*, Edisi, 4.
- Mustaka, A. (2020). Analisis Tingkat Pengangguran dan Kemiskinan di Provinsi Kalimantan Tengah Tahun 2003-2008. *Jurnal Magister Ekonomi, Universitas Palangkaraya: Pertumbuhan*, 6(2), 133-150.
- 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).
- Putra, G. V. H., & Hidayah, N. (2023). Analisis Pengaruh Jumlah Penduduk, Pendidikan, Tingkat Partisipasi Angkatan Kerja, Upah Minimum Kabupaten/Kota Dan Produk Domestik Regional Bruto Terhadap Pengangguran Terbuka Di Provinsi Jawa Barat Tahun 2018-2021. *Komitmen: Jurnal Ilmiah Manajemen*, 4(1), 149-158.
- Ramadhani, Q. N., & Ananda, C. F. (2024). Pengaruh Pertumbuhan Ekonomi, Investasi, Dan Upah Minimum Terhadap Tingkat Pengangguran Di Jawa Barat. *Journal of Development Economic and Social Studies*, 3(2).
- Sari, A. P., & Hasmarini, M. I. (2023). Determinan Tingkat Pengangguran Negara Berkembang di ASEAN Tahun 2017-2021. *Innovative: Journal Of Social Science Research*, 3(6), 9264-9274.
- Sari, S. A. E., & Pangestuty, F. W. (2022). Analisis Pengaruh Jumlah Penduduk, Tingkat Pendidikan, Dan Produk Domestik Regional Bruto Terhadap Tingkat Pengangguran Terbuka Di Provinsi Jawa Timur Tahun 2017-2020. *Journal of Development Economic and Social Studies*, 1(4).
- Suharlina, H. (2020). Pengaruh Investasi, Pengangguran, Pendidikan dan Pertumbuhan Ekonomi Terhadap Kemiskinan Serta Hubungannya dengan Kesejahteraan Masyarakat Kabupaten/Kota di Provinsi Kalimantan Barat. *Prosiding Seminar Akademik Tahunan Ilmu Ekonomi Dan Studi Pembangunan*, 56-72.
- Sukirno, S. (2016). *Makroekonomi Modern: perkembangan pemikiran dari klasik hingga keynesian baru*.
- Sumarsono, S. (2009). *Teori dan kebijakan publik ekonomi sumber daya manusia*. Yogyakarta: Graha Ilmu, 65.
- Suyanto, S., Purnomo, B., & Standsyah, R. E. (2019). Impact of education and health on the unemployment rate and economy of east java. *Sinergi: Jurnal Ilmiah Ilmu Manajemen*, 9(2), 26-31.
- Tkacova, A., Gavurova, B., Melasova, K., & Snopko, P. (2022). Unemployment in the Context of Minimum Wage Concept in Slovakia. *Entrepreneurship and Sustainability Issues*, 10(1), 395.