

Minimum Wage Determinations in The Regional Economic Development Structure: Central Java's Longitudinal Analysis in 2020-2024

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ABSTRACT

Purpose: This study aims to analyze the factors influencing the MW and assess its role in regional economic development.

Research Method: This study uses a quantitative approach with panel data regression. The estimation models used are the Fixed Effects Model (FEM) and the Random Effects Model (REM), with the independent variables being Regional Gross Domestic Product (GDRP), Labor Force Participation Rate (LFPR), Average Years of Education, Open Unemployment Rate (OUR), and Dependency Ratio.

Results and Discussion: The results show that GDRP, LFPR, and the dependency ratio have a significant positive effect on the MW, while the LFPR has a significant negative effect. Average years of education has a positive but insignificant effect. Simultaneously, all variables have a significant effect on the Minimum Wage MW.

Implications: These findings emphasize that determining the MW requires considering economic, employment, and demographic conditions in proportion.

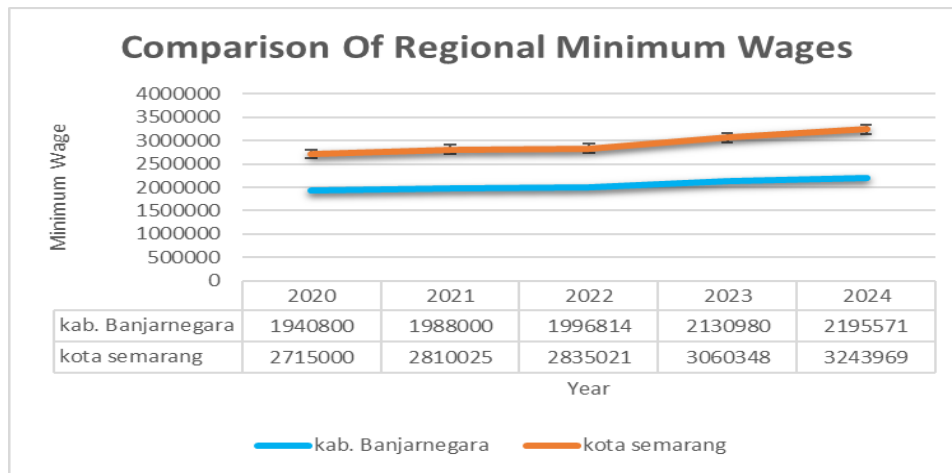
Originality: This study integrates regional economic, employment, and demographic factors to analyze minimum wage determination across 35 regencies/cities in Central Java Province, using panel data for the 2020–2024 period.

Keywords: minimum wage; regional gross domestic product; average years of education; open unemployment rate; dependency ratio.

1. Introduction

Regional economic development is a strategic instrument for reducing interregional inequality by optimizing local potential and sustainably enhancing regional economic capacity. Within this framework, labor market policies play a central role in determining income distribution, levels of economic participation, and the efficient allocation of human resources at the regional level. Setting an appropriate minimum wage can encourage improved worker welfare and contribute to more inclusive economic growth in the region (Feriyanto, El Aiyubbi, & Nurdany, 2020). One policy instrument that directly reflects government intervention in the labor market is the minimum wage, which serves not only as a labor-protection mechanism but also as a tool for controlling regional economic dynamics. Therefore, the level of the minimum wage is crucial to regional economic development because it reflects the interaction among public policy, labor market conditions, and regional economic structure.





Sources: BPS, 2020-2024 (processed data)

Figure 1. Comparison Table of Regional Minimum Wages

Based on data on the Minimum Wage (MW) of regencies/cities in Central Java Province for the 2020–2024 period, there are quite striking differences in minimum wage levels between regencies. Semarang City consistently ranks among regencies with the highest MW, while Banjarnegara Regency is among those with a relatively lower MW. This gap reflects variations in regional economic conditions, such as labor productivity, business sector structure, industrial capacity, and cost-of-living differences between regencies. This phenomenon indicates that the policy for setting the MW is inseparable from the economic characteristics of each regency. Therefore, the disparity in MW between regencies/cities is a crucial issue that needs to be analyzed in the context of regional economic development in Central Java.

Variations in the Regency/City Minimum Wage (MW) across regions in Central Java Province are significant and do not always align with fundamental regional economic indicators. Several regions with relatively high Gross Regional Domestic Product (GRDP) levels do not always set the minimum wage at the highest level. At the same time, the dynamics of variables such as labor force participation rates and human resource quality are related to the determination of the minimum wage (Primadila & Asmara, 2022). This condition indicates a lack of synchronization between wage policies and regional economic capacity. In some cases, regions with a strong economic base lack a proportional wage structure, and an increase in labor supply can actually suppress minimum wage levels. This phenomenon indicates that the determination of the MW is not fully grounded in empirical relationships among economic variables, potentially distorting the effectiveness of regional development policies (Kusumaningrum, 2023).

The relationship between macroeconomic dynamics and wage policy indicates that the determination of the Regency/City Minimum Wage (MW) is influenced not only by normative employment aspects but also by regional economic conditions. Charysa (2013) explains that economic growth, labor productivity, inflation, and labor market conditions are important factors influencing changes in minimum wage levels. However, previous studies have generally analyzed these factors only partially and have not integrated various economic, employment, education, and demographic indicators into a comprehensive analytical framework. Furthermore, the approaches used tend to be limited to cross-sectoral data or separate time-series data, thus failing to capture inter-regional

dynamics and changes over time simultaneously. In the context of Central Java Province, studies examining the determinants of SMEs using a panel data approach across regencies/cities are also relatively limited.

Previous empirical studies have shown that the relationship between economic indicators and wage policy is not always linear. Macroeconomic variables such as inflation and economic growth do not always significantly influence the determination of the minimum wage. Hence, changes in the Regency/City Minimum Wage (MW) are not solely determined by economic factors (Kertiasih, 2017). Furthermore, the consumer price index, labor force participation rate, and investment have been shown to influence minimum wages simultaneously, although not all variables are statistically significant (Panjaitan *et al.*, 2024). However, most previous studies analyze the influence of variables separately and have not integrated the economic, employment, education, and demographic dimensions into a comprehensive analytical framework. Furthermore, studies using a panel data approach across all regencies/cities in Central Java Province are also limited. Therefore, this study is novel in including the average years of education as a proxy for human resource quality and the dependency ratio as an indicator of demographic burden in the analysis model. Both variables are important because improving the quality of education can increase labor productivity. At the same time, the dependency ratio reflects household economic pressures that can influence wage policy at the regional level.

An inaccurate understanding of the determinants and role of minimum wages can lead to poorly targeted wage policies, both in labor protection and in sustaining regional businesses. Determining minimum wage levels that are not aligned with real economic and labor market conditions can trigger distortions in production cost structures, reduce investment competitiveness, and increase inter-regional inequality due to differences in economic capacity that are not proportionally accommodated. Furthermore, a partial, sectoral analytical approach risks overlooking the interrelationships among variables that simultaneously influence wage dynamics. The use of a panel data-based approach that integrates economic, demographic, and employment dimensions is crucial to producing a more comprehensive and empirically grounded analysis to formulate adaptive, context-specific minimum wage policies.

This analysis examines the determinants of district- and city-level minimum wages, positioning them as both indicators and instruments of regional economic development. A panel data approach is used to integrate economic, demographic, and employment dimensions simultaneously to capture variation across regions and over time. The research's contribution lies in strengthening the theoretical perspective, providing empirical evidence, and providing an analytical basis for formulating more adaptive and contextual wage policies. This approach emphasizes the strategic role of minimum wages in supporting inclusive and sustainable regional economic development.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides a discussion; Section 5 is the Concluding Remarks and Recommendations.

2. Literature Review and Hypothesis Development

2.1 Human Capital Theory

Human capital theory posits that education is an investment that can improve the quality, skills, and productivity of the workforce, thereby increasing income and wage levels. Wößmann (2003) states that

workers with higher levels of education tend to have better adaptability and productivity in the labor market. In this study, this theory is used to explain the relationship between average years of schooling and the Regency/City Minimum Wage (MW).

2.2 Minimum Wage

The Regency/City Minimum Wage (MW) is a wage policy established by local governments to help workers meet a decent standard of living. The existence of the MW is not only related to labor regulations but also reflects the economic conditions and capabilities of the business sector in each region. Azizah and Rachmawati (2022) state that the minimum wage can serve as an indicator of community welfare because it is linked to workers' income and quality of life. Furthermore, the process of determining the MW is influenced by various factors, such as regional economic growth, labor productivity, inflation, and labor market conditions (Charysa, 2013). These differences in economic characteristics between regions ultimately lead to variations in the minimum wage level in each district/city.

2.3 The Influence of Gross Regional Domestic Product on Minimum Wages

Gross Regional Domestic Product (GRDP) measures a region's economic capacity, reflecting the total value added generated by various economic activities within the region. Conceptually, an increase in GRDP indicates growth in production activities and regional economic development, which can improve the business sector's ability to offer higher wages to workers. Damanik and Zalukhu (2021) explain that GRDP positively influences Regency/City Minimum Wages (MW) because higher economic growth tends to strengthen companies' capacity to meet wage obligations. In line with this, Pratama (2020) states that regions with higher GRDP levels generally have higher minimum wage standards due to increased productivity and regional economic activity.

2.4 The Influence of the Labor Force Participation Rate on Minimum Wages

The Labor Force Participation Rate (LFPR) reflects the proportion of the working-age population actively involved in economic activities. From a labor market theory perspective, an increase in the LFPR can affect the balance between labor supply and wage levels. Armidi *et al.*, (2018) stated that an increase in the workforce without a corresponding expansion of job opportunities can depress wage levels due to increased competition in the labor market. However, Panjaitan *et al.*, (2024) found that the TPAK simultaneously affects the minimum wage, given that high community participation in economic activities can drive increased production and strengthen regional economic capacity.

2.5 The Influence of Average Years of Schooling on Minimum Wages

Average years of schooling reflect the quality of human resources as a form of accumulated human capital in a region. From an economic perspective, education is viewed as an investment that can increase productivity and the workforce's capacity to earn higher incomes. Wößmann (2003) explained that workers with higher levels of education generally have higher adaptability, skills, and productivity in the labor market. Furthermore, Wa and Masjkurib (2018) stated that an increase in average years of schooling is associated with improvements in the community's socioeconomic conditions through higher labor quality. Thus, higher education levels can drive minimum wage increases by improving labor quality and productivity.



2.6 The Impact of the Open Unemployment Rate on the Minimum Wage

The Open Unemployment Rate (OUR) reflects labor market conditions and the regional economy's ability to absorb the labor force. A high unemployment rate indicates that available job opportunities are insufficient to optimally absorb the workforce, thereby weakening workers' bargaining power in the wage-setting process. Under these conditions, companies tend to have greater flexibility in setting wage rates due to increased competition among job seekers. Findings by Damanik and Zalukhu (2021) indicate that an increase in the unemployment rate reduces the workforce's ability to earn higher wages. Thus, an increase in the Open Unemployment Rate (OUR) can suppress increases in the Regency/City Minimum Wage (MW) in a region.

2.7 The Impact of the Dependency Ratio on the Minimum Wage

The dependency ratio compares the number of non-productive-age and productive-age populations in a region. A high dependency ratio indicates a significant economic burden on the working-age population to meet household needs. According to Verdugo (2007), an increase in the dependency rate can increase economic pressures on the community and the need for income to meet family consumption needs. In the employment context, this condition can influence wage policies, as rising economic demands may prompt adjustments to minimum wage levels to maintain public welfare.

This study formulates empirically testable hypotheses. These hypotheses are formulated to determine the correlation between each independent variable and the City/Regency Minimum Wage (MW).

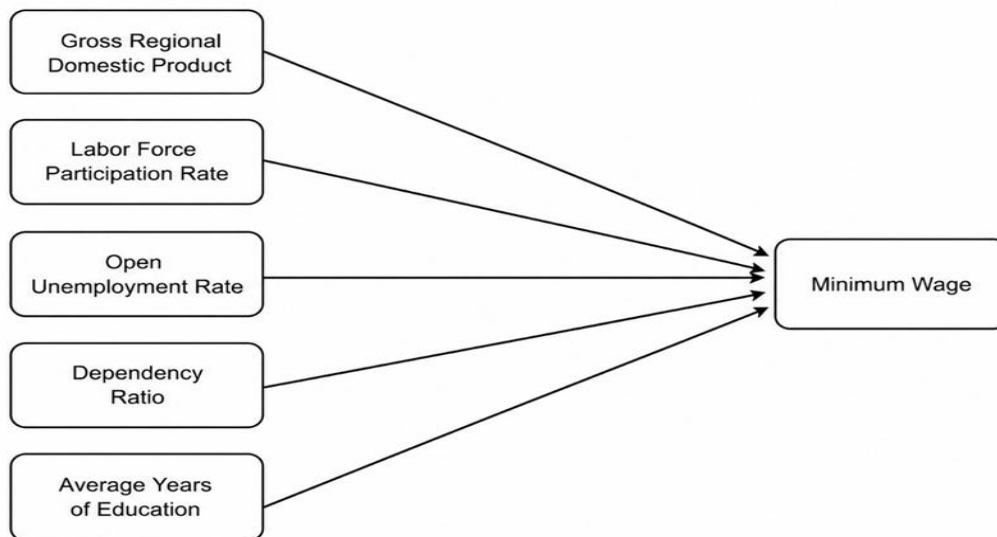


Figure 1. Research Model

- H1:** Regional Gross Domestic Product affects City/Regency Minimum Wages.
- H2:** Labor Force Participation Rate affects City/Regency Minimum Wages.
- H3:** Average Years of Education affects City/Regency Minimum Wages.
- H4:** Open Unemployment Rate affects City/Regency Minimum Wages.
- H5:** Dependency Ratio affects City/Regency Minimum Wages.

3. Research Method

This study uses a quantitative approach to analyze the causal relationship between economic, employment, and demographic variables and district/city minimum wages. This approach was chosen because it provides objective, structured measurements of the phenomena studied through numerical data processing. The analysis was conducted using panel data regression, which combines cross-sectional and time-series dimensions, allowing observation of variations between regions as well as changes within a given time period. The data used in this study are secondary data obtained from the Central Statistics Agency (BPS), covering 35 districts/cities in Central Java Province during the period 2020–2024. The dependent variable in this study is the District/City Minimum Wage (MW). In contrast, the independent variables consist of Regional Gross Domestic Product (GRDP), Labor Force Participation Rate (LFPR), Average Years of Education, Open Unemployment Rate (OUR), and Dependency Ratio. The analytical models used include the Fixed Effects Model (FEM) and Random Effects Model (REM) approaches to identify the influence of independent variables on SMEs simultaneously and account for heterogeneity across regions. With the panel data model equation as follows:

$$MW_{it} = \beta_0 + \beta_1 GRDP_{it} + \beta_2 LFPR_{it} + \beta_3 AYE_{it} + \beta_4 OUR_{it} + \beta_5 DR_{it} + \epsilon_{it} \quad (1)$$

Description:

- MW_{it}: City/Regency Minimum Wage
- β₁ GRDP_{it}: Gross Regional Domestic Product
- β₂ LFPR_{it}: Labor Force Participation Rate
- β₃ AYE_{it}: Average Years of Education
- β₄ OUR_{it}: Open Unemployment Rate
- β₅ DR_{it}: Dependency Ratio
- β₀ : Constant
- β₁–β₅: Regression coefficients for each variable
- ε_{it}: Error term
- I: Regency/City in Central Java
- T: Years (2020–2024)

The use of panel data regression in this study is based on its ability to increase degrees of freedom, reduce multicollinearity, and yield more efficient estimates than separate cross-sectional or time-series methods. Furthermore, panel data allow control for unobserved variables (unobserved heterogeneity) that remain constant over time. Gujarati and Porter (2009) explain that panel data models offer advantages in capturing individual dynamics and improving estimation accuracy in econometric analysis, making them relevant for research involving variation across observation units and time periods.

4. Results and Discussion

4.1 Analysis Results

Data analysis to analyze how the relationship between gross domestic product, labor force participation rate, open unemployment rate, average length of education, dependency ratio, and minimum wage in cities/regencies in Central Java in 2020-2024.

4.1.1 Model Selection Criteria

4.1.1.1 Chow Test

If H_0 is accepted, the CEM model will be selected as the best model, and conversely, if H_1 is accepted, the FEM model will be selected as the best model. The decision is made based on the probability (p) value for the cross-section F model. If $p > 0.05$, the best model is the FEM model. The Hausman test follows this. The results of the Chow test in this study are shown in Table 1.

Table 1. Chow Test

Effects test	Statistic	d.f.	Prob.
Cross-section f	43.712752	(34.123)	0.0000
Cross-section chi-square	419.126617	34	0.0000

Source: *eviews 12 data processing (processed data)*

From Table 1, we can see that the Chow test statistic is 0.0000, which is < 0.05 . The best model selected is the FEM. Therefore, the Hausman test will be conducted.

4.1.1.2 Hausman Test

If H_0 is accepted, the REM model is selected; if H_1 is accepted, the FEM model is selected. This determination is based on the cross-sectional random probability value (p). If $p > 0.05$, the best model selected is the REM model, while if $p < 0.05$, the best model selected is the FEM model. The results of the Hausman test in this study are presented in Table 2.

Table 2. Hausman Test

Test summary	Chi-Sq. Statistic	Chi-Sq d.f.	Prob.
Cross-section chi-square	68.253714	5	0.0000

Source: *eviews 12 data processing (processed data)*

The Hausman test in Table 2 shows that the p -value (p) is $0.0000 < 0.05$. Therefore, the best model used in this study is the FEM model.

4.1.2 Classical Assumption Test

4.1.2.1 Normality Test

To assess whether the data for the research variables are normally distributed, a normality test is performed. The following are the results of the normality test:

Table 3. Normality Test

Jarque-bera	4.449398
Probability	0.178227

Source: *evIEWS 12 data processing (processed data)*

Table 3 shows that the Jarque-Bera probability value is $0.178227 > 0.05$ (a), indicating that the research data is normally distributed.

4.1.2.2 *Multicollinearity Test*

To assess whether the independent variables in the regression model are correlated, a multicollinearity test is performed. The optimal regression model is one with uncorrelated independent variables. The results of the multicollinearity test are presented in Table 4.

Table 4. Multicollinearity Test

	X1	X2	X3	X4	X5
X1	1.0000	-0.5216	0.0256	-0.1147	0.7341
X2	-0.5216	1.0000	-0.0337	0.0456	-0.6432
X3	0.0256	-0.0337	1.0000	-0.5162	0.1249
X4	-0.1147	0.0456	-0.5126	1.0000	-0.1210
X5	0.7314	-0.6432	0.2149	-0.1210	1.0000

Source: *evIEWS 12 data processing (processed data)*

Data collection: Decision-making is based on the correlation value of each variable. If the value is > 0.8 , there is no multicollinearity problem between the variables. The test results indicate that the correlation value between the independent variables is less than 0.8. Therefore, there is no multicollinearity problem between the variables in the model.

4.1.2.3 *Heteroscedasticity Test*

To identify the diversity of variance in the disturbance variables, a heteroscedasticity test is conducted. The optimal regression model is homoscedastic, or, in other words, does not exhibit heteroscedasticity. Decision-making is based on a correlation value of less than 0.8 for each independent variable, indicating the absence of heteroscedasticity problems. The results of the heteroscedasticity test for this study are as follows:

Table 5. Heteroscedasticity Test

Variable	Coefficient	Std. error	t-statistic	Prob.
C	-1016640.	722074.7	-1.407943	0.1617
X1	-1045.703	4060.048	-0.257559	0.7972
X2	234.8489	163.9956	1.432044	0.1547
X3	-1283.629	4000.354	-0.320879	0.7488
X4	447.2620	983.0728	0.454963	0.6499
X5	-0.900831	1.828881	-0.492558	0.6232

Source: *evIEWS 12 data processing (processed data)*

Table 5 shows that the probability of each variable is > 0.05 . Therefore, the research data do not exhibit heteroscedasticity.

X1 = $0.7972 > 0.05$ (therefore, free from heteroscedasticity).

- X2 = 0.1347 > 0.05 (therefore, free from heteroscedasticity).
- X3 = 0.7488 > 0.05 (therefore, free from heteroscedasticity).
- X4 = 0.6499 > 0.05 (therefore free from heteroscedasticity test)
- X5 = 0.6232 > 0.05 (therefore free from heteroscedasticity test)

4.1.2.4 Autocorrelation Test

The autocorrelation test is used to detect strong correlations between time periods. The presence of autocorrelation problems will result in biased coefficient estimates, and the resulting variance will not reflect the true value. A good model is free from autocorrelation problems. The following are the results of the autocorrelation test:

Table 6. Autocorrelation Test

Durbin-Watson stat	1.492064
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Source: *evIEWS 12 data processing (processed data)*

Table 6 shows the Durbin-Watson statistic value of 1.492064. This value is considered above -2 and below +2. Therefore, the autocorrelation test was successful.

4.1.3 Statistical Tests

4.1.3.1 T-Test

In this section, the influence between variables, individually and collectively, will be tested using FEM. The results of the T-test in this study are as follows:

Table 7. T-Test

Variable	Coefficient	Prob.
C	-5351668.	0.0013
X1	16320.10	0.0760
X2	1291.809	0.0006
X3	-25171.91	0.0059
X4	10475.68	0.0000
X5	27.73130	0.0000

Source: *evIEWS 12 data processing (processed data)*

The regression results show that:

- Average years of schooling (X1) has a probability value of 0.076 > 0.05 and a coefficient value of 16320.1. This means that average years of schooling have a positive but insignificant effect on the minimum wage.
- The dependency ratio (X2) has a probability value of 0.0006 < 0.05 and a coefficient value of 1291.809. This means that the dependency ratio has a positive and significant effect on the minimum wage.
- The open unemployment rate (X3) has a probability value of 0.0059 < 0.05 and a coefficient value of -25171.91. This means that the open unemployment rate has a significant negative effect on the minimum wage.

- The labor force unemployment rate (X4) has a probability value of $0.0000 < 0.05$ and a coefficient value of 10475.68. This means that the labor force participation rate has a positive and significant effect on the minimum wage.
- Regional gross domestic product (X5) has a probability value of $0.0000 < 0.05$ and a coefficient value of 27.7313. This means that regional gross domestic product has a positive and significant effect on the minimum wage

4.1.3.2 F-Test and Determinant Coefficient (R^2)

The coefficient of determination (R^2) indicates the model's ability to explain variation in the dependent variable. The F-test is conducted to determine the effect of each independent variable simultaneously on the dependent variable. The following are the results of the F-test and the R^2 coefficient:

Table 8. Test and Determinant Coefficient (R^2)

R-squared	0.949836
Adjusted R-squared	0.933931
F-statistic	59.71742
Prob(f-statistic)	0.000000

Source: evIEWS 12 data processing (processed data)

Based on the test results in Table 8, the p-value of the F-statistic is $0.000000 > 0.05$. Simultaneously, the independent variables have a significant effect on the dependent variables. The results above yield an R^2 value of 0.949836, indicating that 95% of the variation in the dependent variable in this study is explained by the independent variables in the statistical model, with 5% explained by factors outside the model.

4.2 Discussion

4.2.1 The Effect of Average Years of Education on Minimum Wages

Based on the regression results, there is a positive but insignificant relationship between average years of education and minimum wages. This indicates that education continues to contribute to improved economic performance, although its effect has not been fully demonstrated. This suggests that increasing the average years of education can increase community productivity and expand economic opportunities, consistent with research by Wa and Masjkurib (2018), which finds that average years of education are related to community socioeconomic conditions by improving workforce quality. However, this less-than-optimal impact may be due to uneven education quality, a mismatch between graduate competencies and labor market needs, and limited absorption of educated workers in the study area. Furthermore, this situation suggests that education needs to be supported by economic policies capable of creating productive jobs, so that its impact on economic growth is more significant. As explained by Amdan and Sanjani (2023), human resources and employment opportunities are crucial elements in driving economic growth in Indonesia.

4.2.2 The Effect of the Dependency Ratio on the Minimum Wage

Based on the regression estimation results, variable X2 (dependency ratio) has a coefficient of 1,291.809 with a positive sign, indicating that each 1-unit increase in the dependency ratio is associated with a

1,291.809-unit increase in the dependent variable, holding other variables constant. Meanwhile, the p-value of 0.0006 is below the 5% significance level, indicating that this variable has a positive and statistically significant effect. This finding indicates that changes in the structure of the non-productive and productive age population have a significant impact on economic conditions in the study area. Empirically, an increase in the dependency ratio can stimulate household consumption and economic activity by meeting family members' needs. However, it can also increase the economic burden if not accompanied by higher labor productivity. This condition aligns with Verdugo's (2006) perspective, which explains that the dependency ratio is closely related to labor productivity and has implications for social policy and a region's economic capacity. This means that the greater the number of dependents in the productive age group, the more important it is to improve workforce efficiency and quality so that the economic burden can be offset by production output. Furthermore, this research is supported by the findings of Nurhuda, Sari, and Syukri (2023), who stated that the dependency ratio influences economic growth, making population structure management a crucial factor in promoting sustainable regional economic development.

4.2.3 *The Effect of the Open Unemployment Rate on Minimum Wages*

Based on the regression estimation results, variable X3 (the open unemployment rate) has a coefficient of -25,171.91, indicating that each 1-unit increase in the open unemployment rate is associated with a 25,171.91-unit decrease in the dependent variable, assuming other variables remain constant. Meanwhile, the p-value of 0.0059 is below the 5% significance level, indicating that this variable has a negative and statistically significant effect. This finding indicates that the increase in the unemployment rate has a significant impact on the decline in economic performance in the study area. This condition occurs because high unemployment reflects suboptimal utilization of the productive workforce, which results in weakened production capacity, community income, and purchasing power. This situation aligns with the findings of Lazuardi and Santoso (2024), who explain that the open unemployment rate is an important indicator in assessing labor market conditions and is related to regional economic dynamics. This suggests that higher unemployment results in a greater potential loss of productive employment opportunities that could otherwise drive economic growth. Furthermore, high unemployment can also cause social problems and slow regional development, as supported by research by Santoso, Zam-Zam, and Canon (2022), which states that socioeconomic factors influence the unemployment rate. Therefore, addressing this issue requires an integrated policy that involves job creation, workforce skills development, and the strengthening of community economic activity.

4.2.4 *The Effect of Labor Force Participation Rate on Minimum Wages*

Based on the regression estimation results, variable X4 (labor force participation rate) has a coefficient of 10,475.68 with a positive sign, indicating that each 1-percentage-point increase in the labor force participation rate is associated with a 10,475.68-unit increase in the dependent variable, holding other variables constant. Meanwhile, the p-value of 0.0000 is below the 5% significance level, indicating that this variable has a positive and statistically significant effect. This finding indicates that the greater the proportion of the working-age population active in the labor market, the stronger the impetus for economic activity in the study area. This occurs because increased labor force participation increases production capacity, expands community income, and encourages consumption and investment. This

aligns with research by Armidi, Erfit, and Yulmardi (2018), which explains that the labor force participation rate is related to economic dynamics and regional employment conditions. This means that the more people involved in economic activities, the greater the potential for increased output and income. Furthermore, high labor force participation also reflects the availability of job opportunities and increased public confidence in economic activity, as supported by the findings of Panjaitan, Prihanto, and Edy (2024), who stated that the labor force participation rate is a crucial factor in driving economic development by increasing employment opportunities and production activity in the region.

4.2.5 The Effect of Regional Gross Domestic Product on Minimum Wages

Based on the regression estimation results, variable X5 (regional gross domestic product) has a coefficient value of 27.73130 with a positive direction, indicating that each increase in regional gross domestic product tends to increase the dependent variable by 27.73130 units, assuming other variables remain constant. Meanwhile, the p-value of 0.0000 is below the 5% significance level, indicating that this variable has a positive and statistically significant effect. This finding indicates that increasing regional economic capacity significantly improves economic conditions in the study area. The higher the GDP, the greater the region's ability to generate income, expand employment opportunities, and increase community production and consumption. This condition is consistent with the research by Damanik and Zalukhu (2021), which explains that regional economic capacity, as reflected in the development of economic activity, plays a role in supporting economic policies and improving community welfare. This indicates that strong economic growth will increase fiscal space and regions' ability to encourage more equitable development. Furthermore, regional GDP growth reflects increased economic competitiveness through more efficient resource utilization, as supported by Kusumaningrum's (2023) findings, which state that regional gross domestic product (GDP) is a crucial factor influencing regional economic development by increasing income, employment opportunities, and community economic activity.

5. Concluding Remarks and Recommendation

Based on the research findings, regional GDP and the Labor Force Participation Rate (LFPR) were shown to have a positive and significant influence on the Regency/City Minimum Wage (MW) in Central Java Province for the 2020–2024 period. Conversely, the Open Unemployment Rate (OUR) had a negative and significant influence on the MW, while the dependency ratio had a positive and significant influence. Meanwhile, average years of education showed a positive but insignificant influence on the MW. Simultaneously, all independent variables significantly influenced the MW, indicating that regional wage policy is influenced by regional economic conditions, labor market dynamics, human resource quality, and demographic structure.

This research contributes to the study of the determinants of Regency/City Minimum Wages (MW) by integrating economic, employment, education, and demographic aspects into a single panel data analysis model. The use of variables such as average years of schooling and dependency ratios adds new value to this research by broadening the perspective of wage policy analysis at the regional level. Furthermore, the results of this study are expected to inform regional governments in formulating wage policies that are more adaptive, equitable, and aligned with the characteristics of each region.

This research still has limitations, particularly in its data coverage, which only includes regencies/cities in Central Java Province during the period 2020–2024, and in the limited variables used to explain the dynamics of UP. Furthermore, this study has not included other factors, such as inflation, investment, labor productivity, and industrial structure, that may influence regional wage policies. Therefore, further research is expected to expand the regional scope, extend the observation period, and develop additional research variables to provide a more comprehensive analysis of the factors influencing Regency/City Minimum Wages.

Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. Grammarly was used to check grammar, refine writing style, and improve clarity in scientific writing. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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