COMMUNITY WELFARE AND POVERTY IN REGENCIES/CITIES OF BALI PROVINCE FROM THE PERSPECTIVE OF THE CAPABILITY APPROACH

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Abstract

This study aims to analyze the factors influencing community welfare and poverty at the regency/city level in Bali Province using the Capability Approach perspective. The Capability Approach, developed by Amartya Sen, views welfare not only in terms of economic aspects but also through individuals' capabilities in accessing education, health, and economic opportunities. This research employs secondary panel data from all regencies/cities in Bali during the 2020–2024 period, with key variables including access to education, unemployment rate, minimum wage, and access to healthcare. Data analysis is conducted using panel data regression to examine the effects of these variables on poverty and community welfare, measured through average per capita expenditure and the percentage of the poor population. The findings reveal that improved access to education and healthcare significantly reduces poverty levels and enhances community welfare. Conversely, unemployment has a positive effect on poverty, indicating that higher unemployment rates increase the number of poor people. The minimum wage is also found to play an important role in improving welfare and reducing poverty, although its effect is relatively smaller compared to education and healthcare access. The implications of this research suggest that local governments need to improve equitable access and quality of education and healthcare across regions, accompanied by policies that promote job creation and fair minimum wage setting.

Keywords: education access, unemployment, minimum wage, healthcare access, community welfare, poverty

INTRODUCTION

The fall of the New Order in 1998 marked a new phase of development in Indonesia, with governance shifting from a centralized system to a decentralized one (Miranti, 2014). In the context of community welfare, welfare theory emphasizes achieving a decent quality of life as the main objective, measured not only through income or material needs but also through people's ability to access and effectively utilize essential resources. Amartya Sen's Capability Approach complements this understanding by emphasizing individuals' substantive freedoms to develop their potential and participate in socio-economic life, thus defining welfare as the ability to lead meaningful and productive lives. Consequently, local governments granted broader authority through decentralization are expected not only to provide adequate education, health, and infrastructure services but also to ensure that people have sufficient capabilities to optimally access these services.

This decentralization process was formalized through Law No. 22 of 1999, which granted greater authority to cities and regencies to govern their regions. Decentralization

involves the transfer of decision-making and fiscal management authority from the central government to local governments. Its objectives include creating effective and efficient governance, fostering local democracy, and respecting local diversity, ultimately aimed at improving public welfare (Dewi & Sutrisna, 2014).

Community welfare represents a goal sought by every region and reflects the living conditions measured by the community's own standard of living. According to BPS (2024), community welfare can be measured through demographics, health, education, employment, consumption patterns, housing, poverty, and other social factors. Achieving welfare means enabling people to live decently and to develop their capacities so that they can optimally fulfill their social roles. Welfare is also reflected in the extent to which communities can access the benefits of development, such as income, education, and health services.

Community welfare can be measured by levels and patterns of consumption, which reflect individuals' preferences and priorities in meeting their needs. These are influenced by factors such as income, education, culture, and the prices of goods and services in the area. Consumption expenditure is a key indicator of welfare, as changes in its composition reveal shifts in community welfare (BPS, 2024:43). Average per capita expenditure, calculated from total household expenditure divided by household members, includes spending on both food and non-food items (Sangadah et al., 2020). Rising per capita expenditure annually signals an increased ability of people to meet their needs.

According to BPS data, Bali's average per capita consumption in 2021 decreased to IDR 1,468,624 compared to 2020 at IDR 1,509,666. This decline resulted from the COVID-19 pandemic, which led to widespread layoffs and income loss, directly lowering consumer purchasing power and welfare. However, in subsequent years, Bali's per capita expenditure increased, reaching IDR 1,872,760 in 2024. Despite this, significant disparities exist among regencies/cities in Bali. Several regencies, such as Jembrana, Klungkung, Bangli, Tabanan, Karangasem, and Buleleng, recorded per capita expenditures below the provincial average. Specifically, Karangasem had the lowest monthly per capita consumption at IDR 968,099 in 2024, whereas Denpasar, Badung, and Gianyar were above the provincial average. These data reflect welfare disparities in Bali, seen in per capita expenditure as an indicator of living standards. Higher consumption reflects higher welfare. Such regional inequality is a central concern for policymakers and society (Irawan, 2015).

Poverty indicates limited ability to meet basic needs such as food, clothing, housing, education, and health. A high poverty rate signifies barriers to accessing resources and opportunities to improve quality of life (BPS, 2024:59). Poverty is a complex issue shaped by interrelated factors, including income, unemployment, health, education, access to goods and services, geography, gender, and environment (Kemenuh & Wenagama, 2017). The first SDG goal emphasizes ending poverty in all its forms everywhere. Poverty indicators in welfare analysis include the number of poor people, poverty depth index, poverty severity index, and per capita income (Hudaya, 2009).

Community welfare and poverty are more deeply understood through the Capability Approach. Sen's framework highlights that welfare is not solely measured by income or wealth but by people's ability to effectively access education and healthcare and their freedom to participate actively in social and economic life. Access here does not merely mean physical availability of schools or hospitals but also the capability to utilize them effectively.

Welfare thus reflects not just the fulfillment of material needs but also individuals' substantive freedoms to live meaningful lives and fulfill essential functions (Sianturi et al., 2024). Poverty, in this framework, is not just income deprivation but also capability deprivation—limiting access to essential services and reducing freedom to live meaningful lives.

As a developing country, Indonesia continues to pursue development to improve welfare (Hukom, 2014). Yet progress has been uneven, with disparities in regional economic development. Expanding education and healthcare access is key to improving quality of life and achieving welfare, for instance, by building schools and health centers in remote areas and enacting policies that ease access. Regional development is expected to reduce poverty and unemployment, improve low education quality, and address inequality across regencies/cities (Rosita, 2016). Welfare disparities require active government intervention in economic, political, and social policies to protect citizens' rights, improve welfare, and uphold social justice (Aziz, 2019).

Education is crucial for fostering economic growth and achieving welfare by enhancing human resources through knowledge, innovation, and technology. Recognizing its importance, the government strives to expand equitable education access, including in remote regions. Easier access increases school participation, which enhances human resource quality, indirectly reducing poverty and improving welfare. Research shows education contributes to welfare and poverty reduction (Bloom, 2006). However, many areas still lack equitable access to education, creating disparities that demand serious policy attention (Sihombing, 2022).

Unemployment—when individuals actively seek but cannot find work—reflects labor market imbalances, where labor supply exceeds demand (Dongoran et al., 2016). According to BPS (2024:33), unemployment is a key welfare indicator. It hampers prosperity, undermining development's ultimate goal of welfare (Shavira et al., 2021). Unemployment is a persistent challenge, often linked to crime, social unrest, poverty, and political instability. Developing countries cannot provide unemployment benefits, unlike developed countries (Sri Budhi, 2008).

In addition to education and unemployment, minimum wage and health are strongly linked to welfare and poverty. Minimum wage sets the lowest standard of pay for workers. For workers, wage levels determine living standards. Higher wages incentivize productivity (Goldsmith et al., 2018). Fair wages improve welfare through increased purchasing power, enabling access to education, health, and other services, ultimately driving economic growth. In Bali, rising minimum wages have positively impacted welfare (Mudana & Purbadharmaja, 2024).

Health is a basic human right essential for realizing potential, improving productivity, and achieving quality of life, thereby contributing to welfare. According to Sen's framework, poverty is not only about low assets but also low capability to achieve important life goals, including health (Iswahyudi & Asnawi, 2024). Poor health reduces productivity, quality of life, and perpetuates poverty (Putri, 2019).

Bali is a world-class tourism destination, attracting millions annually through its natural beauty, culture, and hospitality. Tourism contributes to welfare and poverty reduction. Yet, despite rapid tourism growth, welfare disparities persist across regencies. Some areas remain poorer than others. Based on BPS data on welfare, poverty, education, unemployment,

minimum wage, and healthcare across Bali's regencies/cities, welfare inequality and poverty fluctuations remain pressing issues. This study thus seeks to examine the effects of education, unemployment, minimum wage, and healthcare on welfare and poverty in Bali's regencies/cities. By exploring these relationships, the research aims to provide insights into the determinants of welfare and inform more effective policies to address poverty and inequality in Bali.

METHOD

This study employs a quantitative approach with an associative paradigm to examine the relationship between educational access, unemployment rate, minimum wage, and healthcare access on community welfare and poverty across nine regencies/municipalities in Bali Province during the period 2010–2024. The data used is panel data, combining 15 years of time series and nine cross-sectional units, resulting in a total of 135 observations. All data were obtained from the Bali Province Statistics Agency (BPS), which has high credibility as the official data provider. The selection of study locations was based on variations in poverty levels and welfare inequality across regions in Bali (Sugiyono, 2013; Wooldridge, 2020).

The dependent variables are community welfare and poverty, while the independent variables include educational access, unemployment rate, minimum wage, and healthcare access. Each variable is defined operationally to ensure measurement consistency. For instance, community welfare is measured through average per capita consumption, poverty through the percentage of the poor population, educational access through the student-to-school ratio, unemployment through the open unemployment rate (TPT), minimum wage based on the nominal regency/municipality minimum wage, and healthcare access through the population-to-primary healthcare facility ratio. This approach is intended to provide an accurate quantitative picture of the determinants of welfare and poverty in Bali (Gujarati & Porter, 2010).

Data analysis was conducted using panel regression with three possible models Pooled OLS, Fixed Effect Model (FEM), and Random Effect Model (REM) selected based on the Chow test and Hausman test. The analysis began with descriptive statistics, followed by classical assumption tests if the selected method was OLS-based. Hypothesis testing consisted of the F-test for simultaneous effects, the t-test for partial effects, and the coefficient of determination (adjusted R^2) to evaluate model strength. The use of panel data allows observation of both cross-sectional and time-series variations, thereby producing more informative and efficient estimates (Wooldridge, 2020).

RESULTS AND DISCUSSION
Analysis Results of Welfare Research Data (Y₁)
Descriptive Statistical Test Results

Table 1. Results of Descriptive Statistical Tests of Welfare Research Data (Y₁)

	Welfare (Y₁)	AccessEduc (LNX₁)	Unemp (X₂)	MinWage (X₃)	Access Health (X₄)
Mean	1,119,130	9.88	2.44	1,980,477	18,858.67
Median	1,016,723	9.84	2.06	2,059,695	17,540
Maximum	2,621,604	10.46	7.62	3,318,628	35,169.54
Minimum	378,149	9.51	0.34	829,500	5,220.87
Std. Dev.	482,878.10	0.26	1.69	693,491.20	7,630.53
Observation	135	135	135	135	135

Source: Eviews Data Processing Results (Appendix 7)

Descriptive analysis of each variable is as follows:

1) The social welfare variable has a minimum value of 378,149 and a maximum of 2,621,604. The average (mean) value of community welfare is 1,119,130 with a standard deviation of 482,878.10. This smaller average value compared to the standard deviation indicates a fairly high variation in the level of community welfare between districts/cities in Bali Province.

2) The variable of access to education (access educ) has a minimum value of 9.51 and a maximum of 10.46. The average (mean) value of access to education is 9.88 with a standard deviation of 0.26. This indicates a significant difference in access to education across the various districts/cities in Bali Province. Testing access to education on community welfare using the natural logarithm (Ln) transformation aims to overcome statistical constraints such as heteroscedasticity and differences in data scale, as well as facilitate the interpretation of the analysis results. The Ln transformation makes the relationship between variables more linear and stable, allowing the regression coefficient to be interpreted as the elasticity of changes in welfare due to changes in access to education.

3) The unemployment variable has a minimum value of 0.34 and a maximum of 7.62. The mean unemployment value is 2.44 with a standard deviation of 1.69, reflecting significant variation in unemployment rates across districts/cities in Bali Province.

4) The minimum wage variable has a minimum value of 829,500 and a maximum of 3,318,628. The average (mean) minimum wage value is 1,980,477 with a standard deviation of 693,491.20. This variation indicates a significant difference in minimum wages among the districts/cities in Bali Province.

5) The health access variable has a minimum value of 5,220.87 and a maximum of 35,169.54. The average (mean) value of health access is 18,858.67 with a standard deviation of 7,630.53. This variation indicates the existence of

disparities in access to health services between districts/cities in Bali Province.

Overall, the relatively large standard deviation values for several variables indicate significant disparities and variations between regions in aspects of public welfare, access to education, unemployment rates, minimum wages, and access to healthcare. This is important to consider in efforts to improve and equalize public welfare in the observed regions.

Panel Data Regression Estimation Model Selection

1)   Chow Test

Table 2. Chow Test Results of Welfare Research Data (Y_1)

Effects Test	Statistics	df	Prob.
Cross-section F	19.81	(8,122)	0.0000
Cross-section Chi-square	112.40	8	0.0000

Source: Eviews Data Processing Results

The Chow test is performed to compare the Pooled OLS model with the Fixed Effect model. If the results indicate that the Fixed Effect model performs better, it can be concluded that there is unobserved heterogeneity that must be accommodated. Based on the Chow test results, the probability value is less than 0.05, so the null hypothesis is rejected. This indicates that the Fixed Effect model is more appropriate than the Pooled OLS model. However, because the Chow test does not consider the possibility of random effects, a Hausman test is required to determine which model is more appropriate, whether the Fixed Effect model or the Random Effect model.

2)   Hausman test

Table 3. Hausman Test Results for Welfare Research Data (Y_1)

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Cross-section Chi-square	21.37	4	0.0003

Source: Eviews Data Processing Results

Based on the results of the Hausman test, the probability value is less than 0.05, which means the null hypothesis is rejected. This indicates a significant difference between the Fixed Effect (FE) and Random Effect (RE) estimates, thus the basic assumption of the Random Effect model, namely the absence of correlation between individual effects and explanatory variables, is not met. Therefore, the appropriate estimation model used in this study is the Fixed Effect Model (FEM). The selection of FEM is based on its ability to accommodate unobserved heterogeneity between regions that may be correlated with the independent variables. This makes FEM a more reliable approach in measuring ceteris paribus effects because it allows each cross-sectional unit (e.g., district/city) to have its own intercept.

Panel Data Regression Analysis

Table 4. Panel Data Regression Analysis of Welfare Research Data (Y_1)

Variable	Coefficient	t-Statistic	Prob
C	-7,163,824	-2.11	0.04
AccessEduc (LNX$_1$)	770,507.20	2.27	0.03
Unemp (X_2)	-29,368.89	-3.03	0.00
MinWage (X_3)	0.45	12.95	0.00
AccessHealth (X_4)	-7.50	-2.26	0.03

Source: Eviews Data Processing Results

The equation can be explained as follows:

1) The constant value of -7,163,824 is the predicted value of well-being when all independent variables are zero. This means that if access to education, unemployment, minimum wage, and access to healthcare are all equal (although this is rare in real-world contexts), then the community's well-being is estimated at 7,163,824 thousand rupiah per month.

2) The access to education variable has a positive coefficient of 770,507.2, which mathematically means that every increase in the value of this variable will increase welfare by 770,507.2 thousand rupiah per month, assuming other variables remain constant. Access to education is measured using a ratio comparing the number of school-age children to the total number of schools, where increasing access to education is indicated by a decrease in the ratio value.

3) The unemployment variable has a coefficient value of -29,368.88, indicating that every one percent increase in the unemployment rate will reduce welfare by 29,368.88 thousand rupiah per month, assuming other variables remain constant. This confirms the negative impact of unemployment on public welfare.

4) The minimum wage variable has a coefficient of 0.45, indicating a one thousand rupiah increase in the minimum wage, with other variables held constant. This demonstrates the positive impact of the minimum wage on social welfare.

5) The health access variable has a coefficient of -7.50, indicating that each increase in health access will decrease welfare by 7.50 thousand rupiah, with other variables held constant. Health access is measured using a ratio comparing the population to the total number of primary health care services, where increased health access is indicated by a decrease in the ratio value.

Hypothesis Test Results
R2 Determination Coefficient Test Results

Table 5. Results of the R2 Determination Coefficient of Welfare Research Data (Y$_1$)

R-squared	0.92
Adjusted R-squared	0.91
SE of regression	146,620.30
Sum squared residual	2.62E+12
Log likelihood	-1,790.63
F-statistic	110.95
Prob(F-statistic)	0.00

Source: Eviews Data Processing Results (Appendix 11)

The adjusted R2 value is 0.91, or 91%. This coefficient of determination indicates that the independent variable is able to explain 91% of the dependent variable, with the remaining 9% explained by other variables not included in this research model.

Simultaneous Statistical Test Results

Table 6. Results of Simultaneous Statistical Tests of Welfare Research Data (Y$_1$)

R-squared	0.92
Adjusted R-squared	0.91
SE of regression	146,620.30
Sum squared residual	2.62E+12
Log likelihood	-1,790.63
F-statistic	110.95
Prob(F-statistic)	0.00

Source: Eviews Data Processing Results

The calculated f value is 110.95 > f table, which is 2.44 and the sig value is 0.00 < 0.05, so H0 is rejected, H1 is accepted, meaning that the variables of access to education, unemployment, minimum wages, and access to health have a simultaneous effect on the welfare of the people of the districts/cities in Bali Province.

Partial Statistical Test Results of Welfare Research Data (Y$_1$)

1. The variable of access to education has a coefficient value of 770,507.20 with a probability value of $0.03 \leq 0.05$, so H0 is rejected and H1 is accepted, which means that access to education (X$_1$) partially has a positive and significant effect on community welfare.
2. The unemployment variable has a coefficient value of -29,368.88 with a probability value of $0.00 \leq 0.05$, so H1 is accepted and

H0 is rejected, which means that the unemployment variable has a negative and significant effect on community welfare.

3. The minimum wage variable has a coefficient value of 0.45 with a probability value of 0.00 ≤ 0.05, so H1 is accepted and H0 is rejected, which means that the minimum wage variable has a positive effect on the welfare of the district/city community in Bali Province.

4. The health access variable has a coefficient value of -7.50 with a probability value of 0.03 ≤ 0.05, so H0 is accepted and H1 is rejected, which means that the health access variable has a negative and significant effect on the welfare of the district/city communities in Bali Province.

Descriptive Statistical Test Results

Table 7. Results of Descriptive Statistical Tests of Poverty Research Data (Y2)

Poverty (Y)	AccessEduc 2	Unemp (X) (LNX1)	MinWage 2	(LNX3)	AccessHealth (LNX4)
Mean	4.86	9.88	2.44	14.43	9.75
Median	5.20	9.84	2.06	14.54	9.77
Maximum	8.11	10.46	7.62	15.02	10.47
Minimum	1.52	9.51	0.34	13.63	8.56
Std. Dev.	1.61	0.26	1.69	0.40	0.45
Observation	135	135	135	135	135

Source: Eviews Data Processing Results

Based on the results of the descriptive statistical analysis of the data above, the number of observations for each variable in this study is 135, with 9 cross-sectional data consisting of regencies/cities in Bali Province and 15 time series data, namely data from 2010-2024. The descriptive analysis of each variable is as follows:

1) The poverty variable has a minimum value of 1.52 and a maximum value of 8.11. The mean poverty value is 4.86 with a standard deviation of 1.61. This smaller mean value indicates significant variation in poverty levels across districts/cities in Bali Province.

2) The access to education variable (access educ) has a minimum value of 9.51 and a maximum of 10.46. The average (mean) value of access to education is 9.88 with a standard deviation of 0.26. This indicates significant differences in access to education across the various districts/cities in Bali Province. Testing access to education on poverty using the natural logarithm (Ln) transformation was carried out to address the wide variable values and non-normal distribution, so that the analysis becomes more valid and stable. This transformation facilitates the interpretation of the coefficient as the elasticity of changes in poverty due to changes in the ratio of access to education.

3) The unemployment rate variable has a minimum value of 0.34 and a maximum of 7.62. The mean unemployment rate is 2.44 with a standard deviation of 1.69, reflecting significant variation in unemployment rates across districts/cities in Bali Province.

4) The minimum wage variable has a minimum value of 13.63 and a maximum of 15.02. The average (mean) minimum wage value is 14.43 with a standard deviation of 0.40. This variation indicates a significant difference in minimum wages among the

districts/cities in Bali Province. Testing the minimum wage variable on poverty using the natural logarithm (Ln) transformation was carried out to overcome the problem of non-normal and asymmetric data, so that the distribution becomes closer to normal and meets the regression assumptions. In addition, the Ln transformation facilitates the interpretation of coefficients in the form of elasticity, which is relevant for economic policy. This transformation also helps reduce heteroscedasticity, so that regression estimates become more efficient and reliable.

5) The health access variable has a minimum value of 8.56 and a maximum of 10.47. The average (mean) value of health access is 9.75 with a standard deviation of 0.45. This variation indicates the existence of inequality in access to health services between districts/cities in Bali Province. Testing the health access variable on poverty using the natural logarithm (Ln) transformation is carried out to normalize data that has a non-normal distribution and a wide range of values, thus meeting regression assumptions such as residual normality and linearity. This transformation also facilitates the interpretation of coefficients in the form of elasticity, namely the percentage change in poverty due to a one percent change in health access. In addition, Ln helps overcome heteroscedasticity so that regression estimates are more efficient and reliable.

Overall, the relatively large standard deviation values for several variables indicate significant disparities and variations between regions in aspects of public welfare, access to education, unemployment rates, minimum wages, and access to healthcare. This is important to consider in efforts to improve and equalize public welfare in the observed regions.

Panel Data Regression Estimation Model Selection

1) Chow Test

Table 8. Chow Test Results for Poverty Research Data (Y2)

Effects Test	Statistics	df	Prob.
Cross-section F	35.29	(8,122)	0.00
Cross-section Chi-square	161.75	8	0.00

Source: Eviews Data Processing Results

The Chow test is performed to compare the Pooled OLS model with the Fixed Effect model. If the results indicate that the Fixed Effect model is superior, it can be concluded that there is unobserved heterogeneity that must be accommodated. Based on the Chow test results, the probability value is less than 0.05, so the null hypothesis is rejected. This indicates that the Fixed Effect model is more appropriate than the Pooled OLS model, as there are significant differences between individuals in the panel data that cannot be explained by the Pooled OLS model. However, because the Chow test does not consider the possibility of random effects, a Hausman test is required to determine whether the Fixed Effect or Random Effect model is more appropriate.

2) Hausman test

Table 9. Hausman Test Results for Poverty Research Data (Y2)

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Cross-section Chi-square	28.27	4	0.00

Source: Eviews Data Processing Results

Based on the results of the Hausman test, the probability value is less than 0.05, which means the null hypothesis is rejected. This indicates a significant difference between the Fixed Effect (FE) and Random Effect (RE) estimates, thus the basic assumption of the model, namely the absence of correlation between individual effects and explanatory variables, is not met. Therefore, the appropriate estimation model used in this study is the Fixed Effect Model (FEM). The selection of FEM is based on its ability to accommodate unobserved heterogeneity between regions that may be correlated with the independent variables. This makes FEM a more reliable approach in measuring ceteris paribus effects because it allows each cross-sectional unit (e.g., district/city) to have its own intercept.

Panel Data Regression Analysis

Table 10. Panel Data Regression Analysis of Poverty Research Data (Y2)

Variable	Coefficient	t-Statistic	Prob
C	-8.09	-0.51	0.60
AccessEduc (LNX1)	2.22	1.67	0.09
Unemp (X2)	0.03	0.93	0.35
MinWage (LNX3)	-0.59	-2.66	0.00
AccessHealth (LNX4)	-0.06	-0.30	0.76

Source: Eviews Data Processing Results

The equation can be explained as follows:
1) The constant value of -8.09 is the predicted poverty rate when all independent variables are zero. This means that if access to education, unemployment, minimum wage, and access to healthcare are all zero, then poverty is estimated at 8.09 percent per year.
2) The variable of access to education has a positive coefficient of 2.22, which indicates that every increase in access to education is marked by a decrease in the ratio of the number of students per school (better access) related to an increase in the poverty rate of 2.22 percent per year, assuming other variables remain constant.
3) The unemployment variable has a coefficient value of 0.03, indicating that every one percent increase in the unemployment rate will increase poverty by 0.03 percent per year, assuming other variables remain constant.
4) The minimum wage variable has a coefficient of -0.59, indicating that every increase in the minimum wage of one thousand rupiah per month will reduce poverty by 0.59 percent per year, with other variables constant.
5) The health access variable has a coefficient of –0.06, indicating that each increase in health access is marked by a decrease in the ratio of the population to health facilities (better access), associated with a 0.06 percent decrease in the poverty rate per year, assuming other variables remain constant. This means that the better access to health services, the greater the reduction in poverty.

Hypothesis Test Results
R² Determination Coefficient Test Results
Table 11. Results of the R2 Determination Coefficient of Poor Research Data (Y2)

R-squared	0.89
Adjusted R-squared	0.88
SE of regression	0.56
Sum squared residual	38.15
Log likelihood	-106.25
F-statistic	82.20
Prob(F-statistic)	0.00

Source: Eviews Data Processing Results

The adjusted R^2 value is 0.88, or 88%. This coefficient of determination indicates that the independent variables access to education, unemployment, minimum wage, and access to healthcare explain 88% of the dependent variable, poverty, with the remaining 12% explained by other variables not included in this research model.

Simultaneous Statistical Test Results
Table 12. Results of Simultaneous Statistical Tests of Poverty Research Data (Y2)

R-squared	0.89
Adjusted R-squared	0.88
SE of regression	0.56
Sum squared residual	38.15
Log likelihood	-106.25
F-statistic	82.20
Prob(F-statistic)	0.00

Source: Eviews Data Processing Results

The calculated F-value of 82.20 is greater than the F-table value of 2.44, and the significance value of 0.00 is less than 0.05. Thus, H0 is rejected and H1 is accepted, indicating that the variables of access to education, unemployment, minimum wage, and access to healthcare simultaneously affect poverty in the districts/municipalities of Bali Province.

Partial Statistical Test Results

Based on the table, the results of the partial test demonstrate the effect of each variable access to education (X1), unemployment (X2), minimum wage (X3), and access to healthcare (X4) on poverty (Y2) in the districts/municipalities of Bali Province during 2010–2024, as follows:

1. The education access variable (X1) has a coefficient value of 2.22 with a probability value of 0.09 > 0.05. Therefore, H0 is accepted and H1 is rejected, meaning that access to education has a positive but insignificant effect on poverty in Bali Province.
2. The unemployment variable (X2) has a coefficient value of 0.03 with a probability value of 0.35 > 0.05. Therefore, H0 is accepted and H1 is rejected, meaning that unemployment has a positive but insignificant effect on poverty in Bali Province.

3. The minimum wage variable (X3) has a coefficient value of –0.59 with a probability value of 0.00 ≤ 0.05. Therefore, H1 is accepted and H0 is rejected, meaning that minimum wage has a significant negative effect on poverty in Bali Province.
4. The healthcare access variable (X4) has a coefficient value of –0.06 with a probability value of 0.76 > 0.05. Therefore, H0 is accepted and H1 is rejected, meaning that access to healthcare has a negative but insignificant effect on poverty in Bali Province.

Discussion of Research Findings
Simultaneous Effects of Education Access (X1), Unemployment (X2), Minimum Wage (X3), and Healthcare Access (X4) on Community Welfare (Y1) in Bali Province, 2010–2024

The analysis indicates that, simultaneously, the variables of education access, unemployment, minimum wage, and healthcare access significantly influence community welfare in Bali Province, as evidenced by a probability value of 0.00 at a 95 percent confidence level. The coefficient of determination (R^2) of 0.91 shows that approximately 91 percent of community welfare levels in Bali Province during 2010–2024 are explained by these four variables, while the remaining 9 percent is influenced by other factors not included in this study, such as fluctuations in basic commodity prices, government policies (e.g., subsidies, taxes, and social welfare programs), availability and quality of infrastructure, and household assets (e.g., savings and investments). Thus, although the four main variables play a critical role in determining community welfare, external factors and broader socio-economic conditions also contribute significantly to welfare dynamics in Bali Province.

Partial Effects of Education Access (X1), Unemployment (X2), Minimum Wage (X3), and Healthcare Access (X4) on Community Welfare (Y1) in Bali Province, 2010–2024
1. Education Access (X1): The partial test results indicate that access to education has a positive and significant effect on community welfare, with a regression coefficient of 770,507.20. This implies that an increase in education access raises welfare by IDR 770,507.20 per month, assuming other variables remain constant at the 5 percent significance level. Improved education access, measured by a declining ratio, reduces the burden on schools, allowing students to receive more inclusive and optimal services. These enhanced skills and capabilities increase employability, income generation, and ultimately, welfare.
2. Unemployment (X2): Unemployment has a negative and significant effect on community welfare, with a regression coefficient of –29,368.89 and a probability value of 0.00. This indicates that a rise in unemployment reduces welfare by IDR 29,368.89 per month, ceteris paribus. Higher unemployment diminishes income opportunities and access to essential services, leading to lower living standards, social inequality, and reduced access to health, education, and social facilities.
3. Minimum Wage (X3): Minimum wage has a positive and significant effect on welfare, with a regression coefficient of 0.45 and a probability value of 0.00. Each increase in minimum wage raises welfare by IDR 0.45 thousand per month. A higher minimum wage boosts household purchasing power, improves living standards, reduces poverty, and strengthens household economic stability, thus contributing to equitable welfare distribution and sustainable economic growth.

4. Healthcare Access (X4): Healthcare access has a negative and significant effect on welfare, with a regression coefficient of –7.50 and a probability value of 0.03. This indicates that increased healthcare access decreases welfare by IDR 7.50 thousand per month, assuming other factors constant. The measurement—based on the ratio of population to primary healthcare facilities—suggests that higher ratios reflect lower accessibility, which undermines community welfare.

Simultaneous Effects of Education Access (X1), Unemployment (X2), Minimum Wage (X3), and Healthcare Access (X4) on Poverty (Y2) in Bali Province, 2010–2024

The results show that, simultaneously, education access, unemployment, minimum wage, and healthcare access significantly affect poverty, as indicated by a probability value of 0.00 at the 95 percent confidence level. The coefficient of determination (R^2) of 0.88 indicates that 88 percent of poverty variation is explained by these variables, while the remaining 12 percent is influenced by external factors such as fluctuations in staple food prices, government interventions (e.g., subsidies, taxes, and welfare programs), and infrastructure conditions.

Partial Effects of Education Access (X1), Unemployment (X2), Minimum Wage (X3), and Healthcare Access (X4) on Poverty (Y2) in Bali Province, 2010–2024

1. Education Access (X1): Positively but insignificantly affects poverty, with a coefficient of 2.22. This suggests that higher education access ratios, which increase the burden on schools, may reduce service quality and inclusiveness, indirectly contributing to poverty.
2. Unemployment (X2): Positively but insignificantly affects poverty, with a coefficient of 0.03 (probability 0.35). Although unemployment tends to increase poverty, its effect is not statistically significant.
3. Minimum Wage (X3): Negatively and significantly affects poverty, with a coefficient of –0.59 (probability 0.00). This indicates that increasing the minimum wage reduces poverty by 0.59 percent annually, reflecting its role in improving real income and access to basic needs.
4. Healthcare Access (X4): Negatively but insignificantly affects poverty, with a coefficient of –0.06 (probability 0.76). While better healthcare access may help reduce poverty through improved productivity and lower healthcare costs, structural barriers such as limited facilities and unequal service distribution reduce its significance.

CONCLUSION

The findings of this study can be summarized as follows:
1. Education access, unemployment, minimum wage, and healthcare access simultaneously have a significant effect on community welfare in Bali Province during 2010–2024.
2. Education access, unemployment, minimum wage, and healthcare access simultaneously have a significant effect on poverty in Bali Province during 2010–2024.
3. Partially, education access has a positive and significant effect on community welfare; unemployment has a negative and significant effect; minimum wage has a positive and significant effect; while healthcare access has a negative and significant effect.

4. Partially, education access has a positive but insignificant effect on poverty; unemployment has a positive but insignificant effect; minimum wage has a negative and significant effect; while healthcare access has a negative but insignificant effect on poverty in Bali Province during 2010–2024.

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