



Analysis Influence Growth Economy, Level Wages Minimum and Level Education to Unemployment in Pamekasan Regency

Alya Rohani*, Niniek Imaningsih

Universitas Pembangunan Nasional "Veteran" Jawa Timur, Indonesia

*Correspondence: Alya Rohani

Email: 21011010021@student.upnjatim.ac.id

Received: 07-10-2025

Accepted: 14-10-2025

Published: 30-11-2025



Copyright: © 2025 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

the level of education has a negative and significant effect, meaning that the higher the community's education, the lower the unemployment rate. Simultaneously, all three variables are proven to have a significant effect on unemployment in Pamekasan Regency.

Abstract: This study aims to determine the effect of economic growth, minimum wage levels, and education levels on the unemployment rate in Pamekasan Regency in the period 2014–2023. The background of the study is based on the problem of unemployment which remains a significant issue in regional development, where high unemployment is related to fluctuations in economic growth, minimum wage policies, and low educational attainment of the community. This study uses a quantitative method with multiple linear regression analysis, while research data was obtained from the Central Statistics Agency (BPS) of Pamekasan Regency. The results show that economic growth has a negative effect on unemployment, so that economic improvement can reduce the number of unemployed. The minimum wage variable has a positive effect, which means that wage increases tend to increase unemployment due to limited labor absorption capacity. Meanwhile,

Keywords: Economic Growth, Minimum Wage, Education, Unemployment, Pamekasan

Introduction

Economic development aims to accelerate economic growth, address regional disparities, reduce poverty, and suppress unemployment (Todaro and Smith, 2020). One important aspect in assessing economic effectiveness is economic growth, which serves to measure a country's development achievements. Continuous economic growth reflects a country's positive development. However, if social burdens increase, income inequality remains high, more people live below the poverty line, and unemployment rates remain high, then economic growth cannot be considered successful (Mahroji and Nurkhasanah, 2019).

Unemployment is a complex problem that impacts various aspects of social and economic life. High unemployment rates not only reduce community productivity but also create a burden on the government, both in terms of job provision and social security. Therefore, efforts to understand the factors that influence unemployment are crucial,

especially in regions with diverse development dynamics. One factor believed to influence unemployment is economic growth. In theory, higher economic growth means more jobs are created, thereby reducing unemployment. However, in practice, economic growth is not always inclusive and sometimes only benefits certain capital-intensive sectors. This condition results in suboptimal labor absorption, so economic growth is not strong enough to reduce unemployment.

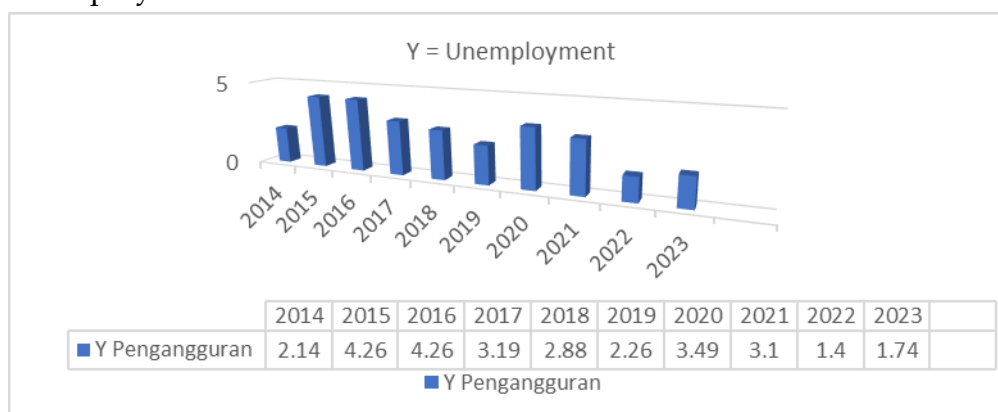


Figure 1. Unemployment data for Pamekasan Regency (percentage) 2014-2023

Source: Central Statistics Agency (BPS) Pameksan Regency

Based on statistical data, the unemployment rate in Pamekasan Regency from 2014 to 2023 showed significant dynamics. In 2015, the unemployment rate jumped sharply from 2.14% to 4.26% and persisted until 2016. However, the 2017–2019 period recorded a gradual decline from 3.19% to 2.26%, indicating improving employment conditions. The impact of the COVID-19 pandemic in 2020 again increased the unemployment rate to 3.49%, but the situation improved in the following years, with a drastic decline to 1.40% in 2022, although it rose slightly to 1.74% in 2023. Overall, this trend demonstrates Pamekasan's success in reducing unemployment through regional policies and local economic adaptation. Going forward, the sustainability of this recovery requires a focus on industrial sector development, workforce skills enhancement, and more inclusive job creation under the active supervision of the local government.

Economic growth and unemployment are two important variables that are interrelated in determining a country's welfare and social stability. For Indonesia, which is still classified as a developing country, maintaining stable economic growth while reducing unemployment is a major challenge in achieving social welfare. Economic development plays a role not only in stabilizing economic activity but also in creating resilient growth and preventing inflation. Furthermore, improvements in social structures, institutional systems, and changes in societal attitudes and behavior are also important factors in driving economic development and poverty reduction (Todaro & Smith, 2003).

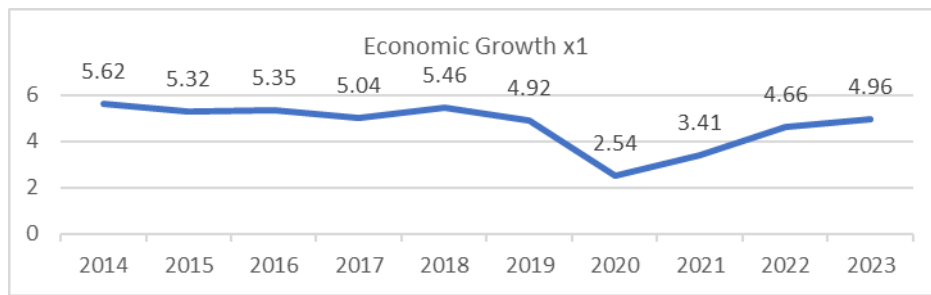


Figure 2. Data on the Growth Rate of Pamekasan Regency (percent) 2014-2023

Source: Central Statistics Agency (BPS)

Based on statistical data, Pamekasan Regency's economic growth from 2014 to 2023 showed significant fluctuations. At the beginning of the period, economic growth was relatively stable but gradually declined from 5.62% in 2014 to 5.04% in 2017. In 2018, it recorded a sharp increase to 5.46%, indicating a strong economic recovery, but declined again in 2019 to 4.92% and dropped drastically to 2.54% in 2020 due to the COVID-19 pandemic. Nevertheless, the regional economy was able to recover gradually, increasing to 3.41% in 2021, 4.66% in 2022, and reaching 4.96% in 2023. This pattern demonstrates Pamekasan's economic resilience to the global crisis and the sustainability of its productive sectors. Economic development should focus on improving community welfare, both morally and materially, as Adelman's (1975) concept of depauperization suggests. However, without the creation of new jobs in various sectors, this growth could trigger structural unemployment and economic inequality.

Wages are a crucial aspect of worker protection, as they provide compensation for services rendered as agreed between workers and employers. Wages can be cash payments or other forms agreed upon by both parties, depending on the type of work and individual needs. Therefore, the wage system not only reflects the economic value of work but also serves as a basis for fairness and well-being for workers.

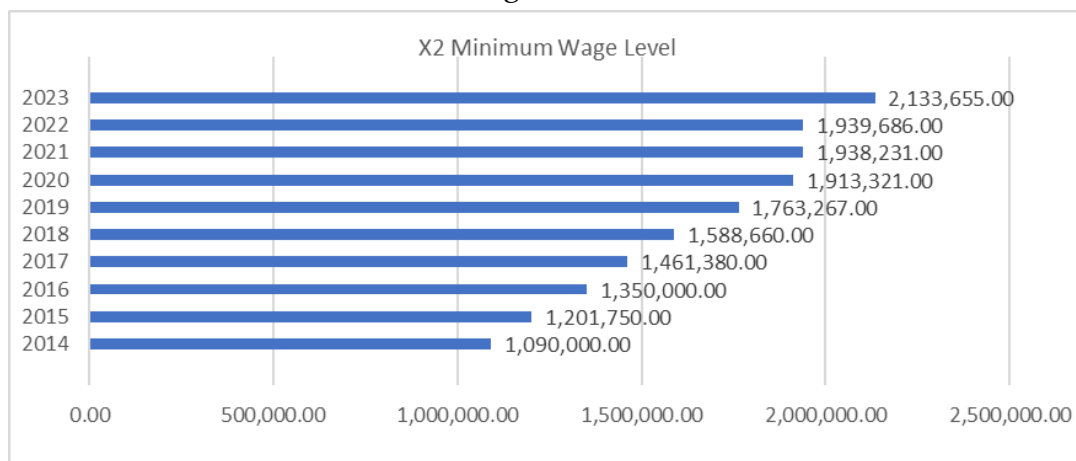


Figure 3. Minimum Wage Level Data (Rupiah) 2014-2023

Source: Central Statistics Agency (BPS) 2014-2023

Based on the graph of the Pamekasan Regency minimum wage development for the 2014–2023 period, a consistent upward trend is visible each year. The minimum wage increased from Rp1,090,000 in 2014 to Rp1,461,380 in 2017, then rose again to Rp1,763,267 in 2019 and Rp1,913,321 in 2020 as a way to improve worker welfare. Although growth slowed in 2021 and dipped slightly in 2022, wages rose again significantly in 2023 to Rp2,133,655. This increase reflects the local government's efforts to adjust wages to meet living costs, inflation, and maintain workers' purchasing power in Pamekasan.

Education is a process that empowers people through awareness, enlightenment, and behavioral change for the better. Education plays a crucial role in improving the quality of life and serves as the foundation for national progress. Low levels of education are often the cause of high unemployment, as limited skills and knowledge prevent individuals from finding employment. According to human capital theory, increased education is directly proportional to increased income. Each additional semester of study can increase a person's employability and income, even if there is a temporary delay in earning income during the study period (Arifin & Firmansyah, 2017).

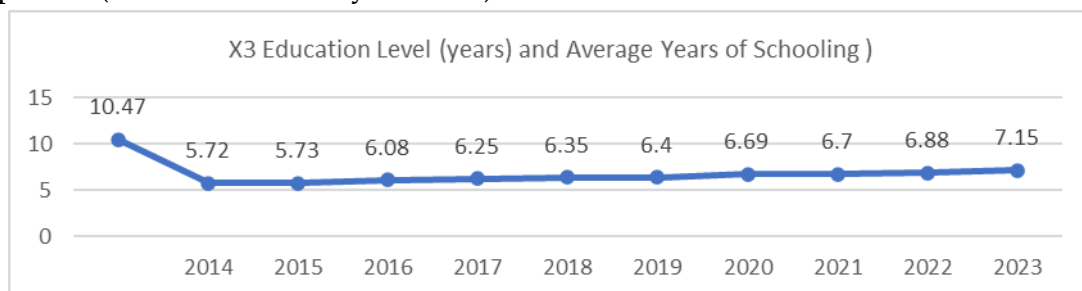


Figure 4. Data on Education Level (years) and Average Years of Schooling 2014-2023
Source: Central Statistics Agency (BPS-appropriate analysis) 2014-2023

Based on data on the average length of schooling in Pamekasan Regency for the 2014–2023 period, there was fluctuation at the beginning of the period and a steady increase in subsequent years. In 2014, the average length of schooling reached 10.47 years, but dropped sharply to 5.72 years in 2015. Thereafter, a gradual increase occurred, reaching 7.15 years in 2023. This trend demonstrates the local government's efforts to expand access and improve the quality of education, although the average length of schooling remains relatively low nationally.

Given this phenomenon, it is interesting to further examine the influence of economic growth, minimum wage levels, and education levels on the unemployment rate in Pamekasan Regency. This analysis is expected to provide an empirical overview of the dominant factors influencing unemployment, thus providing input for formulating regional development policies.

Research Method

Types and Approaches of Research

This study uses a quantitative approach with an associative method. The quantitative approach was chosen because the study focuses on examining relationships between variables through numerical data processing and statistical analysis. Meanwhile, the associative method was used because the study aimed to analyze the influence of independent variables on the dependent variable. Thus, this study can provide empirical evidence regarding the extent to which economic growth, minimum wage levels, and education levels influence the unemployment rate in Pamekasan Regency.

Location and Time of Research

The research was conducted in Pamekasan Regency, East Java. This location was chosen based on the consideration that Pamekasan is one of the regions facing relatively high unemployment, despite experiencing relatively stable economic growth. The data used covers the period 2014 to 2023, thus depicting medium-term trends and providing more comprehensive analysis results.

Data Types and Sources

The type of data used in this study is secondary data in the form of annual time series data. The data sources were obtained from official publications of the Central Statistics Agency (BPS) of Pamekasan Regency, East Java Province, and the National Statistics Agency (BPS). Additionally, data was obtained from relevant local government documents. Secondary data was chosen because it has a high level of reliability and allows for objective analysis based on measurable figures.

Operational Definition of Variables

To clarify the scope of the research, each variable is described in the operational definition as follows:

1. **Economic Growth (X1)** measured by the growth rate of Gross Regional Domestic Product (GRDP) at constant prices in percent (%).
2. **Minimum Wage Level (X2)** using the Pamekasan Regency Minimum Wage (UMK) indicator which is determined annually, expressed in rupiah.
3. **Education Level (X3)** proxied by the average length of schooling of the working age population in years.
4. **Unemployment Rate (Y)** using the Open Unemployment Rate (TPT) indicator expressed in percentage (%).

Data Analysis Techniques

Data analysis was conducted using multiple linear regression to determine the effect of economic growth, minimum wage levels, and education levels on the unemployment rate. Data processing was performed using EViews 12 statistical software. Prior to model estimation, classical assumption tests were conducted, including normality, multicollinearity, autocorrelation, and heteroscedasticity tests, to ensure model validity.

The analysis steps include:

1. **Multiple Linear Regression Test**, to see the magnitude of the coefficient of each independent variable on the dependent variable.
2. **Partial t-test**, to determine the influence of each independent variable on unemployment.
3. **F test (simultaneous)**, to assess the influence of independent variables together on unemployment.
4. **R-squared test**, to determine the extent of the contribution of the independent variable in explaining the variation of the dependent variable.

Results and Discussion

Classical assumption test results

Autocorrelation Test

F-statistic	0.204211	Prob. F(2,4)	0.8233
Obs*R-squared	0.926457	Chi-Square Prob.(2)	0.6292

Processed data source, 2025

Before conducting multiple linear regression analysis, this study first tested the classical assumptions to ensure the model met the BLUE (Best Linear Unbiased Estimator) criteria. The autocorrelation test results showed a chi-square probability value of 0.6292 (>0.05), indicating that the model was free from autocorrelation problems.

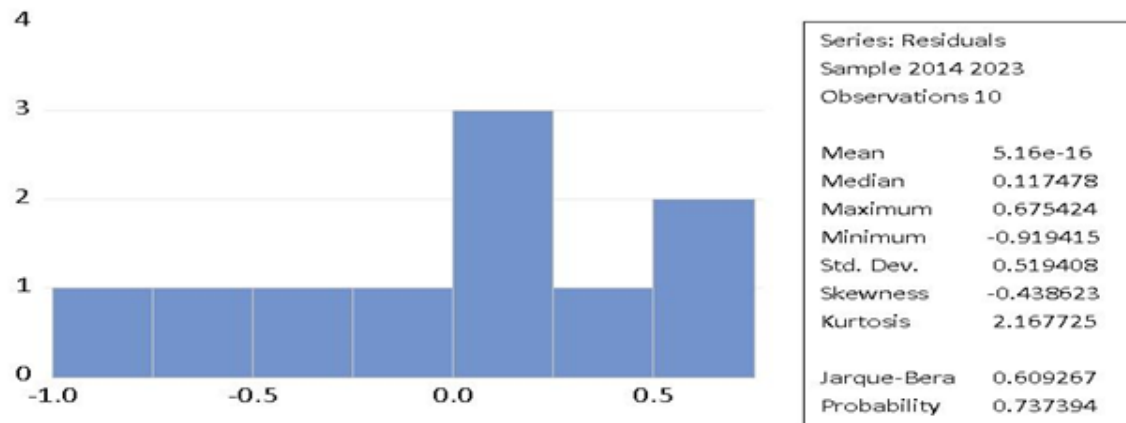
Heteroscedasticity test

F-statistic	0.238696	Prob. F(3,6)	0.8664
Obs*R-squared	1.066227	Chi-Square Prob.(3)	0.7852
Scaled explained SS	0.224111	Chi-Square Prob.(3)	0.9736

Processed data source, 2025

Produces a probability value of 0.7852 (>0.05), which means that the residual variance is homogeneous or there is no heteroscedasticity.

Normality Test



Source: data processed, 2025

The Jarque-Bera method produces a significance value of 0.737 (>0.05), so the residuals are normally distributed.

Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	16.88749	417,3082	NA
X1	0.064487	37.02205	1.400078
X2	0.002413	4.173349	1.052578
X3	0.274830	279.0229	1.371062

Meanwhile, the results of the multicollinearity test showed that the VIF values for all independent variables were below 10 ($X1 = 1.40$; $X2 = 1.05$; $X3 = 1.37$), indicating that there was no multicollinearity between the variables. Thus, the regression model is suitable for further analysis.

Multiple Linear Analysis Results

Regression analysis was used to determine the direction and magnitude of the influence of independent variables on the open unemployment rate in Pamekasan Regency. The resulting regression equation is:

$$TPT (Y) = 14.94652 - 0.593287 PE + 0.114697 TUM - 1.579478 TP + e$$

From these results, several findings were obtained:

Economic Growth (X1) has a negative coefficient (-0.593287) with a significance value of 0.0581. This means that this variable has no effect on unemployment. Every 1% increase in economic growth tends to reduce unemployment, although the effect is only marginally significant. This indicates that economic growth in Pamekasan is not fully inclusive and has

not been able to absorb the workforce optimally. Minimum Wage Level (X2) has a positive coefficient (0.114697) with a significance value of 0.0583. This shows that this variable has no effect on unemployment. An increase in the minimum wage actually has the potential to increase unemployment marginally. This phenomenon can be explained through the classical theory of the labor market, where wage increases above worker productivity reduce the company's absorption of labor. Education Level (X3) has a significant negative effect with a coefficient of -1.579478 and a significance value of 0.0236 (<0.05). These results prove that improving the quality of education can significantly reduce unemployment, in line with human capital theory.

Simultaneous and Determination Tests

Determination Test (R^2)

R-squared	0.722405
Adjusted R-squared	0.583607

Processed data source, 2025

The R-squared value of 0.7224 indicates that 72.24% of the variation in unemployment in Pamekasan Regency can be explained by the three independent variables in the model, while the remainder is influenced by other factors outside the study.

F test

F-statistic	5.204729
Prob(F-statistic)	0.041615

Processed data source, 2025

The results of the F test show an F-statistic value of 5.204729 with a probability of 0.041615 (<0.05), which means that the variables of economic growth, minimum wages, and education simultaneously have a significant effect on the unemployment rate.

T-test

Variables	t-statistics	Prob.
C	3.637119	0.0109
X1	-2.336302	0.0581
X2	2.334784	0.0583
X3	-3.012879	0.0236

Processed data source, 2025

Based on the results of the regression analysis for the 2014–2023 period, the economic growth variable (X1) has a probability value of 0.0581 and the minimum wage level (X2) of 0.0583, both of which are greater than the significance level of 0.05. This indicates that these two variables do not have a significant effect on the unemployment rate, even though the economic growth coefficient is negative and the minimum wage is positive. Meanwhile, the education level (X3) has a probability value of 0.0236 which is smaller than 0.05 with a negative coefficient, so it has a significant effect on unemployment. This means that every increase in the average length of schooling (years) will reduce the unemployment rate (%). Thus, only the education level variable is proven to have a significant effect in reducing the unemployment rate in Pamekasan Regency.

Discussion

The results of the study indicate that economic growth has a negative coefficient on the unemployment rate with a t-statistic value of -2.336302 and a probability of 0.0581, which means it does not have a statistically significant effect, although the direction of the relationship indicates that increased growth tends to reduce unemployment. This indicates that economic growth in Pamekasan Regency is not yet inclusive and has not been able to create optimal employment. According to Todaro and Smith (2015), sustainable economic growth should be able to create new jobs to reduce unemployment, but growth supported by capital-intensive sectors tends not to absorb much labor. In line with the Harrod-Domar theory, growth that is more supported by investment in labor-intensive sectors has a limited effect on labor absorption. Similar conditions were also found in previous studies on the influence of inflation and unemployment on economic growth in Indonesia, which supports Okun's Law, namely the negative relationship between economic growth and unemployment. Thus, although a negative relationship was found, economic growth in Pamekasan has not been strong enough to reduce unemployment because it is not evenly distributed across all sectors.

Meanwhile, the analysis results show that the minimum wage level has a positive coefficient on unemployment with a probability value of 0.0583, which is greater than 0.05, indicating no significant effect. In theory, an increase in the minimum wage can improve worker welfare, but it also has the potential to increase production costs, which encourages companies to delay recruiting workers (Rismawati, 2018). In the context of Pamekasan Regency, the impact of the minimum wage policy on unemployment is not yet significant because it can still be borne by the business world. In addition, social factors such as the selectivity of highly educated job seekers towards jobs also contribute to the tendency of unemployment, because they tend to wait for jobs with salaries that meet their expectations. Therefore, the minimum wage has not been a dominant factor influencing unemployment

fluctuations, because the greater influence comes from the quality of the workforce and the availability of jobs in the informal sector.

Furthermore, education level was shown to have a significant effect on unemployment with a probability value of 0.0236 (<0.05), indicating that the higher a person's education, the lower the likelihood of unemployment. According to Todaro and Smith (2020), education improves the skills, productivity, and competitiveness of the workforce, which is in line with Adam Smith's view that education is a form of investment in human capital to increase labor efficiency. These results are also consistent with the Harrod-Domar theory which states that improving the quality of the workforce through education supports economic growth and job creation. This finding is in line with research in Makassar and East Java which confirms that education has a significant contribution in reducing unemployment (Arifin & Firmansyah, 2017). Thus, education is a fundamental factor in reducing unemployment because it can increase the workforce's ability to be absorbed in the formal sector with high productivity, while low education tends to trap the workforce in the informal sector or open unemployment.

Conclusion

Based on the data analysis, this study shows that economic growth negatively impacts the unemployment rate in Pamekasan Regency. This indicates that increased economic activity tends to reduce unemployment through the creation of new jobs. Conversely, the minimum wage variable has a positive effect on unemployment, meaning that an increase in the minimum wage has the potential to increase unemployment due to businesses' limited ability to cover labor costs. Meanwhile, education level negatively impacts unemployment, indicating that the higher the quality of a community's education, the greater their chances of being absorbed into the formal labor market.

Furthermore, the results of the simultaneous F-test demonstrated that all three variables—economic growth, minimum wage, and education—jointly had a significant influence on the unemployment rate in Pamekasan Regency. This finding confirms that unemployment is a multidimensional phenomenon influenced by the dynamics of economic growth, wage policies, and the quality of human resources.

Suggestion

1. The regional government is expected to continue promoting economic growth through the development of productive sectors, particularly MSMEs and the creative industry. This effort is crucial to create new jobs and reduce unemployment in Pamekasan Regency.
2. Regarding minimum wages, the government should consider the balance between

protecting workers' rights and the capabilities of the business sector. Setting a minimum wage should be accompanied by supporting policies, such as incentives for small businesses to prevent workforce reductions due to high costs.

3. In the educational sector, there is a need to improve the quality of education and vocational training to meet job market needs. With relevant skills, graduates can be more easily absorbed into the workforce, thereby reducing unemployment.

References

- Alamro, S., and Al-Dalaien, B. "The Relationship between Unemployment and Economic Growth in Jordan." *Journal of Emerging Trends in Economics and Management Sciences*, vol. 5, no. 5, 2014.
- Anggraeni, Bella, Citra Etika, and Anggun Okta Fitri. "Analisis Pengaruh Tingkat Pendidikan dan Upah Minimum Terhadap Pengangguran Terdidik di Provinsi Lampung dalam Perspektif Ekonomi Islam (Tahun 2012-2023)." *Media Ekonomi Prabumulih* 8.2 (2024): 1-12.
- Bakti, T. Diana, Rakhmat Sumanjaya, and Syahrir Hakim Hasution. *Pengantar Ekonomi Makro*. USUpress, 2010.
- Card, David, and Alan B. Krueger. *Myth and Measurement: The New Economics of the Minimum Wage*. Princeton University Press, 1995.
- Darman. "Pengaruh Pertumbuhan Ekonomi terhadap Tingkat Pengangguran: Analisis Hukum Okun." *The Winners*, vol. 14, no. 1, 2013.
- Egeten, Maria Greistina, George MV Kawung, and Krest D. Tolosang. "Analisis Pengaruh Tingkat Pendidikan dan Jumlah Angkatan Kerja Terhadap Tingkat Pengangguran Terbuka di Kota-Kota yang ada di Provinsi Sulawesi Utara." *Jurnal Berkala Ilmiah Efisiensi* 23.3 (2023): 25-36.
- Erlangga, Rahmat, et al. "Analisis Pengaruh Upah Minimum, Inflasi, dan PDRB Terhadap Tingkat Pengangguran Terbuka di Indonesia." *Kajian Ekonomi dan Akuntansi Terapan*, vol. 5, no. 1, 2024, pp. 1-12.
- Mohamed, Abdisalan Aden. "Testing the Validity of Okun's Law in Somalia." *Journal of Economic Structures*, vol. 13, no. 1, 2024.
- Nurtiyas, Febrika. "Analisis Faktor-Faktor Yang Mempengaruhi Upah Minimum Propinsi Di Pulau Jawa Tahun 2010-2014." *Jurnal Pendidikan dan Ekonomi* 5.2 (2016): 166-175.
- Palahudin, et al. "Hubungan Pertumbuhan Ekonomi dengan Pengangguran di Sumatera Utara dan Gorontalo Periode 2018-2022." *Karimah Tauhid*, vol. 3, no. 6, 2024.
- Pamungkas, Dito. "Pengaruh Upah Minimum Terhadap Pengangguran dan Kemiskinan di Indonesia." *Jurnal Ilmiah Mahasiswa FEB*, vol. 5, no. 2, 2017, pp. 1-15.
- Paramita, Ahsani. "Faktor Pendidikan Mempengaruhi Tingkat Pengangguran (Studi Kasus

- di Kota Makassar Sulawesi Selatan)." *Bata Ilyas Journal of Accounting* 4.3 (2023).
- Rafli, Muhammad Raihan, et al. "Okun's Law: Analisis Tingkat Pengangguran Terbuka Kabupaten Banjar Ditinjau dari Perspektif Laju Pertumbuhan Ekonomi." *Jurnal Bisnis, Manajemen, Dan Ekonomi* 5.1 (2024): 12-21.
- Rasyida, Nabila Ulfa. "Kajian Hubungan antara Pertumbuhan Ekonomi dan Pengangguran di Indonesia Periode 1990–2019 (Aplikasi Hukum Okun)." *Jurnal Ilmiah Mahasiswa FEB*, 2021.
- Siregar, Ayu Lestari, et al. "Analisis Pengaruh Pertumbuhan Ekonomi terhadap Tingkat Pengangguran di Kota Medan." *Az-Ziyadah: Jurnal Ekonomi Syariah*, vol. 1, no. 2, 2024
- Sukmawati, Dwi, et al. "Pengaruh Upah Minimum Terhadap Tingkat Pengangguran di Kalimantan Barat." *Shar-E: Jurnal Ekonomi dan Bisnis Islam*, vol. 5, no. 2, 2023, pp. 87–99.
- Suparmono, Suparmono. "Pengantar Makro Ekonomi." (2018).
- Triwulandari, Bella Bekti, Arfida Boedirochminarni, and Muhammad Firmansyah. "Analisis Pengaruh Pendapatan Asli Daerah, Pertumbuhan Ekonomi dan Pengangguran terhadap Kemiskinan di Pulau Jawa Tahun 2013-2022." *JSHP: Jurnal Sosial Humaniora dan Pendidikan* 7.2 (2023): 175-187.
- Yuliani, Novi Mella. "Pengaruh Rata-Rata Lama Sekolah terhadap Tingkat Pengangguran Terbuka di Provinsi Jawa Barat Tahun 2017–2021." *Jurnal Pendidikan Ekonomi Indonesia*, vol. 3, no. 1, 2023, pp. 45–55. Garuda.