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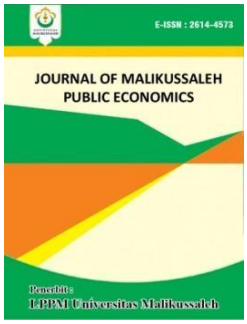
THE EFFECT OF PROVINCIAL MINIMUM WAGES, INDUSTRIALIZATION, AND POPULATION GROWTH ON URBANIZATION IN INDONESIA



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ARTICLEINFORMATION

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Urbanization, Provincial Minimum Wage, Industrialization, population Growth, ARDL

ABSTRACT

This study aims to analyze the influence of Provincial Minimum Wage, Industrialization, and Population Growth on Urbanization in Indonesia from 1992 to 2024. This study uses the Autoregressive Distributed Lag (ARDL) method to see the dynamic relationship between independent variables and dependent variables. The results show that Provincial Minimum Wage has a positive sign and is not significant in the short run, while in the long run, Provincial Minimum Wage has a positive and significant effect on urbanization in Indonesia. Industrialization has a negative sign and is not significant in the short run, as well as in the long, industrialization has a negative sign and is not significant. Population growth has a positive sign and is not significant in the short run, while in the long run it has a significant and positive effect on urbanization in Indonesia.

1. INTRODUCTION

Indonesia is facing socioeconomic changes, as evidenced by the increasing percentage of its population living in urban areas. This reflects the ongoing urbanization process, coupled with a shift in economic structure from agriculture to industry and services (*World Bank*, 2025). Several recent studies indicate that the proportion of the population living in urban areas is increasing along with economic growth and urban development. In line with Indonesia's population projections, the urban population is expected to reach around 60% in 2025 and increase to 66.6% in 2035 (Arfiansyah et al., 2024).

Various problems arising from poorly managed urbanization processes have become relatively major issues, such as urban poverty, sanitation, infrastructure, and slum areas. Urbanization has both positive and negative impacts on a country, including the developing nation such as of Indonesia. According to Evers in Azzahra *et al*. (2024), low levels of urbanization and the neglect of urban needs hinder economic growth. Meanwhile, other impacts of uncontrolled urbanization cause numerous urban problems.

The *World Bank* (2016) shows that Indonesia, as a developing country, has not been able to capitalize on the economic opportunities arising from urbanization. Indonesia has only been able to benefit from a 1% increase in urban population growth, correlated with a GDP per capita growth of only 4%, even lower than India's 12%, China's 10%, and Thailand's 7%

Urbanization plays a crucial role in improving people's standards of living, as it is in urban areas shown that economic activity develops most rapidly. Cities serve as centers of production and trade, providing a variety of goods and services to meet the needs of the population (Siswara *et al*., 2020).

Uncontrolled and poorly managed urbanization can hamper a country's sustainable growth. However, increasing urbanization in Indonesia has not been fully accompanied by equitable economic and infrastructure development across its regions.

The current phenomenon of urbanization in Indonesia not only from an increase in the urban population, but also from the increasing complexity of urban problems. Large cities are under pressure

from overcrowding, congestion, slums, and the informal sector (Khoerunnisa *et al*. 2025). Not only this, urbanization is also influenced by changes in workforce preferences, especially the younger generation who prefer to work in urban areas because of greater economic opportunities, including the development of the digital economy.

The following is a chart showing the rate of urbanization in Indonesia from 2015 to 2024:

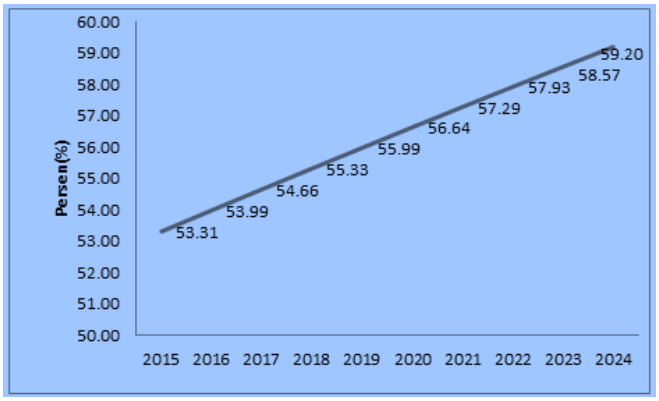

Figure 1.1 Indonesia's Urbanization Rate 2015-2024 (In %)

Source :*World Bank* (2025)

Based on Figure 1.1 above, the urbanization rate in Indonesia is shown to have experienced a consistent upward trend from year to year. In 2015, the proportion of the population living in urban areas reached 53.31%, and then continued to increase until it reached 59.20% in 2024. This 5.89% increase over 10 years reflects the acceleration of the national urbanization process. The average annual growth rate is 0.65%, which shows that there is population mobility that continues to move towards urban areas.

This is due to the desire of rural residents to try to improve their income in urban areas, with the hope that urban areas will provide more adequate access to better job opportunities, education and health services. Urbanization is not only characterized by an increase in the proportion of the population living in urban areas, but also by the physical expansion of urban areas that convert agricultural land and suburban areas into new residential areas.

The *World Bank* (2016) stated that from 2000 to 2010, the area of urban land in Indonesia increased from 8,900 km^2 to 10,000 km^2, this was an increase of 12.36% or around 1.1% increase per year, which was the largest expansion in the Asian region after China which reached an increase of 33% or around 3.3% increase.

According to Diputra & Arsha (2023), rural-to-urban migration generally occurs due to job opportunities and wage levels. Differences in wage levels between regions create an attraction for workers to migrate to areas with high wages, especially to urban areas perceived as having a more advanced economic structure and adequate infrastructure. Todaro explains that individuals will move from rural to urban areas if their expected income is achieved. The following is the development of the average Provincial Minimum Wage in Indonesia from 2015 to 2024:

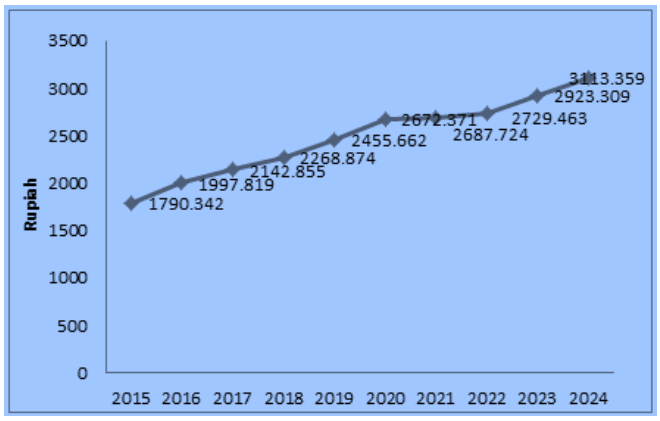

Figure 1.2 Provincial Minimum Wages in Indonesia 2015-2024 (Rupiah)

Source: BPS, 2020 Ministry of Manpower (2025)

The Provincial Minimum Wage in Indonesia is described as experiencing a significant increase from 2015 to 2024. The highest increase occurred in 2016, reaching 11.6%, or 1,997,819 Rupiah, compared to the previous year. This increase was due to an inflation rate of 3.02% and economic growth of 5.02% during that year. These factors contributed to the year-on-year increase in the Provincial Minimum Wage (BPS, 2025).

The provincial minimum wage has increased by an average of approximately 6.5% per year over the past 10 years. This increase reflects wage adjustments to inflation, economic growth, and increasing public living standards. Despite a slowdown in 2020-2021 during the COVID-19 pandemic, the provincial minimum wage percentage increase has rebounded as the national economy improves.

In addition to the Provincial Minimum Wage, the urbanization process in Indonesia is also influenced by industrialization. The industrial sector is generally concentrated in urban areas. The shift of labor from agriculture to industry is influenced by the development of industrialization in Indonesia. The following is a chart of industrialization developments in Indonesia from 2015 to 2024:

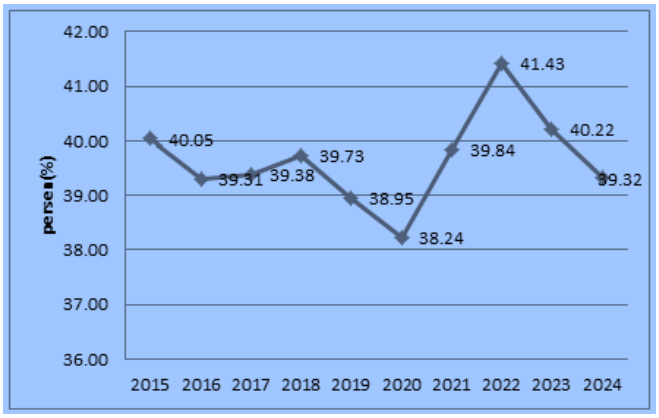

Figure 1.3 Industrialization in Indonesia 2015-2024 (% of GDP)

Source :*World Bank* (2025)

Based on Figure 1.3 above, the development of industrialization in Indonesia fluctuated during the period 2015 to 2024. In 2015, the rate of industrialization reached 40.05%, then in 2016, a decline reaching 39.31%. This decline was caused by the weakening of world commodity prices which also suppressed the added value of domestic industry. Then, in 2018, there was a slight increase from the previous year, reaching 39.73%. In the 2020–2022 period, the industrial sector's contribution to GDP increased quite sharply from 38.24% to 41.43%. This increase indicates that the industrial sector is making a greater contribution to the national economy than in previous years. However, in the 2023–2024 period, this contribution declined again to 39.32%, indicating that growth in other economic sectors is relatively faster than the industrial sector, resulting in a decline in the proportion of industrial value added to GDP.

In theory, there is a positive correlation between industrialization and urbanization, whereby increased industrialization leads to increased urbanization. However, this situation does not exist in any particular year. From 2015 to 2016, industrialization decreased from 40.05% to 39.31%, while urbanization increased from 53.31% to 53.99% in the same year. Similarly, from 2018 to 2024, the decline in industrialization actually increased urbanization to 59.20%.

Besides being influenced by the Provincial Minimum Wage and industrialization, urbanization is also influenced by population growth. High population growth drives demand for adequate housing, employment, and economic facilities. Research by Viriezky *et al.* (2025) found that Indonesia's increasing population growth can drive rapid urbanization and create a significant need for urban infrastructure.

The following is the population growth rate in Indonesia from 2015 to 2024:

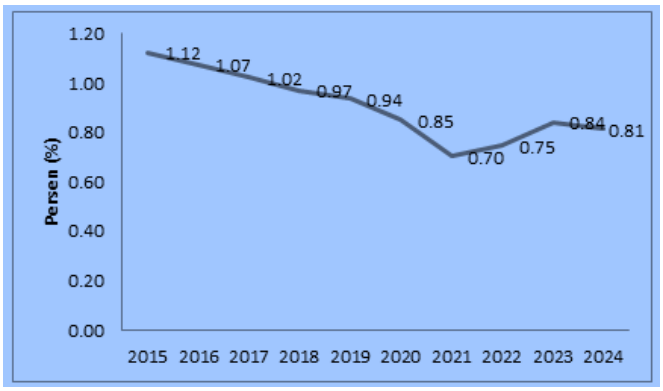

Figure 1.4 Indonesia's population growth 2015-2024 (% per year)

Source :*World Bank* (2025)

Figure 1.4 shows that Indonesia's population growth rate has slowed by 3.08% per year over a 10 years period. From 2015 to 2021, the population growth rate continued to slow by 37.5% This indicates that there is a demographic transition in Indonesia, where the birth rate is getting lower due to increasing public awareness of government programs such as Family Planning, increased education for women and changes in community lifestyles towards more rational family planning. It can be concluded that this trend of slowing population growth indicates that Indonesia has entered an advanced stage of the demographic transition.

2. THEORETICAL STUDY

Urbanization

Urbanization is defined as the process of mass population movement from rural areas or small towns to large cities. Those who make this move are referred to as urbanites. According to Todaro in Qodhari & Khudhori (2024), urbanization is the process of population movement from rural areas to cities driven by the hope of obtaining better job opportunities and income.

Indonesian Geography expert Bintarto (1984) in Haris (2015) defines urbanization through several perspectives, as follows: a) From a demographic perspective, urbanization is seen as a process reflected through changes in the population in a region. b) From an economic perspective, urbanization can be understood as a process of changing the economic structure that is seen through a shift in the type of work of rural communities, namely from the agricultural sector to the non-agricultural sector as laborers or workers in urban areas. c) From a sociological perspective, urbanization is associated with changes in the lifestyle of rural communities that experience

changes as a result of interaction and influence from urban community life. d) From a geographical perspective, urbanization is the process of distribution and change in community activity patterns that take place dynamically based on space and time.

The process of urbanization is a crucial part of economic transformation. This is evident in developed countries like Western Europe and the United States, but it also influences urbanization in developing countries (Todaro & Smith, 2015).

Provincial Minimum Wage

Based on Government Regulation of the Republic of Indonesia Number 78 of 2015 concerning wages, wages are the rights of workers/laborers expressed in monetary form as compensation from employers or employers to workers/laborers, determined and paid according to an employment agreement and consensus.

The Provincial Minimum Wage is the minimum wage standard paid by employers or industrial actors to workers, employees, or laborers in their businesses. Wages are determined according to applicable laws and regulations and are also based on a worker's Decent Living Needs (DLN) standard (Susanti, 2019) in (Diani, 2025).

The Provincial Minimum Wage is aimed at achieving Decent Living Needs (DLN), which are calculated based on a number of basic consumption components for workers. This emphasizes that the minimum wage policy is not merely a nominal figure, but part of fulfilling the human right to a decent life (Utami, 2019).

Industrialization

Industrialization is a process of technological evolution driven by scientific progress, characterized by a massive expansion in the use of machinery for production activities. This process includes the extensive use of mechanical technology to produce capital goods and consumer products aimed at meeting market needs (Winardi, 1989) in (Mariyanti, 2010).

Industrialization is also characterized by the presence of a specialized workforce in specific fields, accompanied by the phenomenon of urbanization or population migration. More broadly, industrialization is a process of modernization involving linkages between various economic sectors, with the manufacturing sector as its center (Arsyad, 2004) in (Harilinawan & Yasin, 2024).

Population Growth

Population growth is essentially the result of a dynamic balance between factors that cause population increase and factors that cause population decrease (Mulyadi, 2006) in (Zulfa, 2016). In general, population growth is the phenomenon of an increase or decrease in the population of a region or country over a period of time (year on year) (Aritonang *et al*., 2023).

Population growth in a region occurs due to several demographic factors, including births (natality), deaths (mortality), and migration (Mantra, 2003) in (Panggabean *et al*., 2024).

Conceptual Framework

The conceptual framework in this research is as follows:

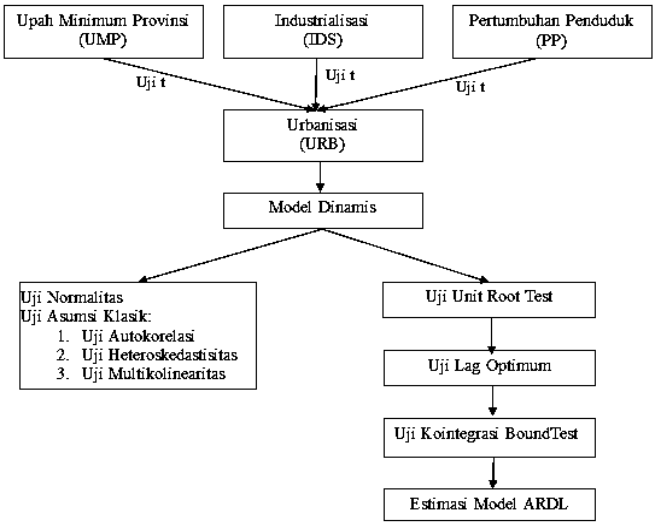

Figure 2.1 Conceptual Framework

Based on the Conceptual Framework in this study, the independent variables used are Provincial Minimum Wage (X1), Industrialization (X2), and Population Growth (X3), and their influence on Urbanization (Y) as the dependent variable. Partially, each will be tested using the t-test using the ARDL dynamic model.

Hypothesis

H_1 : The Provincial Minimum Wage is suspected to influence urbanization in Indonesia in the short and long run.

H_2 : Industrialization is suspected to influence urbanization in Indonesia in the short and long run.

H_3 : Population Growth is suspected to influence urbanization in Indonesia in the short and long run.

3. RESEARCH METHODS

Data Types and Sources

This study uses secondary data, which is time series for 33 years from 1992 to 2024. The study employs official archives of the *World Bank*, the Indonesian Central Bureau of Statistics, and data sources from the Ministry of Manpower.

Operational Definition of Variables

This study uses three independent variables and one dependent variable. The explanation for each variable is as follows:

a) Urbanization is the process of population movement from rural to urban areas. Urbanization is measure in Indonesia using the urban population as a percentage (%).
b) The Provincial Minimum Wage is the standard wage paid by employers to workers who meet the Decent Living Needs (DLN) standards set by law in Indonesia. The indicator used is Provincial Minimum Wage data as measurd (in Rupiah).
c) Industrialization is the percentage contribution generated by various industrial sectors to the total Gross Domestic Product (GDP). The indicator used is the value added of GDP in Indonesia, calculated as a percentage (%).
d) Population Growth is the change in population within a region over a specific time period. The data used is annual population growth data of Indonesia, calculated as a percentage (%).

Data Analysis Methods

This study uses dynamic analysis with the Autoregressive Distributed Lag (ARDL) analysis model. The ARDL model combines Autoregressive (AR) and Distributed Lag (DL) components into a single equation, thus explaining both short run and long run relationships between variables.

The short run and long-term equations are as follows:

$$\Delta URB_t = \beta_0 + \sum_{i=1}^{n1} \beta_1 \Delta URB_{t-1} + \sum_{i=0}^{n2} \delta_1 \Delta UMP_{t-1} + \sum_{i=0}^{n3} \delta_2 \Delta IDS_{t-1} + \sum_{i=0}^{n4} \delta_3 \Delta PP_{t-1} + \varphi_1 URB_{t-1} + \varphi_2 UMP_{t-1} + \varphi_3 IDS_{t-1} + \varphi_4 PP_{t-1} + \mu_t \quad (3.3)$$

Information:

βt , $\delta 1$ = Short Run Coefficients
$\varphi 1, \varphi 2$ = Long-Term ARDL Coefficient
URB = Urbanization
UMP = Provincial Minimum Wage
IDS = Industrialization
PP = Population Growth
μt = *Disturbance Error (White Noise)*

The tests carried out in the ARDL model are as follows:

Stationarity Test

Time series analysis requires data stationarity. Time series have random or stochastic characteristics. Stochastic data is categorized as stationary if it meets two main requirements: a stable mean and variance that do not change over time, and a covariance between the two time series depending on the lag levels of the two periods (Widarjono, 2018). In this study, the stationarity test was conducted using the Philip-Perron (PP) test at the 5% level.

Determining Lag Length

The selection of the optimal lag length aims to ensure that the model used can adequately analyze short run dynamics without causing overparameterization problems. In this study, the optimal lag selection was based on the Akaike Information Criterion (AIC), with the smallest value as the primary reference (Pesaran *et al*., 2001).

Cointegration Bound Test

This study uses several approaches that can be applied to cointegration testing include the Engle-Granger Cointegration Test (EG) and the Cointegration Regression Durbin-Watson Test (CRDW) (Widarjono, 2018).

ARDL Stability Test

This test consists of the CUSUM (Cumulative Sum of Recursive Residuals) and CUSUMQ (Cumulative Sum of Squares of Recursive Residuals) tests. In this study, the stability of the ARDL model was determined based on the CUSUM and CUSUMQ graphs being within the critical limits at the 5% significance level (Pesaran *et al*., 2001).

Normality Test

One commonly used approach to normality testing is the Jarque-Bera (JB) test (Gujarati & Porter, 2009), which has the following conditions:

a) If $JB_{hit} < X^2_{Tab}$ and the Prob value < 0.05, then it can be concluded that the data in the residuals are not normally distributed.
b) If $JB_{hit} < X^2_{Tab}$ and the Prob value > 0.05, then it can be concluded that the data in the residuals are normally distributed.

Classical Assumption Test

Autocorrelation Test

Autocorrelation detection is generally performed using two testing approaches: the Durbin-Watson test (DW test) and the Lagrange Multiplier test (LM test). The following are some of the testing criteria used:

a) Autocorrelation is absent if the ObsR-squared* value is less than the Chi-Square value at the 5% significance level (α = 0.05).
b) Autocorrelation occurs if the ObsR-squared* value is greater than the Chi-Square table value at a significance level of 5% (α = 0.05)

Heteroscedasticity Test

To determine and decide whether the data does not experience this problem, several conditions must be met, as follows:

a) If the chi-square probability value is greater than 0.05 (α: 5%), then it can be concluded that the model does not experience heteroscedasticity.
b) If the chi-square probability value is less than 0.05 (α: 5%), then it can be concluded that the model experiences heteroscedasticity.

Hypothesis Test

Partial Test (t-test)

The test criteria are as follows on statistic:

a) If the t statistic value is greater than the table t value, then Ho is rejected and Ha is accepted, meaning the independent variable partially influences the dependent variable.
b) If the t statistic value is less than the table t value, then Ho is accepted and Ha is rejected, meaning the independent variable does not partially influence the dependent variable.

4. ANALYSIS RESULTS

Research Result

Stationary Test (Unit Root Test)

The stationarity test is also known as the unit root test. The results of the Philips-Perront (PP) Unit Root Test can be seen in the following table:

Table 4.1
Stationarity Test Results

Variabel	Unit Root	Prob PP
URB	Level	0.0000
UMP	*First Difference*	0.0000
IDS	*First Difference*	0.0001
PP	*First Difference*	0.0152

Source: Data processed (Eviews 13) 2026

As seen in Table 4.2, this study uses a stationary test with the Phillips-Perron (PP) method. The test criteria are carried out if the probability (Prob) is smaller than the significance level (α = 1%, 5%, or 10%), then it can be declared stationary. Conversely, if the probability value is greater than the significance level, then the data is not stationary and requires differentiation with the first difference test. The results in Table 4.2 identify that the URB variable is stationary at the level level with a probability value (0.000), the UMP is stationary at the first Difference level with a probability value (0.000), the IDS variable is stationary at the first Difference level with a stationary value (0.0001) and the PP is stationary at the first Difference level with a probability value (0.0152).

Optimum Lag Determination Results

This study uses the Akaike Information Criterion (AIC) approach to determine the optimum lag length. The results are as follows:

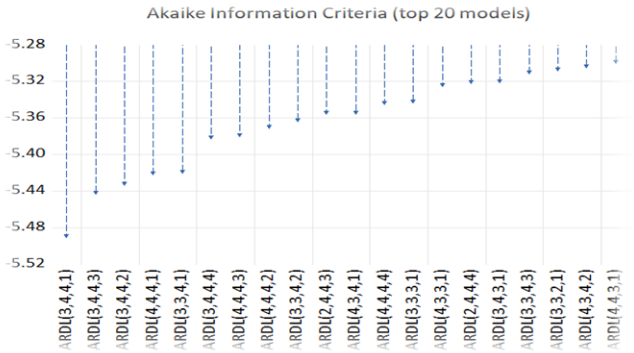

Figure 4.1 Results of Determining the Optimal Lag Length

Source: Data Processed (Eviews 13), 2026

It can be seen that the ARDL (3,4,4,1) model was chosen as the best model because it has the lowest Akaike Information Criterion (AIC) value compared to other lag combinations. A lower AIC value indicates that the model is able to provide the best balance between the level of model fit (goodness of fit) and the number of parameters used. Therefore, the ARDL (3,4,4,1) model is considered the most efficient in explaining the relationship between urbanization, provincial minimum wages, industrialization, and population growth. The selection of lag 3 for the urbanization variable, lag 4 for the provincial minimum wage and industrialization variables, and lag 1 for the population growth variable indicates that the influence of each variable on urbanization does not occur directly in the same period, but rather requires different adjustment periods before its impact is reflected in the level of urbanization..

Cointegration Test (Bound Test)

The relationship can be seen if the F-statistic value is greater than the upper critical value, then it can be stated that there is a long-term relationship between the variables. Conversely, if the F-statistic value is smaller than the lower critical value, then it can be stated that there is no long run relationship between the variables. The test results indicate that there is a long run relationship between the variables in this study. This can be seen from the F-statistic value of 7.269 which is greater than the critical value at the 10%, 5% and 1% significance levels. The following are the results of the Bound Test in this study:

Table 4.2
Cointegration Test Results

Test Statistic						Value
F-statistic						7.269107
	10%		5%		1%	
Sample Size	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
30	2.676	3.586	3.272	4.306	4.614	5.966
Asymptotic	2.370	3.200	2.790	3.670	3.650	4.660

* I(0) and I(1) are respectively the stationary and non-stationary bounds.

Source: Data processed (Eviews 13), 2026

At the 10% significance level, the f-statistic value is 7.269 > 3.586, the lower limit value of I(1). Furthermore, at the 5% significance level, the f-statistic value is 7.269 > 3.272, the lower limit value of I(0) and I(1) is 4.269. Also at the 1% significance level, the F-statistic value is 7.269 > 4.614 at the I(0) value and 5.966 at the upper critical value of I(1).

ARDL Model Estimation

The data analysis in this study was divided into two stages: short-term analysis and long-term analysis. Based on the results of model selection using the Akaike Information Criterion (AIC), the ARDL model (3,4,4,1) was found to be the most optimal, as indicated by the smallest AIC value compared to the other models.

Short Run Estimates

Table 4.3
Short-Run Estimation Results

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
COINTEQ*	-0.026235	0.003805	-6.894112	0.0000
D(URB(-1))	0.618073	0.137413	4.497923	0.0003
D(URB(-2))	-0.276935	0.080607	-3.435626	0.0032
D(UMP)	1.33E-05	1.02E-05	1.298617	0.2114
D(UMP(-1))	-0.000106	2.00E-05	-5.293402	0.0001
D(UMP(-2))	-8.87E-05	1.80E-05	-4.919556	0.0001
D(UMP(-3))	3.24E-05	1.53E-05	2.112215	0.0498
D(IDS)	-0.002826	0.001385	-2.040363	0.0572
D(IDS(-1))	0.008566	0.001458	5.877139	0.0000
D(IDS(-2))	6.76E-06	0.001497	0.004516	0.9964
D(IDS(-3))	0.004509	0.001456	3.096677	0.0066
D(PP)	0.029590	0.064634	0.457804	0.6529

Source: Data processed (Eviews 13), 2026

The following presents the results of short-term estimates which can be formulated as follows:

$$\Delta URB_t = 0.618073URB_{t-1} - 0.276935URB_{t-2} + 1.33E\text{-}05UMP_t - 0.000106UMP_{t-1} - 8.87E\text{-}05UMP_{t-2} + 3.24E\text{-}05UMP_{t-3} - 0.002826IDS_t + 0.008566IDS_{t-1} + 6.76E\text{-}06IDS_{t-2} + 0.004509IDS_{t-3} + 0.029590PP_t + -0.26235ECM_{t-1} \quad (4.1)$$

Based on the short run estimation results in this ARDL model, the CointEq (-1)/ECT (-1) value is -0.0262 and is significant at the 1% level. Furthermore, the CointEq (-1) value of -0.0262 is used to see the speed of adjustment in response to changes in the ECT value or CointEQ (-1) is valid if the significance is at the 5% level. The CointEq (-1)/ECT (-1) value of -0.0262, meaning that the imbalance will be adjusted by 2.62% in one period, the remaining 97.38 will be adjusted in the next period. The time required to restore the imbalance is 11 years and 6 months.

Long Run Estimates

The following describes the long-term relationship estimates obtained from the ARDL model:

Table 4.4
Long-Run Estimation Results

Levels Equation
Case 2: Restricted Constant and No Trend

Variable *	Coefficient	Std. Error	t-Statistic	Prob.
UMP(-1)	0.005164	0.000695	7.429478	0.0000
IDS(-1)	-0.193289	0.145262	-1.330624	0.1953
PP(-1)	9.628965	2.932963	3.283016	0.0030
C	59.21790	7.670276	7.720440	0.0000

Source: Data processed (Eviews 13), 2026

Based on Table 4.4 presented above, the long-term estimation results can be formulated as follows:

CE = URB(-1) – 0.005164UMP(-1) – 0.193289IDS(-1) + 9.628965PP(-1) + 59.217905

Based on the results of the long run ARDL model estimation, if the Provincial Minimum Wage variable increases by 1%, urbanization will increase by 0.0051 with the assumption and is significant at a probability of 0.0000, indicating that the Provincial Minimum Wage has a significant positive effect on urbanization in Indonesia, then if industrialization increases by 1%, urbanization will decrease by -0.1932 with the assumption and is significant at a probability of 0.1953, indicating that the Industrialization variable has a negative sign and is not significant on urbanization in Indonesia and if population growth increases by 1%, urbanization will increase by 9.6289 with the assumption and is significant at a probability of 0.0030, which means that the population growth variable has a positive and significant effect on urbanization in Indonesia.

Modal Stability Test

The stability test of the ARDL model is conducted to ensure that the model parameters are stable throughout the observation period, so that the estimated results can be relied upon for short-term and long-term analysis. To assess the stability of the approach used, two types of stability tests are conducted: the CUSUM Test and the CUSUM of

Squares (CUSUMQ). Both tests serve to assess parameter stability.

The following are the results of the CUSUM Test in this study:

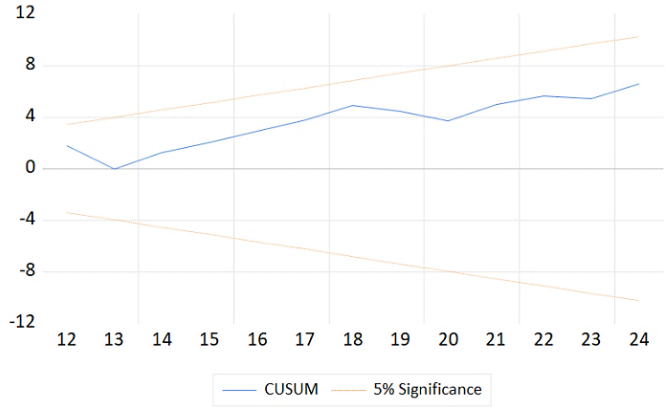

Figure 4.2 CUSUM Test Results
Source: Data processed (Eviews 13), 2026

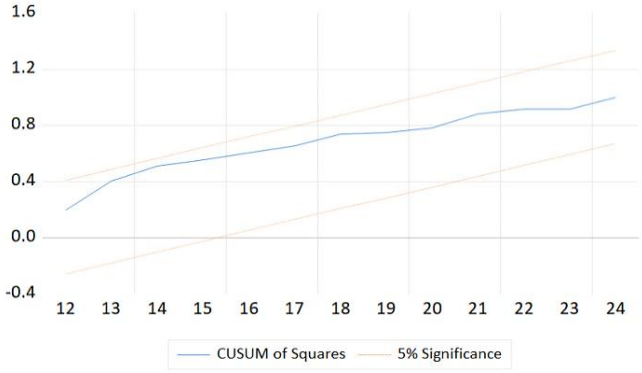

Figure 4.3 CUSUM of Square
Source: Data processed (Eviews 13), 2026

The results of the CUSUM Test and CUSUM of Squares test show that the test statistic line is within the critical limits at the 5% significance level, so that the model can be declared stable and has not experienced structural changes during the research period.

Normality Test

The following presents the results of the Normality Test to see whether the data is normally distributed or not:

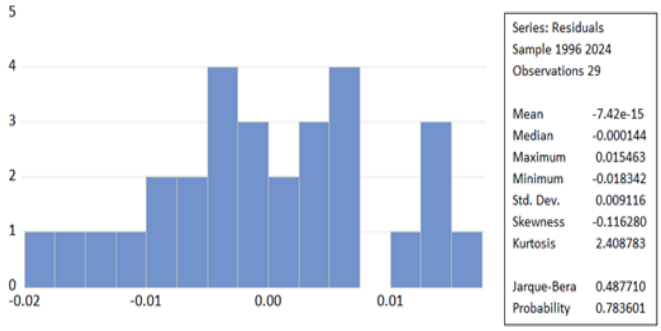

Figure 4.4 Normality Test Results
Source: Data processed (Eviews 13), 2026

The Jarque-Bera statistical value in this study is 0.487 with a probability of 0.783. This value is smaller than the Chi-Square table value at 2 degrees of freedom (df) and a significance level of 5%, which is 5.9915, or 0.4877 < 5.9915 so it can be said that the residuals in this study model have been normally distributed.

Classical Assumption Test Results

Autocorrelation Test

The results of the autocorrelation test in this study are presented as follows:

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.592914	Prob. F(2,11)	0.5695
Obs*R-squared	2.822050	Prob. Chi-Square(2)	0.2439

Figure 4.5 Autocorrelation Test Results
Source: Data processed (Eviews 13), 2026

Based on the results of the Autocorrelation test, the Obs*R-Square value was obtained at 2.822, the chi-square value in the degree of freedom table (2) with a significance level of 5% was recorded at 5.9915. With this, the calculated chi-square is smaller than the chi-square table (2.822 < 5.9915), it can also be seen based on the chi-square probability value of 0.9184 > 0.05, so it can be declared free of autocorrelation.

Heteroscedasticity Test

This test is conducted to determine whether the residual variance in the regression model is constant or not across variables. The results are as follows:

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	0.337666	Prob. F(15,13)	0.9762
Obs*R-squared	8.130912	Prob. Chi-Square(15)	0.9184
Scaled explained SS	1.150917	Prob. Chi-Square(15)	1.0000

Figure 4.5 Heteroscedasticity Test Results
Source: Data processed (Eviews 13), 2026

The test results show that the Obs*R-Square value obtained is 8.1309, while the chi-square table value at degrees of freedom (15) with a significance of 5% is 28.8693. Thus, the calculated t value is smaller than the chi-square value. So it can be stated that this research model does not show any indication of heteroscedasticity symptoms.

Discussion

The Effect of the Provincial Minimum Wage on Urbanization in Indonesia

The short run ARDL estimation results indicate that the Provincial Minimum Wage has a positive but insignificant effect on urbanization in Indonesia. This means that changes in the Provincial Minimum Wage cannot yet be used as a factor that truly influences urbanization in

Indonesia in the short term. There is a lag effect in the model, requiring time to fully influence urbanization. These results align with research conducted by (Wibowo *et al*., 2025).

Meanwhile, in the long run, the Provincial Minimum Wage has a positive and significant effect on urbanization. This indicates that each increase in the Provincial Minimum Wage will encourage increased urbanization in Indonesia.

This also aligns with Todaro's theory, which states that an individual's decisions are influenced by differences in expected income between rural and urban areas. In this case, an increase in the Provincial Minimum Wage reflects increased potential income in urban areas, thereby increasing the expected economic benefits for prospective urbanites. Therefore, this study is consistent with the findings of Anita and Sentosa (2021) and Qodhari and Khudhori (2024).

The Effect of Industrialization on Urbanization in Indonesia

Industrialization in the short term shows a negative and insignificant influence on urbanization in Indonesia. This finding is inconsistent with Modernization Theory, which states that the industrialization process will drive urbanization through increased economic activity, employment opportunities, and urban development. This finding aligns with research conducted by Mustapita & Khalikussabir (2019).

Meanwhile, Industrialization also shows negative and insignificant results in the long run. The findings indicate that the Industrialization variable does not have a significant influence on urbanization in Indonesia. Thus, the long run results are also inconsistent with Modernization Theory. This is due to changes in industrial distribution patterns in recent years. Based on these findings, the results are consistent with research conducted by Khalimatusakdiah (2024).

The Effect of Population Growth on Urbanization in Indonesia

Short run estimates of the ARDL model indicate that the Population Growth variable has a positive but insignificant effect. This finding is inconsistent with the demographic transition theory, which states that population growth will drive a significant increase in urbanization due to population pressure in rural areas and a shift in economic structure toward urban areas.

However, in the short run estimate, this insignificance may be due to several factors, including uneven population distribution, limited population mobility, and other economic factors.

Meanwhile, in the long run, the Population Growth variable shows a positive and significant effect on urbanization in Indonesia. This finding suggests that population growth will increase pressure on the availability of human run resources in rural areas, land availability, and job opportunities, thus encouraging migration to urban areas. This condition aligns with the push factors theory of migration, where economic constraints in the region of origin are the primary driver of population movement.

Based on these findings, the results obtained are consistent with research conducted by Mustapita & Khalikussabir (2019) and research conducted by Fauziah (2019).

5. CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the discussion presented in the previous chapter, the following conclusions can be drawn:

1) In the short run, the Provincial Minimum Wage has a positive but insignificant effect on urbanization in Indonesia. Meanwhile, in the long run, the Provincial Minimum Wage has a positive and significant effect on urbanization in Indonesia.
2) In the short run, the Industrialization Standard Industrialization on urbanization in Indonesia shows that Industrialization has a negative and insignificant effect. Meanwhile, in the long run estimate, Industrialization also has a negative and insignificant effect on urbanization.
3) In the short run, Population Growth on urbanization in Indonesia shows a positive but insignificant effect on urbanization, while Population Growth shows a positive and significant effect on urbanization.

Recommendations

Based on the conclusions presented above, the recommendations in this study are:

1) The government needs to optimize the Provincial Minimum Wage policy by considering its impact on urbanization. Increasing the Provincial Minimum Wage in urban areas can encourage rural-urban migration and increase regional inequality, so this needs to be balanced with equal employment opportunities in both urban and rural areas.
2) Industrialization needs to be directed to rural areas through the development of agro-industry and agropolitan cities to increase added value, absorb labor, and reduce urbanization and

regional disparities, thus creating more equitable and sustainable development.

3) Population growth is a driving factor for urbanization in the long term, so the government needs to focus on controlling population growth and improving the quality of human resources to ensure more targeted and productive population mobility.
4) Policy reforms related to urbanization should consider the interrelationships between variables as a whole. Urbanization is not simply a matter of migration, but a reflection of economic and employment dynamics.

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