

(Research) Article

The Impact Of Unemployment, Minimum Wage, And Education On Economic Growth In Regencies/Cities In Bali Province

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Abstract: Economic growth in Bali Province is predominantly driven by the tourism, service, and agricultural sectors, which play a vital role in the region's development and income generation. Over the 2014–2024 period, however, the province has experienced a fluctuating and generally declining growth trend, influenced by both internal and external economic dynamics. This study aims to examine the influence of unemployment, district minimum wage (Upah Minimum Kabupaten/Kota—UMK), and education on economic growth across the nine regencies and cities in Bali Province. Employing a quantitative approach with an associative research design, the study utilizes panel data that combines cross-section data (9 regencies/cities) and time-series data spanning 2014–2024, yielding a total of 99 observations. To ensure robust estimation, panel data regression analysis was conducted, with the Random Effect Model (REM) selected as the most appropriate method based on the results of the Hausman test. The empirical findings reveal that, simultaneously, unemployment, UMK, and education have a significant influence on regional economic growth in Bali. Partially, education exerts a positive and significant effect, indicating that improvements in educational attainment and quality can drive higher productivity and foster sustainable economic development. Conversely, UMK demonstrates a negative and significant impact, suggesting that increases in the minimum wage, while beneficial for workers' welfare, may impose financial burdens on businesses—particularly small and medium-sized enterprises—thus potentially slowing economic activity. Similarly, unemployment has a negative and significant effect, underscoring its detrimental role in limiting economic output and household income. These results emphasize the need for policymakers to strike a balance between enhancing workforce welfare through wage regulations and ensuring that such measures do not hinder economic competitiveness. Furthermore, strengthening education policies, improving access to quality learning, and aligning educational outcomes with labor market demands are crucial for supporting long-term economic growth in Bali.

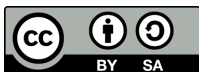
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Keywords: Economic Growth, Unemployment, Minimum Wage (UMK), Education, Panel Data Regression.

1. Introduction

Economic growth is a key indicator in assessing the success of a region's development, as it reflects a continuous transformation of a nation's economy toward a better state over a specific period. An economy is said to grow when the level of economic activity is higher than in the previous period.

According to the Central Bureau of Statistics (BPS, 2015), economic growth is defined as a series of actions and policies aimed at improving the quality of life, increasing employment opportunities, equalizing income distribution, and gradually

shifting economic activities from the secondary to the primary sector (Riska & Yulianawati, 2020). Economic growth is a critical phenomenon for any nation and is considered a primary goal in achieving sustainable national development based on national capacities (Sukirno, 2003).

Economic growth is important for society as it increases both absolute and per capita income and real consumption, thereby improving material well-being (Permadi, 2018). In Bali Province, economic growth is currently supported by various continuously developing sectors, notably tourism, agriculture, industry, and services (Khaliq, 2020).

It is important to distinguish between economic growth and economic development. Economic growth refers to a continuous increase in output over the long term and is one of the benchmarks for development success (Banyuning, 2022). Economic growth also reflects the welfare and prosperity levels of a country or region (Lestari, 2023).

Bali Province consists of nine administrative regions: eight regencies and one city—Jembrana, Tabanan, Badung, Gianyar, Klungkung, Bangli, Karangasem, Buleleng, and Denpasar City. As a tourism-based economic center, Bali exhibits a unique yet vulnerable economic structure, particularly to socio-economic dynamics. From 2014 to 2024, economic growth in the province showed significant fluctuations influenced by regional economic structures, sectoral dependency, and responses to global crises. For example, during the COVID-19 pandemic in 2020, Bali's economy contracted sharply by -9.34%, with Badung Regency experiencing the steepest decline at -16.55% due to heavy reliance on international tourism, hotels, restaurants, air transportation, and tourism-related services. This volatility highlights the vulnerability of Bali's economy and the need for deeper understanding of local growth-driving and inhibiting factors, particularly in the context of post-pandemic recovery.

A study by Banyuning and Yasa (2022) found that population growth, education level, and district/city minimum wages (UMK) significantly influence economic growth in Bali. Education level and UMK, in particular, have a positive and significant partial impact on economic growth.

One crucial factor influencing economic dynamics, especially in regions highly dependent on specific sectors such as tourism in Bali, is unemployment. Unemployment refers to individuals within the labor force who are willing to work but have not yet secured employment (Cahyani, 2022). It can arise from rapid changes in the labor force and inadequate job creation, or from mismatches between available job skills and labor market demand (Zulfa, 2016). Handayani et al. (2016) emphasize that high unemployment in Bali significantly contributes to poverty, which can hinder long-term economic growth.

The relationship between unemployment and economic growth is generally negative; high unemployment reduces household income, consumption, and productivity. Conversely, low unemployment reflects optimal labor utilization, boosting output and economic growth. The COVID-19 pandemic drastically increased unemployment in Bali, especially in tourism and affiliated sectors such as transportation, hospitality, electricity and gas supply, water management, and waste

services. With fewer tourists, revenues in these sectors plummeted, forcing many businesses to lay off workers to prevent financial losses.

Several studies confirm that unemployment negatively affects economic growth in Bali. Fajri and Iriani (2022) found a statistically significant negative relationship between unemployment and economic growth in the province. In contrast, Aryanta and Indrajaya (2022) concluded that unemployment did not significantly affect economic growth in Bali between 2014 and 2024. These contrasting findings underscore the complexity of the relationship and the need for further investigation using updated data.

In addition to unemployment, minimum wage is another crucial policy variable that influences economic growth. Minimum wage policy aims to ensure workers receive fair compensation and to reduce or prevent worker poverty by meeting minimum living standards. Dewi and Bendesa (2020) suggest that appropriately set minimum wages can enhance employment opportunities and foster regional economic growth, especially when wage increases are accompanied by higher labor productivity. Their study found that minimum wage indirectly affects economic growth in Bali's districts/cities. According to the efficiency wage theory, minimum wage aims to boost worker productivity, thereby increasing company output, labor demand, and ultimately, economic growth (Dewi & Bendesa, 2020).

Minimum wage policies have been widely implemented globally and serve dual purposes: protecting workers' income and preserving employer productivity (Gianie, 2009). In Bali, UMK is determined annually based on local living standards, productivity, and regional economic growth (BI, 2012). Properly set UMK is expected to enhance worker welfare, purchasing power, and economic activity through increased consumption and circulation of local income.

Bali's UMK has consistently risen. According to BPS, the average UMK in 2024 reached IDR 2,813,672 per month, with Badung and Denpasar offering the highest rates. This reflects regional government commitment to worker welfare, particularly in the tourism and service sectors. However, rising UMK raises concerns, especially among small and medium enterprises (SMEs). Excessively high wages may burden SMEs with limited cost flexibility, leading to downsizing or delays in business expansion, ultimately slowing economic growth (Silvie, 2021). High UMK can also push businesses into the informal sector, distorting labor markets.

In Badung Regency, for example, post-pandemic economic recovery has been accompanied by a sharp increase in UMK, reaching IDR 3,318,628 in 2024—the highest in the province—supported by a robust tourism sector and high investment. In contrast, Bangli has the lowest UMK at IDR 2,813,672, reflecting its agriculture-based economy and low industrial and service investment.

Empirical research shows mixed results on UMK's impact on economic growth. Adnyaswari and Purbadharmaja (2023) argue that UMK increases without productivity improvements reduce labor absorption and hinder growth. Conversely, Banyuning and Yasa (2022) report that UMK positively and significantly affects growth. These mixed findings suggest the influence of UMK is complex and depends on local economic structures, labor productivity, and policy implementation.

Besides unemployment and minimum wage, education is the third key determinant of economic growth. In particular, the average years of schooling (RLS) reflects the education level of a population. In Bali, higher RLS boosts labor skills and productivity, contributing to regional economic performance. Todaro and Smith (2014) highlight education investment as a strategic tool for long-term economic development through improved productivity and innovation. Education is considered a vital form of human capital that drives productivity and economic growth.

Research in Bali supports this view. Lestari and Yasa (2023) found that education levels have a positive and significant impact on economic growth in the province. Similarly, Sitorus (2018) notes that better-educated individuals are more likely to access productive jobs and positively influence economic output. These findings reinforce the notion that economic policy should not solely focus on wages, but also prioritize education to improve workforce productivity. Higher education enables workers to adapt to new technologies, improve efficiency, and foster innovation, all of which contribute to better economic performance.

Based on the discussion above, economic growth dynamics in Bali's districts/cities are complex and influenced by the interplay of unemployment, minimum wage, and education. Variations in previous research findings and post-pandemic economic changes point to a research gap and the need to reexamine these relationships using updated data and comprehensive approaches. This study aims to analyze these factors based on economic growth theory, labor market theory, and human capital theory, supported by relevant empirical evidence. Therefore, the researcher is motivated to further investigate the issue of economic growth by examining "The Influence of Unemployment, Minimum Wage, and Education on Economic Growth in the Districts/Cities of Bali Province."

2. Method

This study employs a quantitative approach with an associative design to examine the influence of unemployment rate, minimum wage (UMK), and education on economic growth in the nine districts/cities of Bali Province over the 2014–2024 period. The study uses panel data, combining time-series and cross-sectional observations, totaling 99 data points. The year 2014 marks the pre-pandemic baseline, while 2024 represents the latest post-pandemic recovery data (Ghozali, 2016).

The dependent variable is economic growth, measured by Gross Regional Domestic Product (GRDP) at constant prices. The independent variables include open unemployment rate, UMK, and average years of schooling as a proxy for education. Data were sourced from official publications of the Central Bureau of Statistics (BPS) at both the provincial and district/city levels. Data collection was conducted via non-participant observation of secondary data available online and structured through the BPS website (BPS Bali Province, 2024).

Data analysis involves descriptive statistics to present characteristics of each variable (mean, maximum, minimum, standard deviation) and panel regression analysis to assess relationships between variables. Model selection is conducted using Chow Test, Hausman Test, and Lagrange Multiplier Test, while classical assumption tests include normality, multicollinearity, heteroscedasticity, and autocorrelation checks.

Model significance is tested both simultaneously (F-test) and partially (t-test), with all analyses adhering to BLUE (Best Linear Unbiased Estimator) principles to ensure model validity (Basuki, 2016; Muhson, 2015; Utama, 2016).

3. Results And Discussion

Descriptive Statistical Analysis Results

Descriptive statistics are used to explain or provide an overview of the characteristics of a data set without drawing general conclusions (Ghozali, 2016). The main purpose of descriptive analysis is to provide an overview of the variables used, such as the average value (mean), maximum value, minimum value, and standard deviation in each study.

Table 1. Results of Descriptive Statistical Tests on Unemployment, District Minimum Wage (UMK), and Education Level of Districts/Cities in Bali Province

	Y	X1	X2	X3
Mean	3.720808	2.430303	2320139.	8.391212
Median	5.470000	1,880,000	2363000.	8.220000
Maximum	11.29000	7.620000	3318628.	11.53000
Minimum	-16.55000	0.340000	1542600.	5.390000
Std. Dev.	4.423072	1.887232	455465.7	1.628474
Skewness	-2.071906	1.226116	-0.170060	0.335006
Kurtosis	7.677536	3.717878	1.978271	2.258796
Jarque-Bera	161.0834	26.93124	4.783402	4.117983
Probability	0.000000	0.000001	0.091474	0.127583
Sum	368.3600	240.6000	2.30E+08	830.7300
Sum Sq. Dev.	1917.229	349.0411	2.03E+13	259.8889
Observations	99	99	99	99

Source: Data attached to the author's thesis, 2025

This analysis is based on eleven years of panel data from each district/city in Bali Province. The results of the descriptive statistical tests are presented in Table 1.

1) Economic Growth (Y)

The constant ($\alpha = 6.366340$) indicates that the unemployment (X1), minimum wage (X2), and education (X3) variables are at zero, so the economic growth (Y) variable is estimated at 6.37 percent. Therefore, this constant value reflects that the average value of Y is not influenced by the independent variables.

2) Unemployment Rate (X1)

The unemployment regression coefficient of -1.526340 with a probability value of 0.0000 (<0.05) indicates that unemployment has a negative and significant effect on economic growth. This means that every 1 percent increase in the unemployment rate will reduce economic growth by 1.53 percent, assuming other variables remain constant. This result is consistent with Keynesian economic theory, which states that increasing unemployment will reduce consumption and aggregate demand, thereby inhibiting economic growth.

3) District Minimum Wage (UMK) (X2)

The regression coefficient for the UMK is -0.000000204 with a probability value of 0.0181 (<0.05). This indicates that the minimum wage has a negative and significant effect on economic growth. Although the effect is very small because the UMK is measured in rupiah, statistically, a 1 million rupiah increase in the minimum wage will reduce economic growth by 0.000000204 percent. This result may be due to the increased labor costs burden on businesses, especially MSMEs, thus hampering economic expansion.

4) Education (X3)

The regression coefficient of 0.691580 with a probability value of 0.0035 (<0.05) indicates that education has a positive and significant effect on economic growth. This means that every one-year increase in average schooling will increase economic growth by 0.69 percent. This supports the human capital theory, which states

that higher education increases productivity and the contribution of the workforce to economic growth.

Inferential Statistical Analysis Results

Panel Data Regression

Meanwhile, the regression model estimation method using panel data is carried out using several approaches.

1. Selection of Panel Data Regression Estimation Techniques

In panel data regression, the selection of estimation techniques is carried out using three approaches: the Common Effects Model (CEM), the Random Effects Model (FEM), and the Fixed Effects Model (FEM). To determine which technique is best to use in panel data regression, the Chow test, the Hausman test, and the Lagrange multiplier test are carried out, as follows.

a) Chow Test

The Chow test is performed to determine which model is better, whether to use the common effects model (CEM) or the fixed effects model (FEM). If the cross-section chi-square value is greater than the significance value (0.05), then the common effects model will be used. However, if the cross-section chi-square value is less than the significance value (0.05), then the fixed effects model will be used.

Table 2. Chow Test Results

Effects Test	Statistics	df	Prob.
Cross-section F	1.062076	(8.87)	0.3971
Cross-section Chi-square	9.225077	8	0.3237

Source: Data attached to the author's thesis, 2025

In Table 2, the chi-square distribution value of the results obtained using eviews 13 is 9.225077 with a probability of 0.3237 (> 0.05) so the model used is the common effect model (CEM).

b) Hausman test

The Hausman test is performed to determine which model is better, whether to use the fixed effects model (FEM) or the random effects model (REM). If the random cross-section value is less than the probability value (0.05), then the fixed effects model will be used. However, if the random cross-section value is greater than the probability value (0.05), then the random effects model will be used.

Table 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Random cross-section	8.430732	3	0.0379

Source: Data attached to the author's thesis, 2025

In table 3, the chi-square distribution value of the results obtained using eviews 13 is 8,430 with a probability of 0.0379 (< 0.05), so the model used is the random effect model (REM).

c) Lagrange Multiplier (LM) Test

The Lagrange Multiplier test is performed to determine which model is better, whether to use a random effects model (REM) or a common effects model (CEM). If the Breusch-Pagan cross-section value is > 0.05 , the common effects model (CEM) will be used. However, if the cross-section value is < 0.05 , the random effects model will be used.

Table 4. Lagrange Multiplier (LM) Test Results

	Hypothesis Test		
	Cross-section	Time	Both
Breusch-Pagan	315,171 (0.5745)	101.6675 (0.0000)	101.9827 (0.0000)

Source: Data attached to the author's thesis, 2025

In table 4, the Breush-Pagan cross-section value from the results obtained using eviews 13 is 315.171 with a probability of 0.0000 (<0.05), so the model used is the random effect model (REM).

2. Panel Data Regression with Random Effect Model (REM)

Table 5. Results of the Random Effect Model (REM) Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.366340	2.017071	3.156230	0.0021
X1	-1.526340	0.190719	-8.003066	0.0000
X2	-2.04E-06	8.49E-07	-2.405918	0.0181
X3	0.691580	0.230582	2.999278	0.0035

Source: Data attached to the author's thesis, 2025

Based on the results of the regression estimation with the random effect model (RM), the following regression equation can be created.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu$$

$$Y = 6.366 - 1.527X_1 - 0.00000204X_2 + 0.69X_3 + \mu$$

Information:

Y = Economic Growth

α = Constant

β_1 = Linear regression coefficient of unemployment variable (X1)

β_2 = Linear regression coefficient of variable (X2) district minimum wage (UMK)

β_3 = Linear regression coefficient of the variable (X3) education

X1 = Unemployment variable

X2 = District minimum wage (UMK) variable

X3 = Education variable

μ = Percentage error

Based on the results of regression estimation with the random effect model (REM), it can be interpreted that.

a) Constant ($\alpha = 6.366$), indicates that the unemployment variables (X1), UMK (X2), and education (X3) Economic Growth (Y)

The constant ($\alpha = 6.366340$) indicates that the unemployment (X1), minimum wage (X2), and education (X3) variables are at zero, so the economic growth (Y) variable is estimated at 6.37 percent. Therefore, this constant value reflects that the average value of Y is not influenced by the independent variables.

b) Unemployment Rate (X1)

The unemployment regression coefficient of -1.526340 with a probability value of 0.0000 (<0.05) indicates that unemployment has a negative and significant effect on economic growth. This means that every 1 percent increase in the unemployment rate will reduce economic growth by 1.53 percent, assuming other variables remain constant. This result is consistent with Keynesian economic theory, which states that increasing unemployment will reduce consumption and aggregate demand, thereby inhibiting economic growth.

c) District Minimum Wage (UMK) (X2)

The regression coefficient for the UMK is -0.000000204 with a probability value of 0.0181 (<0.05). This indicates that the minimum wage has a negative and significant effect on economic growth. Although the effect is very small because the UMK is measured in rupiah, statistically, a 1 million rupiah increase in the minimum wage will reduce economic growth by 0.000000204 percent. This result may be due to the increased labor costs burden on businesses, especially MSMEs, thus hampering economic expansion.

d) Education (X3)

The regression coefficient of 0.691580 with a probability value of 0.0035 (< 0.05) indicates that education has a positive and significant effect on economic growth. This means that every one-year increase in average schooling will increase economic growth by 0.69 percent. This supports the human capital theory, which states that higher education increases productivity and the contribution of the workforce to economic growth.

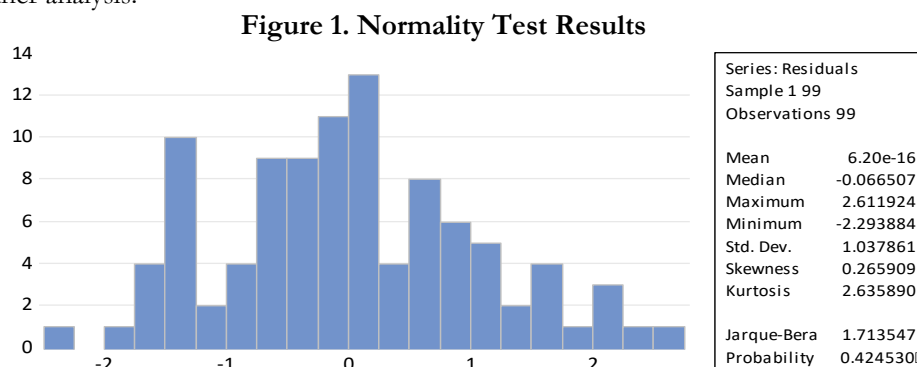
Classical Assumption Test

Regression models produce more accurate results if several related assumptions are met. Wooldridge (2018:118) states that the classical assumption tests that need to be performed are normality, multicollinearity, and heteroscedasticity.

a) Normality Test

The normality test is used to test whether the residuals in a regression model that has been created are normally distributed or not (Wooldridge, 2018:118). The normality test is based on the decision that if the probability value is more than (> 0.05) then the residual is normally distributed, if it is less than (< 0.05) then the residual is not normally distributed.

Based on Figure 1, it can be seen that the probability is 0.424530 or greater than $\alpha = 0.05$, so it can be concluded that the residuals in this study have been normally distributed. Because the residual model is normally distributed, the model is suitable for further analysis.



Source: Data attached to the author's thesis, 2025

b) Multicollinearity Test

Multicollinearity testing aims to determine whether the regression model contains correlations between independent variables. A good regression model should not have a high correlation between independent variables, as shown in the following data test results.

Table 6. Multicollinearity Test Results

	X1	X2	X3
X1	1,000,000	0.396974	0.326473
X2	0.396974	1,000,000	0.475374
X3	0.326473	0.475374	1,000,000

Source: Data attached to the author's thesis, 2025

Based on Table 6, it can be seen that the test results for multicollinearity show that there is no correlation value exceeding 0.90 between independent variables, so it can be concluded that there is no multicollinearity problem between variables.

c) Heteroscedasticity Test

The heteroscedasticity test is performed to determine whether the regression model exhibits inequality between residual variances or between observations. The basis for making the decision is that if the chi-square probability value is greater than

0.05, the regression model is free from heteroscedasticity. The results of the data test are as follows.

Table 7. Heteroscedasticity Test Results

F-statistic	1.783279	Prob. F(9,89)	0.0825
Obs*R-squared	15.12526	Chi-Square Prob.(9)	0.0876
Scaled explained SS	64.09939	Chi-Square Prob.(9)	0.0000

Source: Data attached to the author's thesis, 2025

Based on Table 7, it shows that the probability values of unemployment (X1), district minimum wage (UMK) (X2), and education (X3) do not have heteroscedasticity problems.

d) Autocorrelation Test

The autocorrelation test aims to determine whether there is a relationship between the residuals of one observation and those of another in a regression model. Autocorrelation, particularly positive autocorrelation, can violate the classic Ordinary Least Squares (OLS) assumption that residuals must be independent. If this assumption is violated, the standard error becomes biased and statistical tests such as the t-test and F-test become invalid. The results of the data testing are as follows:

Table 8. Autocorrelation Test Results

R-squared	0.482779	Mean dependent var	3.720808
Adjusted R-squared	0.466445	S.D. dependent var	4.423072
S.E. of regression	3.230825	Sum squared resid	991.6320
F-statistic	29.55792	Durbin-Watson stat	1.442137
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-,quared	0.482779	Mean dependent var	3.720808
Sum squared resid	991.6320	Durbin-Watson stat	1.442137

Source: Data attached to the author's thesis, 2025

Based on Table 8, it shows that the results of the autocorrelation test based on the Durbin-Watson value of 1.442137 indicate an indication of positive autocorrelation because the value is less than 2.

Hypothesis Testing

The hypothesis testing in this study is as follows.

1. Simultaneous Regression Significance Test (F Test)

The F-statistic test is performed to determine whether all independent variables included in the model adequately explain the dependent variable. The F-test is also used to determine whether all independent variables simultaneously influence the dependent variable, namely economic growth. The steps are as follows.

Table 8. Simultaneous Test Results (F Test)

R-squared	0.482779	Mean dependent variable	3.720808
Adjusted R-squared	0.466445	SD dependent var	4.423072
SE of regression	3.230825	Sum squared residual	991.6320
F-statistic	29.55792	Durbin-Watson stat	1.442137

Prob(F-statistic)	0.000000		
	Unweighted Statistics		
R-squared	0.482779	Mean dependent variable	3.720808
Sum squared residual	991.6320	Durbin-Watson stat	1.442137

Source: Data attached to the author's thesis, 2025

- a) Hypothesis Formulation
 $H_0 : \beta_1 = \beta_2 = \beta_3 = 0$, meaning that unemployment (X1), district minimum wage (UMK) (X2), and education (X3) do not have a significant simultaneous effect on the economic growth of districts/cities in Bali Province.
 H_1 : At least one of $\beta_i \neq 0$, unemployment (X1), district minimum wage (UMK) (X2), and education (X3) have a significant simultaneous effect on the level of economic growth of districts/cities in Bali Province.
- b) Real Level $\alpha = 5\%$; $df = (k-1), (nk)$
 $F_{table} = F_{0.05 ; (k-1) (nk)}$
 $= F_{0.05 ; (3-1) (99-3)}$
 $= F_{0.05 ; 2 ; 96}$
 $= 3.09$
- c) Testing Criteria
 If $F_{count} > F_{table}$ then H_0 is rejected and H_1 is accepted
 If $F_{count} \leq F_{table}$ then H_0 is accepted and H_1 is rejected
- d) Conclusion
 Because $F_{count} (29.56 > F_{table} (3.09))$ with a probability of $0.000000 \leq 0.05$, H_0 is rejected and H_1 is accepted. This means that the unemployment variables (X1), district minimum wage (UMK) (X2), and education (X3) have a significant simultaneous effect on the economic growth of districts/cities in Bali Province.

2. Partial Coefficient Significance Test (t-Test)

The t-test is used to partially test the significance of the relationship between the independent variable and the dependent variable, assuming all other variables remain constant. The test is conducted by comparing the calculated t-value with the t-table to determine the partial effect of each independent variable on the dependent variable in this study. The t-test in this study is described as follows.

Table 9. Partial Coefficient Significance Test (t Test)

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	6,366340	2,017071	3,156230	0,0021
X1	-1,526340	0,190719	-8,003066	0,0000
X2	-2,04E-06	8,49E-07	-2,405918	0,0181
X3	0,691580	0,230582	2,999278	0,0035

Source: Data attached to the author's thesis, 2025

- a) **The Influence of the Unemployment Rate (X1) on Economic Growth of Districts/Cities in Bali Province**
 - a) Hypothesis Formulation
 $H_0 : \beta_1 \geq 0$, meaning unemployment has no effect on economic growth of districts/cities in Bali Province.
 H_1 : $\beta_1 < 0$, meaning unemployment has a negative and significant effect on economic growth in districts/cities in Bali Province.
 - b) Real Level
 Determine the level of significance (α) = $5\% = 0.05$ and $df (nk) = (99-3) = 96$ to determine the ttable value. The ttable value in question is $t_{\alpha ; (nk)} = t_{0.05 ; 96} = 1.985$
 - c) Testing Criteria
 If $t_{count} \leq t_{table}$, then H_0 is accepted or if $Sig > \alpha = 0.05$
 If $t_{hitung} > t_{tabel}$, then H_0 is rejected or if $Sig \leq \alpha = 0.05$

d) Conclusion

The t-test on the unemployment variable (X1) shows a t-count value of -8.003066 and a prob value of $0.000 \leq 0.05$, so partially unemployment has a negative and significant effect on the economic growth of districts/cities in Bali Province.

b) The Influence of District Minimum Wages (X2) on Economic Growth of Districts/Cities in Bali Province

a) Hypothesis Formulation

H0 : $\beta_2 \leq 0$, meaning that the district minimum wage (UMK) has no effect on the economic growth of districts/cities in Bali Province.

H1: $\beta_2 > 0$, meaning that the district minimum wage (UMK) has a positive and significant effect on the economic growth of districts/cities in Bali Province.

b) Real Level

Determine the level of significance (α) = 5% = 0.05 and df (nk) = (99-3) = 96 to determine the ttable value. The ttable value in question is $t_{\alpha; (nk)} = t_{0.05; 96} = 1.985$

c) Testing Criteria

If $t_{count} \leq t_{table}$, then H0 is accepted or if $Sig > \alpha = 0.05$

If $t_{hitung} > t_{tabel}$, then H0 is rejected or if $Sig \leq \alpha = 0.05$

d) Conclusion

The t-test on the district minimum wage (UMK) variable (X2) shows a calculated t value of -2.405918 and a prob value of $0.0181 \leq 0.05$, so partially the district minimum wage (UMK) (X2) has a negative and significant effect on the economic growth of districts/cities in Bali Province.

c) The Influence of Education (X3) on Economic Growth of Districts/Cities in Bali Province

a) Hypothesis Formulation

H0 : $\beta_3 \leq 0$, meaning that education has no effect on the economic growth of districts/cities in Bali Province.

H1: $\beta_3 > 0$, meaning that education has a positive and significant effect on the economic growth of districts/cities in Bali Province.

b) Real Level

Determine the level of significance (α) = 5% = 0.05 and df (nk) = (99-3) = 96 to determine the ttable value. The ttable value in question is $t_{\alpha; (nk)} = t_{0.05; 96} = 1.985$

c) Testing Criteria

If $t_{count} \leq t_{table}$, then H0 is accepted or if $Sig > \alpha = 0.05$

If $t_{hitung} > t_{tabel}$, then H0 is rejected or if $Sig \leq \alpha = 0.05$

d) Conclusion

The t-test on the education variable (X3) shows a t-count value of 2.999278 and a prob value of $0.0035 \leq 0.05$, so partially education has a positive and significant effect on the economic growth of districts/cities in Bali Province.

4. Discussion

The Simultaneous Effect of Unemployment, District Minimum Wage (UMK), and Education on Economic Growth in the Districts/Cities of Bali Province

Based on the results of the simultaneous test (F test), the F-statistic value was obtained at 29.55792 with a probability value of 0.000000. This probability value is much smaller than the 5 percent significance level, so it can be concluded that the regression model used in this study is simultaneously significant. This means that the unemployment variable (X1), district/city minimum wage (X2), and education (X3) together have a significant influence on economic growth (Y) in districts/cities in Bali Province during the 2014-2024 period. These results strengthen the suspicion that these three factors are important components that influence the dynamics of regional economic growth. The unemployment rate reflects how much productive labor has not been optimally utilized, the minimum wage plays a role in maintaining worker welfare and people's purchasing power, while education reflects the quality of human resources in supporting economic efficiency and productivity.

The Partial Effect of Unemployment, District Minimum Wage (UMK), and Education on Economic Growth in the Districts/Cities of Bali Province

1. The Effect of Unemployment Rate (X1) on Economic Growth in the Districts/Cities of Bali

Based on the results of the simultaneous test (F test), the F-statistic value was obtained at 29.55792 with a probability value of 0.000000. This probability value is much smaller than the 5 percent significance level, so it can be concluded that the regression model used in this study is simultaneously significant. This means that the unemployment variable (X1), district/city minimum wage (X2), and education (X3) together have a significant influence on economic growth (Y) in districts/cities in Bali Province during the 2014-2024 period. These results strengthen the suspicion that these three factors are important components that influence the dynamics of regional economic growth. The unemployment rate reflects how much productive labor has not been optimally utilized, the minimum wage plays a role in maintaining worker welfare and people's purchasing power, while education reflects the quality of human resources in supporting economic efficiency and productivity.

2. The Effect of District Minimum Wage (UMK) (X2) on Economic Growth in the Districts/Cities of Bali

The district/city minimum wage variable (X2) has a coefficient value of -0.000000204 with a probability of 0.0181, which is less than 0.05. This indicates that the minimum wage has a negative and significant effect on economic growth. Although the coefficient value is very small because the UMK variable is measured in rupiah, this result indicates that an increase in the UMK that is not accompanied by an increase in labor productivity can increase company operational costs and hinder business expansion. This condition results in reduced new job creation, especially for the MSME sector, which is sensitive to changes in labor costs. Thus, every IDR 1 million increase in the UMK, if it occurs, has the potential to reduce economic growth by 0.00000204 percent. This finding indicates that an increase in the minimum wage that is not

accompanied by an increase in labor productivity can burden the business world, especially those in labor-intensive sectors, thus impacting economic activity slowdown.

The Efficiency Wage Theory states that wage increases can boost employee motivation, productivity, and loyalty. While wage increases can theoretically increase purchasing power, this finding is understandable because in certain regions, increases in the minimum wage can actually hinder investment, thus hampering economic growth. Increasing public incomes also increases purchasing power, leading to increased household consumption and spurring aggregate demand. In Bali's tourism- and service-based context, local consumption plays a crucial role in supporting small and medium-sized enterprises (SMEs) and the informal sector. Increasing the minimum wage can also improve social stability and welfare, ultimately creating a more conducive business climate. In Bali, particularly in areas like Badung and Denpasar with high minimum wages, economic growth tends to be more rapid. These findings suggest that wage increases do not always burden businesses but can also stimulate local economic activity if accompanied by increased productivity.

This aligns with research by Adnyaswari and Purbadharmaja (2023), which states that increases in the minimum wage can negatively impact the regional economy if not accompanied by increases in productivity and efficiency. The Efficiency Wage Theory states that wage increases can boost worker motivation, productivity, and loyalty. While wage increases theoretically increase purchasing power, this result is unacceptable because in certain regions, increases in the UMK can actually hinder investment, thus hampering economic growth. By increasing people's incomes, purchasing power will also increase, leading to increased household consumption and spurring aggregate demand. In Bali's tourism- and service-based context, local consumption plays a crucial role in supporting small and medium-sized enterprises, including the informal sector. Increasing the minimum wage can also improve social stability and welfare, ultimately creating a more conducive business climate. In Bali, particularly in areas like Badung and Denpasar, which have high minimum wage levels, economic growth tends to be more rapid. These findings suggest that wage increases do not always burden businesses but can also stimulate local economic activity if accompanied by increased productivity.

3. The Effect of Average Years of Schooling (X3) on Economic Growth in the Districts/Cities of Bali

The education variable (X3), measured by the average years of schooling, has a coefficient value of 0.691580 with a probability value of 0.0035, which is also smaller than 0.05. This indicates that education has a positive and significant effect on economic growth. This means that the higher the average years of schooling of people in a district/city, the higher the level of economic growth. This indicates that the quality of human resources is a key factor in driving long-term economic growth. These results also support the human capital theory proposed by Becker (1964), where education is considered an investment that improves the skills and productivity of the workforce. This finding is in line with research by Lestari and Yasa (2023) and Banyuning and Yasa

(2022), which shows that education has a significant positive effect on economic growth in Bali Province.

CONCLUSION

1. Simultaneously, the unemployment rate, district minimum wage (UMK), and education level (average years of schooling) significantly influence economic growth in districts/cities in Bali Province.
2. The unemployment rate and district minimum wage (UMK) have a partially significant and negative effect on economic growth in districts/cities in Bali Province.
3. The education rate (measured by average years of schooling) has a positive and significant effect on economic growth in districts/cities in Bali Province.

LIST OF REFERENCES

- Adnyaswari, M. D. A., & Purbadharmaja, I. B. P. (2023). Pengaruh Tenaga Kerja, Tingkat Pendidikan, dan Upah Minimum Kabupaten terhadap Tingkat Kemiskinan di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 12(5), 1092–1120.
- Afdal, A., & Triani, M. (2019). Analisis Faktor-Faktor Yang Mempengaruhi Pertumbuhan Ekonomi di Kab/Kota Sumatera Barat. *Jurnal Ecogen*, 1(3), 616. <https://doi.org/10.24036/jmpe.v1i3.5035>
- Alam, S., Ansari, Y., Sha, N., & Khan, K. (2024). The influence of unemployment and labor force participation rates on economic development in GCC countries: A cointegration approach. *Journal of Infrastructure, Policy and Development*, 8(2), 1–20. <https://doi.org/10.24294/jipd.v8i2.2962>
- Al-Mutairi, A., Alghamdi, S., & Alkhalaf, S. (2024). Economic Growth and Labor Market Dynamics in the Gulf Countries: A Panel Data Analysis. *Journal of Asian Economics*, 86, 101624. <https://doi.org/10.1016/j.asieco.2023.101624>
- Arafah, M., & Khoirudin, R. (2022). Analisis ketimpangan distribusi pendapatan kabupaten/kota di Provinsi Bali. *JIEP: Jurnal Ilmu Ekonomi dan Pembangunan*, 5(2), 628.
- Arestis, P., & Baltar, C. T. (2017). Income distribution and economic growth: A critical approach. *Panoeconomicus*, 64(2), 157–175. <https://doi.org/10.2298/PAN1702157A>
- Astrini, N. M. M., & Purbadharmaja, I. B. P. (2013). Pengaruh PDRB, pendidikan, dan pengangguran terhadap kemiskinan di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 2(4), 176–186.
- Aryanta, I. K. D., & Indrajaya, I. G. B. (2022). Pengaruh Tingkat Pengangguran, Upah Minimum dan Jumlah Penduduk Miskin terhadap Pertumbuhan Ekonomi Provinsi Bali Tahun 2011-2018. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 11(3), 1453-1477.
- Badan Pusat Statistik Provinsi Bali (2025). Pertumbuhan Ekonomi Kabupaten/Kota (Rupiah) 2014-2024.
- Badan Pusat Statistik Provinsi Bali (2025). Tingkat Pengangguran Terbuka (TPT) Kabupaten/Kota (Rupiah) 2014-2024.
- Badan Pusat Statistik Provinsi Bali (2025). Upah Minimum Kabupaten/Kota (Rupiah) 2014-2024.
- Badan Pusat Statistik Provinsi Bali (2025). Rata-rata Lama Sekolah (RLS) Kabupaten/Kota (Rupiah) 2014-2024.
- Basuki, A. T. (2016). Analisis Regresi dalam Penelitian Ekonomi dan Bisnis. (Edisi kedua). Jakarta: Rajawali Pers.
- Bayuning, I. G. A. G. B., & Yasa, I. N. M. (2022). Pengaruh Pertumbuhan Penduduk, Tingkat Pendidikan, dan Upah Minimum Kabupaten/Kota (UMK) terhadap Pertumbuhan Ekonomi Kabupaten/Kota di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 11(3), 1419–1452.
- Beard, T. R., Ford, G. S., & Kim, H. (2018). Communication policy and employment effect in the information sector. *Phoenix Center Policy Bulletin*, No. 45.
- Binatli, A. O. (2012). Growth and income inequality: A comparative analysis. *Economics Research International*, 2012, Article ID 958195. <https://doi.org/10.1155/2012/958195>
- Cahyani, N. P. M., & Marhaeni, A. A. I. N. (2022). Pengaruh tingkat pendidikan, upah minimum dan pertumbuhan ekonomi terhadap tingkat pengangguran di wilayah Sarbagita. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 11(5), 2045–2076.
- Candra, A., Hapsari, N., & Hasmarini, M. I. (2022). ANALYSIS OF THE DETERMINING FACTORS OF OPEN UNEMPLOYMENT RATE IN EAST JAVA PROVINCE 2018- 2020. 2(12), 2864–2871.
- Dewi, N. W. N., & Budhi, M. K. S. (2015). Pengaruh pendapatan asli daerah dan dana bagi hasil terhadap pertumbuhan ekonomi melalui belanja langsung di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 4(11), 1391–1420.

- Dewi, N. K. V. A., & Bendesa, I. K. G. (2020). Analisis pengaruh investasi dan upah minimum kabupaten terhadap kesempatan kerja dan pertumbuhan ekonomi di kabupaten/kota Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 9(3), 595–625.
- Dwirendra Hadiawan Putra, A., & Satria, D. (2020). Analysis of The Influence of Human Capital on Economic Growth in ASEAN Countries.
- 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.
- Firdaus, I. P., & Dewi, S. P. (2023). Kajian Gap Pertumbuhan Ekonomi Pulau Jawa Antara Kondisi Pandemi dengan Ideal Tahun 2020. *Perencanaan Wilayah Dan Kota*, 12(1), 58–69.
- Ghozali, I. (2016). Aplikasi Analisis Multivariate dengan Program SPSS 23 (Edisi 8). Semarang: Badan Penerbit Universitas Diponegoro.
- Gupta, K. (2021). The Importance of Financial Liberalisation for Economic Growth: The Case of Indonesia. *Bulletin of Indonesian Economic Studies*, 57(2), 175–201. <https://doi.org/10.1080/00074918.2020.1747596>
- Handayani, N. S., Bendesa, I. K. G., & Yuliarmi, N. N. (2016). Pengaruh jumlah penduduk, angka harapan hidup, rata-rata lama sekolah dan PDRB per kapita terhadap pertumbuhan ekonomi di Provinsi Bali. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 5(10), 3449–3474.
- Hidayat, T., Madris, M., & Anwar, A. I. (2023). Influence of Population, Unemployment, and Poverty on Economic Growth in South Sulawesi Province. *Pancasila International Journal of Applied Social Science*, 1(01), 68–79. <https://doi.org/10.59653/pancasila.v1i01.134>
- Hindun. (2019). Impact of education level on unemployment rate in Indonesia. *International Journal of Educational Research Review*, 4(3), 321–324. <https://www.ijere.com>
- Huang, H. C. R., Fang, W., Miller, S. M., & Yeh, C. C. (2015). The effect of growth volatility on income inequality. *Economic Modelling*, 45, 212–222. <https://doi.org/10.1016/j.econmod.2014.11.012>
- Kitov, I. O., & Kitov, O. O. (2021). The link between unemployment and real economic growth in developed countries. *Institute of Geosphere Dynamics, RAS*.
- Kristiani. 2022. Pengaruh Pengangguran dan Indeks Pembangunan Manusia terhadap Pertumbuhan Ekonomi di Bali. *Jurnal Pembangunan Masyarakat*, 7(2), 115–122.
- Kurniawan, A. (2017). Determinant Factors of The Performance Indicator of Local Government (Study towards Performance Indicator of Economic Growth and Open Unemployment Rate in Sidoarjo Regency). *Wacana: Jurnal Sosial dan Humaniora*, 20(01).
- Kusnendi. (2015). *Ekonomi sumber daya manusia dan alam*. Jakarta: Pusat Penerbitan Universitas Terbuka.
- Kusuma Wati, N. W. A., & Tisnawati, N. M. (2023). Analisis Pengaruh Tingkat Pendidikan, Investasi, dan Upah Minimum terhadap Kesempatan Kerja dan Pertumbuhan Ekonomi. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 12(4), 296–310.
- Lestari, L., & Yasa, I. N. M. (2023). Pengaruh investasi, tingkat pendidikan, upah minimum kabupaten/kota, dan ekspor terhadap pertumbuhan ekonomi kabupaten/kota di Provinsi Bali. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 12(6), 1139–1151.
- Lubis, A. L., & Murtala, M. (2021). Pengaruh upah minimum dan pengangguran terhadap pertumbuhan ekonomi di Provinsi Aceh. *Jurnal Ekonomi Regional Unimal*, 4(3), 28.
- Luthfi, A. (2021). Analisis Pengaruh Upah Minimum Provinsi dan Nilai Tukar Petani Terhadap Pertumbuhan Ekonomi Di Provinsi Jambi. *Jurnal Ilmu Manajemen*, 4(1), 1–23.
- Muhson, A. (2015). Pengaruh jumlah uang yang beredar, tingkat bunga, nilai tukar rupiah, dan pendapatan nasional terhadap inflasi di Indonesia. *Informasi: Jurnal Ilmiah Manajemen dan Akuntansi*, X(X), xxx–xxx.
- Mukaromah, L., Hanifatuzzahra, Z., Nasrullah, A., Latifah, T. M., Purwaningsih, V. T., & Suparta, I. W. (2022). Pengaruh Indeks Pembangunan Manusia (IPM), tingkat upah minimum, dan tingkat pengangguran terhadap pertumbuhan ekonomi Indonesia tahun 2022. *Jurnal Ilmiah Fakultas Ekonomi Universitas Flores*, 13(2), 228–245. <https://doi.org/10.37478/als.v13i2.2874>
- Novriansyah, M.A. (2018). Pengaruh Pengangguran dan Kemiskinan Terhadap Pertumbuhan Ekonomi di Provinsi Gorontalo. *Gorontalo Development Review*, 1(1), 59. <https://doi.org/10.32662/golder.v1i1.115>
- Nugroho. (2019). Pengaruh Pendidikan Terhadap Pertumbuhan Ekonomi. *Media Ekonomi Dan Manajemen*, 29(2), 195–202.
- Osman, M. M., Bachok, S., Muslim, S. A., & Bakri, N. I. M. (2015). Unemployment issues and problems in Kinta, Manjung, and Kuala Kangsar, Perak, Malaysia. *Procedia - Social and Behavioral Sciences*, 168, 389–399.
- Paramartha, I. D. G. K. C., & Suasih, N. N. R. (2023). Pengaruh investasi dan upah minimum terhadap pertumbuhan ekonomi dan pengangguran kabupaten/kota di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 12(7), 451–463.

- Permadi, Y. A. (2018). Growth, Inequality, and Poverty: An Analysis of Pro-Poor Growth in Indonesia. *Jurnal Ekonomi Kuantitatif* <https://doi.org/10.24843/jekt.2018.v11.i02.p08> Terapan (JEKT), 11(2), 216–233.
- Purnomo, S. D., Istiqomah, I., & Suharno, S. 2019. The Effect of Human Capital and Human Capital Spillover on Economic Growth. *ICORE*, 5(1), 518-524.
- Putra, N. M., & Yasa, M. (2020). Pengaruh Pendapatan Asli Daerah dan Belanja Modal Terhadap Pertumbuhan Ekonomi. *Jurnal Ekonomi Pembangunan*, 8(1), 1-12.
- Putri, N. A., & Prasetyanto, P. K. (2021). Determinants of Poverty in Java Island 2015-2020: Unemployment, HDI, Education or Economics Growth? *Journal of Management, Economics, and Industrial Organization*, 51–61. <https://doi.org/10.31039/jomeino.2021.5.3.4>
- Riska, N., & Yulindawati, I. (2020). Pengaruh pertumbuhan ekonomi, indeks pembangunan manusia (IPM), dan kemiskinan terhadap tingkat pengangguran terbuka di Provinsi Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi dan Bisnis Islam (JIMEBIS)*, 1(1), 21–35.
- Rizky Amanda Yusruri, J. A. (2023). ANALYSIS OF HUMAN DEVELOPMENT INDEX, UNEMPLOYMENT AND POVERTY ON ECONOMIC GROWTH IN INDONESIA. *Jurnal Pendidikan Dan Kebudayaan*, 14(75), 1069–1091.
- Salsabila, A. Y., Imanigsih, N., & Wijaya, R. S. (2021). Pengaruh Jumlah Penduduk, Jumlah Pengangguran Dan Tingkat Pendidikan Terhadap Pertumbuhan Ekonomi Di Wilayah Gerbang Kertosusila. *Jurnal Ekonomi Pembangunan STIE Muhammadiyah Palopo*, 7(1), 35. <https://doi.org/10.35906/jep01.v7i1.774>
- Simangunsong, N. A., Wardani, D. A., Pramudya, A. R., Arrahman, M. I., & Wulandari, S. (2023). Peran Pertumbuhan Ekonomi Dalam Menunjang Kesejahteraan Masyarakat . *El-Mal: Jurnal Kajian Ekonomi & Bisnis Islam*, 4(5), 1289–1298. <https://doi.org/10.47467/elmal.v4i5.2808>
- Sinuraya, M. B., Linda Sari, R., & Lubis, I. (2021). Analysis of Effects of Economic Growth, Human Development Index, Population, Unemployment and Investment on Poverty Levels in the North Sumatra Province. *International Journal of Research and Review*, 8(12), 663–685. <https://doi.org/10.52403/ijrr.20211282>
- Sitorus, R. (2018). Pengaruh Pendidikan, Pengangguran dan PDRB Terhadap Kemiskinan di Provinsi Sumatera Utara Tahun 2010–2016. *Jurnal Samudra Ekonomika*, 2(1), 35–43.
- Sugiyono (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung : Alfabet.
- Sukirno, S. (2011). *Makroekonomi: Teori pengantar* (Edisi Ketiga). Jakarta: Rajawali Pers.
- Todaro, M. P., & Smith, S. C. (2014). *Economic Development* (11th ed.). Pearson Education.
- Wahyuningrum, F., & Soesilowati, E. (2021). The Effect of Economic Growth, 55 Population and Unemployment on HDI. *Efficient*, 4(2), 1217–1229.
- Winarto, H., Zumaeroh, Z., & Retnowati, D. (2022). Pengaruh Human Capital, Upah Minimum dan Angkatan Kerja terhadap Pertumbuhan Ekonomi Sektor Industri Pengolahan di Provinsi Jawa Tengah. *Ekonomis: Journal of Economics and Business*, 6(1), 190. <https://doi.org/10.33087/ekonomis.v6i1.505>
- Windayana, I. B. A. B., & Darsana, I. B. (2020). Pengaruh tingkat pendidikan, UMK, investasi terhadap penyerapan tenaga kerja dan pertumbuhan ekonomi, kabupaten/kota di Provinsi Bali. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 1, 57–70.
- Yüksel, S., & Adalı, Z. (2017). Determining influencing factors of unemployment in Turkey with MARS method. *International Journal of Commerce and Finance*, 3(2), 25–36.
- Zulaikah, Z. (2022). Implementasi maqashid al-syariah dalam penetapan upah minimum pekerja berbasis keadilan. *Jurnal Justisia Ekonomika: Magister Hukum Ekonomi Syariah*, 6(1). <https://doi.org/10.30651/justeko.v6i1.10689>
- Zulfa, A. (2016). Pengaruh pertumbuhan penduduk dan pertumbuhan ekonomi terhadap tingkat pengangguran di Kota Lhokseumawe. *Jurnal Visioner & Strategis*, 5(1), 13–22.