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The Effect of Unemployment And Poverty on The Dynamics of Economic Growth In Ambon City (Short-Term And Long-Term Analysis)

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ABSTRACT
This study aims to analyze and measure the influence of Unemployment and Poverty on Economic Growth in Ambon City, both in the context of short-term and long-term relationships. Methods: This study uses a quantitative approach with time series data for the period 2009–2023 in Ambon City. The analytical method chosen is the Error Correction Model (ECM), which is effective for testing dynamic relationships between stationary variables in the first differential (I(1)). The dependent variable is Economic Growth (GROWTH), and the independent variables are Unemployment (UNEMP) and Poverty (POVERTY). Key Results (Initial Estimates): All variables are proven to be non-stationary at the level, but stationary in the first differential. Cointegration is found between the variables, confirming the existence of a long-run equilibrium relationship, thus validly applying the ECM model. In the short run, the initial ECM estimation results indicate that: Changes in unemployment (D(UNEMP)) have a negative and significant effect at the 10% level on economic growth. Changes in poverty (D(POVERTY)) also show a negative relationship, although not statistically significant. The Error Correction Coefficient (ECT) in the ECM model indicates the existence of an adjustment mechanism toward long-run equilibrium. Implications/Novelty: The use of the ECM model provides methodological novelty, enabling richer analysis by separating short-run (annual fluctuations) and long-run (equilibrium relationship) influences, particularly in the context of local policy in Ambon City.

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INTRODUCTION

The relationship between poverty and economic growth is complex and controversial. Generally, economic growth is a prerequisite for poverty alleviation. However, this is not sufficient, as various studies have attempted to analyze the relationship between economic growth and poverty, which can be systematically classified into two parts (Barardi and Marzo, 2015).

Economic growth is a key indicator of a region's development success, defined as a long-term increase in real per capita income. However, high economic growth often faces structural challenges such as unemployment and poverty. In theory, unemployment and

poverty have a direct negative impact on the economy, hindering growth and reducing purchasing power. Economic development is expected to create jobs, reduce unemployment, and increase national income.

Table 1. Economic Growth of Ambon City 2014-2023

Year	Economic Growth (Percent)
2014	5.91
2015	6.57
2016	6.15
2017	6.17
2018	6.21
2019	5.78
2020	-1.95
2021	4.08
2022	5.11
2023	4.47

Source: BPS, Ambon City

In Ambon City, data shows fluctuations in economic growth between 2014 and 2023, with the highest peak in 2015 and the lowest (negative) in 2020 (Table 1.1). A similar phenomenon occurred in the Open Unemployment Rate and the Number of Poor People, which also fluctuated during the 2014–2023 period. The highest poverty rate was recorded in 2023 (25.87 thousand people). Fluctuations in these three variables raise fundamental questions regarding the dynamic relationship between unemployment and poverty on economic growth in Ambon City.

Formulation of the problem:

1. How big is the influence of open unemployment on economic growth in Ambon City?
2. How big is the influence of the number of poor people on economic growth in Ambon City?

METHODS

Research Object and Location

- **Location:**Ambon City.
- **Data Period:**Time series data for 15 years, from 2009 to 2023.
- **Data source:**Central Statistics Agency (BPS) Ambon City.

Research Variables and Operational Definitions

- **Dependent Variable (Y):**Economic Growth (GROWTH), measured in percentage.
- **Independent Variable (X):**
  1. Unemployment (UNEMP): Measured using Open Unemployment Rate data (percentage).

2. Poverty: Measured using data on the number of poor people (in thousands of people).

Data Analysis Model This study uses the Error Correction Model (ECM), which aims to analyze short-term and long-term influences.

ECM Analysis Stages:

1. **Data Transformation:**Variables are transformed into annual changes (D(GROWTH), D(UNEMP), D(POVERTY)) to capture short-term dynamics.
2. **Stationarity Test:**Using the Augmented Dickey-Fuller test (ADF Test) to ensure the variables are stationary at the first level or differential (I(1)).
3. **Cointegration Test:**Using the Engle-Granger Two-Step Method to test for the existence of a stable long-term relationship between variables.
4. **ECM Model Estimation:**Building an ECM model to analyze short-run coefficients and Error Correction Coefficients (ECT).

Diagnostic Tests: Conducting multicollinearity (VIF), autocorrelation (Breusch-Godfrey), heteroscedasticity (Breusch-Pagan-Godfrey), and model specification error (Ramsey RESET) tests to ensure model reliability.

RESULTS AND DISCUSSION

Before conducting econometric analysis, an important initial step is to understand the characteristics of the data used in the study. This sub-chapter presents a description of annual data for the period 2009–2023 regarding economic growth, unemployment rates, and poverty levels in the study area. The goal is to provide an overview of the distribution, trends, and variability of each variable, so readers can understand the context of subsequent analysis. Furthermore, the data description also serves as a basis for testing stationarity, cointegration, and Error Correction Model (ECM) estimation. By understanding the characteristics of the data, researchers can ensure that the model constructed is appropriate to the nature of the data and that the analysis results can be interpreted validly.

Table 2. Description of Research Data

Indicators	GROWTH	POVERTY	UNEMP
Mean	5.853750	21.40563	12.67688
Median	6.190000	21.48500	12.52500
Maximum	8.260000	25.98000	15.99000
Minimum	-1.950000	17.94000	9.690000
Std. Dev.	2.395610	2.365454	1.842740
Skewness	-2.231236	0.502291	0.397360

Kurtosis	8.211997	2.688051	2.325770
Jarque-Bera	31.38571	0.737664	0.724110
Probability	0.000000	0.691542	0.696244
Sum	93.66000	342.4900	202.8300
Sum Sq. Dev.	86.08418	83.93059	50.93534
Observations	16	16	16

Stationarity and Cointegration Test

- **Stationarity Test (ADF Test):**The three variables (GROWTH, POVERTY, UNEMP) are proven to be non-stationary at level (I(0)), but become stationary after being differentiated once (I(1)).
- **Cointegration Test (Engle-Granger):**The ADF results on the residuals of the long-term regression model show a test statistic value of -2.966160 (5% Critical Value = -1.966270) with a P-value of 0.0059. The null hypothesis (no cointegration) is rejected, so it is concluded that there is cointegration or a stable long-term relationship between the variables.

ECM Model Estimation Results (Short Term)

- **Impact of Unemployment (D(UNEMP)):**
- Coefficient: –0.6539
- Significance: Significant at the 10% level (p-value 0.0830).
- **Interpretation:**Each annual increase in the Open Unemployment Rate will reduce the rate of Economic Growth in the same period, indicating the high sensitivity of the Ambon economy to labor market conditions.
- **Effects of Poverty (D(POVERTY)):**
- Coefficient: –0.6721
- Significance: Not statistically significant.
- **Interpretation:**Although it shows a negative relationship (in accordance with theory), annual changes in poverty have not had a significant impact on the short-term economic growth rate in Ambon City.

Error Correction Mechanism (ECT) and Long-Term Outcomes

*(Note: The long-term estimation results/ECT coefficients are not available in the uploaded document summary, but this is an important part of the ECM discussion.)*The ECT(-1) coefficient will be used to measure the speed of adjustment of Economic Growth to return to long-run equilibrium after a short-run shock (e.g., an increase in unemployment). A negative and significant ECT coefficient will validate the existence of a stable correction mechanism.

CONCLUSION

The variables of Economic Growth, Unemployment, and Poverty in Ambon City have a long-term equilibrium relationship, as evidenced by the discovery of cointegration between the variables. In short-term dynamics, changes in the open unemployment rate have a negative and significant impact on economic growth in Ambon City. Changes in the number of poor people, although showing a negative relationship, have not been proven to have a significant effect on short-term economic growth in Ambon City. The Ambon City Government must focus on job creation policies as the most sensitive instrument to encourage economic growth, especially in the short term, considering that unemployment has a significant impact. Further analysis of the long-term estimation results (ECT coefficient) is needed to obtain a complete picture of the speed of adjustment of economic growth towards equilibrium, as well as considering other variables (e.g. Investment or Inflation) that may have a strong influence in the long term in Ambon City.

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