Indonesian Journal of Development and Economics 1 (1) 2025, 45-60
IJDE
Indonesian Journal of Development and Economics
https://journal.karyarisetnusantara.com

Analysis of The Effect of Unemployment and Employment on Indonesia's State Income

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Article Info

Keywords:
Unemployment rate;
Labor participation;
National income;
Economic growth;
Labor productivity;

JEL Classification:
E24, H20, J08, E62, O15, C30

DOI:

Article History
Received: January 2025
Accepted: February 2025
Published: March 2025

Abstract

This study aims to analyse the effect of the unemployment rate and labour participation on Indonesia's national income. The underlying problem is the importance of labour market dynamics in influencing economic performance, especially in developing countries such as Indonesia, where the unemployment rate and labour force structure are still crucial issues. The novelty of this study lies in its specific focus, which integrates unemployment and labour force data to measure their direct impact on national income. This study uses the linear regression method to identify the relationship and measure the effect of these variables. The results show that the unemployment rate has a negative correlation to national income, while an increase in labour participation contributes positively. The conclusion of this study emphasises that policies aimed at reducing unemployment and increasing labour productivity are essential to boost Indonesia's economic growth.

INTRODUCTION

Unemployment and employment play a crucial role in determining the economic condition of a country, especially in developing countries such as Indonesia. A high unemployment rate not only reflects the inefficiency of the labour market but also negatively impacts the country's income through reduced productivity and purchasing power. Conversely, a high employment rate indicates a country's ability to maximise human resource potential, which in turn can drive economic growth and increase state revenue. In the context of the Indonesian economy, analysing the effect of unemployment and employment on state revenue is a crucial step to understanding the dynamics of the national economy and formulating more effective policies.

National income is one of the leading indicators in assessing a country's economic activity and the general welfare of its citizens. National income reflects some of the practical economic resources used to alleviate the needs of the general public. However, several factors influence fluctuations in national income, one of which is unemployment and employment levels. High unemployment hampers economic productivity, while adequate and quality employment is able to boost economic growth through increased consumption and production activity.

According to Adam Smith in *The Wealth of Nations*, labour productivity is one of the primary keys to increasing the wealth of a nation. In economic theory, unemployment is often associated with a

country's aggregate income level. John Maynard Keynes, a British economist considered the creator of contemporary macroeconomics, died in 1936. In his book entitled The General Theory of Employment, Interest, and Money (1936), John Maynard Keynes stated that his theory of unemployment, employment, and income focuses on aggregate demand factors and how government intervention affects the level of unemployment, employment, and income.

The primary and fundamental problem in Indonesia's labour force is the high unemployment rate. This is because the growth of new workers is much greater than the growth of jobs that can be provided each year. The growth of the labour force, which is greater than the availability of jobs, causes high unemployment. Unemployment is one of the leading short-term problems that every country faces. Therefore, every economy and country must face the problem of unemployment, namely, natural unemployment.

In Indonesia, the challenge of unemployment and employment has been a significant issue for the past few decades. High unemployment reduces people's purchasing power, hinders economic growth, and affects people's welfare in general. On the other hand, increasing employment through the creation of job opportunities can be a solution to increasing national income. Therefore, understanding the relationship of unemployment and employment to national income in Indonesia is essential to assist the government and policymakers in designing appropriate development strategies to reduce unemployment and improve people's welfare. Indonesia ranked first in ASEAN for unemployment in 2024 at 5.2%. This figure is a slight decrease from 2023, which was 5.3%.

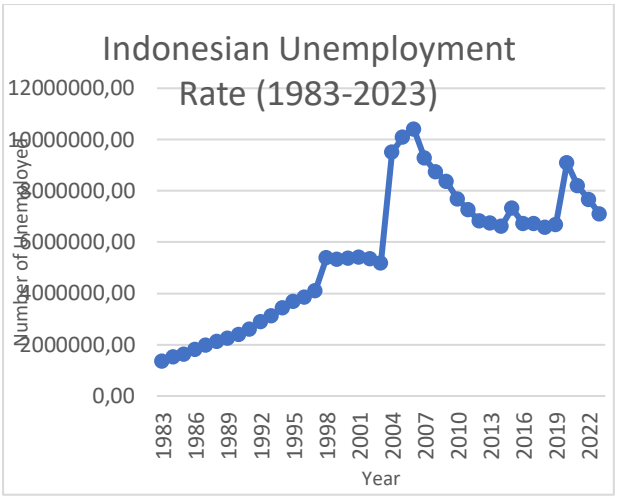


Figure 1 Indonesia's Unemployment Rate (million) from 1983-2023

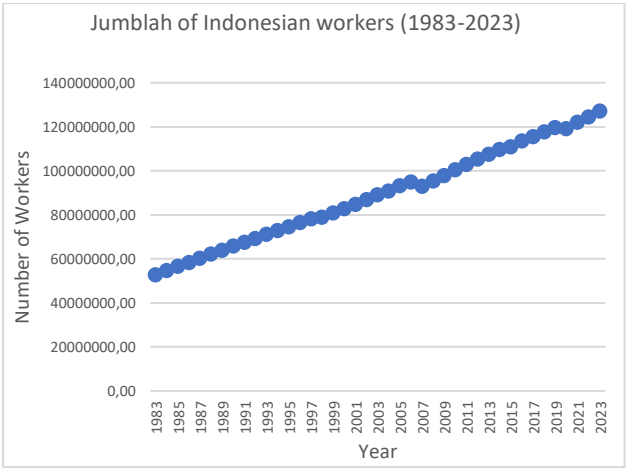


Figure 2 Indonesia's employment rate (million) from 1983-2023

Indonesia's growing labour force, reaching more than 135 million by 2023, has a direct relationship with national income and unemployment. The more workers are absorbed in productive economic activities, the more significant their contribution to Gross Domestic Product (GDP) growth, reflecting an increase in national income. Moreover, an increase in the number of workers helps lower the unemployment rate, although challenges such as structural unemployment and the dominance of the informal sector still affect productivity optimization. Therefore, effective workforce management not only supports economic growth but also strengthens the overall welfare of society. (Suhandi, Hendra Wijayanto, and Samsul Olde 2020) .

Based on this, this study was conducted using statistical analysis with the multiple regression method to evaluate the effect of employment and unemployment rates on national income in Indonesia. Multiple regression was chosen because it allows the study of the relationship between the independent variables (employment and unemployment rates) and the dependent variable (national income) simultaneously. Some of the problems that are the focus of this study are: How does the level of unemployment affect national income in Indonesia during the period 1983-2023? Secondly, How does the level of employment affect national income in Indonesia during the period 1983-2023? Thirdly, Do unemployment and employment simultaneously affect national income in Indonesia? The objectives of this study are to analyse the effect of the number of unemployed people on income, measure the simultaneous effect between the number of unemployed people and employment on income, and provide a comprehensive picture of the relationship between these variables.

The data used includes secondary data from BPS, the Ministry of Manpower, and other relevant institutions over a certain period. This approach allows one to identify how much each variable contributes to national income, thus providing a strong basis for formulating more effective economic policies.

This research is expected to provide in-depth insights into the interactions between employment levels, unemployment, and national income, as well as a reference for policymakers to design strategies that support inclusive and sustainable economic growth.

Research gap

The study conducted by (Ekonomi et al., 2024) Utilised regression analysis on data obtained in stages. The purpose of this study was to examine the impact of education, population, and economic growth factors on the poverty rate in Manado City. The findings of this study indicate that education level has a negative and significant effect on the unemployment rate in Manado. In addition, the regression analysis relating to population shows that population has a positive, but insignificant, impact on the poverty rate in Manado. The population figures suggest that the poverty rate will increase as the city's population increases. In contrast, the regression analysis on economic growth shows that these factors have a significant influence on Manado's economic development. If economic growth shows a negative result, then the poverty rate will also decrease. However, previous studies have limitations, including the scope of the study that only looks at unemployment in terms of education and certain local factors and does not study the effect of these two variables (unemployment and employment rate) on national income comprehensively at the Indonesian national level in the long run. Based on these studies, this research aims to fill the gap by using data from the Word Bank over a long period, i.e., from 1983 to 2023, and evaluating the relationship between unemployment and employment to national income in Indonesia and with a new approach using specific statistical methods such as classical assumption tests to provide more valid results. (Indrasetianingsih & Wasik, 2020)

A study using a panel data regression model was conducted to evaluate the factors that affect the poverty threshold of Madura Island. The data used in this study is formatted as panel data. Cross-sectoral data is used in this circumstance for the four districts of Madura Island. Time series data, on the other hand, is obtained from data collected from 2008 to 2017. The poverty rate is the dependent variable, and the average years of education, open unemployment rate, and participation in the labour force are the independent variables. The findings of this study show that the Poverty Rate (Y) on Madura Island has declined over ten years (2008-2017), indicating a significant influence on the variables analysed. Sampang Regency had the highest poverty rate in 2008, with an average of 30.75,

While Pamekasan Regency had the lowest poverty rate in 2017.

Theoretical Foundation

1. National Income

National income is an important indicator that reflects the level of economic welfare of a country. In Indonesia, one of the factors that influence the level of national income is the condition of the labour market, including the level of employment and unemployment. Employment reflects productive activities that contribute directly to the formation of national income, while unemployment reflects potential resources that have not been optimally utilised. Therefore, the relationship between employment, unemployment, and national income becomes a significant focus in macroeconomic analysis, especially in understanding the complex dynamics of the Indonesian economy. National income reflects the total value of all goods and services produced by a country within a certain period. In macroeconomic theory, national income is often used to measure a country's level of welfare and economic activity. The relationship between national income, employment, and unemployment has been widely explained through various economic theories. In the view of classical theory, national income is achieved at an optimal level when all available labour is used efficiently (full employment). This theory assumes that the labour market always reaches equilibrium, so unemployment is only temporary and caused by market adjustments. However, in the Indonesian context, the flexibility of the labour market is often hampered by various structural factors, such as low levels of education, lack of relevant skills, and unequal distribution of labour.

Mankiw (2019) explains that labour plays a vital role in determining the level of national income. The labour involved in productive activities produces output that becomes part of national income. Therefore, high unemployment can lead to a decline in national income due to a loss of productivity. (Ummah, 2019) .

According to Solow's economic growth theory, a country's income is determined by three main factors: labour, capital, and productivity. When unemployment increases, the country's income tends to decline due to the reduced contribution of labour to GDP. In addition, an increase in unemployment also results in a decrease in tax revenue, thus narrowing the government's fiscal space to implement public policies.

2. Unemployment

Unemployment is a state in which a person does not have a job, even though they are present in the workplace and actively seeking work. An imbalance between the number of working hours available and the working time available in the market causes unemployment. This phenomenon is a major challenge for developing countries, including Indonesia, due to its significant impact on the national economy. (Mouren et al., 2022) .In economic literature, there are several types of unemployment:

- Structural Unemployment: Caused by a mismatch between the skills of the workforce and the needs of the labour market.
- Frictional Unemployment: Occurs during the transition of labour from one job to another.
- Cyclical Unemployment: Associated with fluctuations in the economic cycle, such as recessions that lower the demand for labour.

According to Keynes (1936), under conditions of high unemployment, national income tends to be low because the level of public consumption decreases. The lack of aggregate demand leads to a decline in output and income, resulting in a vicious cycle of unemployment and poverty. (Schumpeter & Keynes, 1936) .

METHODOLOGY

Type of Research

This study utilises secondary time series data covering the period from 1983 to 2023. The data records the dynamics of key variables such as Indonesia's unemployment rate, employment rate, and national income over the past 40 years. The time series nature allows in-depth analysis of the patterns and trends of changes in these variables over time, thus providing greater insight into the relationship between variables in the long run.

The data sources in this study come from trusted institutions such as the World Bank, the International Monetary Fund (IMF), and the Central Bureau of Statistics (BPS). Data from the World Bank and IMF are used to obtain macroeconomic indicators, such as unemployment and employment rates, in an international context. Meanwhile, data from BPS provides information that is more focused on national aspects, including official reports on Indonesia's national income (Seto, 2019).

Research Variables

This study involves two types of variables, namely dependent variables and independent variables. The dependent variable is national income, which reflects Indonesia's total economic output during the period under study. National income is measured in million USD, with data sourced from the World Bank and the Central Bureau of Statistics (BPS). This variable is used as a leading indicator to describe Indonesia's overall economic performance over a long period.

The independent variables consist of the unemployment rate and the employment rate. The unemployment rate refers to the number of individuals who belong to the labour force but do not have a job or are still actively looking for a job. It is measured in units of people. The employment rate, on the other hand, indicates the number of individuals who have a job in a given period, also measured in units of people. Data for both independent variables were obtained from reliable sources, such as the IMF, World Bank, and BPS, which provide comprehensive data related to labour and economic indicators. These two variables were chosen because, based on previous studies, their influence on national income is very significant.

Data Type

This research uses secondary data in the form of time series covering the period 1983 to 2023. Time series data is used to analyse patterns of change and relationships between variables over time. With data covering 40 years, this study can chronologically describe the trends and dynamics that occur in economic variables such as national income, unemployment rate, and employment rate.

The use of time series data also allows for a more in-depth analysis of the impact of independent variables on dependent variables in the long term. This data comes from trusted sources, such as the World Bank, the International Monetary Fund (IMF), and the Central Statistics Agency (BPS). The utilisation of secondary data is not only efficient in terms of time and cost but also provides higher reliability because it is obtained from official institutions that have proven their credibility. This data is important to ensure that the research results accurately reflect Indonesia's economic conditions (Febriani et al., 2024).

Operational definition and measurement of variables

1. Determine the variables in this research
2. The unemployment rate is measured in terms of people who are in the labour force but do not have a job or are looking for a job in Indonesia for the period 1983-2023.
3. The Employment Rate, measured in souls, reflects the number of individuals working from 1983 to 2023.
4. National income level is measured in millions of USD to represent the total economic output produced by a country in international currency units.

Research Hypothesis
Research hypotheses include

Ho: Unemployment and employment rates do not affect Indonesia's national income.

H1: Unemployment and employment rates affect Indonesia's national income.

Data Analysis Method

The multiple linear regression model is used to study the relationship between an independent variable (such as unemployment and employment) and a dependent variable (such as national income). This model allows us to analyse more deeply how one unbound variable affects the dependent variable simultaneously so that we get a better understanding of how both variables affect national income. Multiple linear regression is used to find the relationship between variables more precisely and measure the effect of each variable separately. (Porter et al., 1970)

This analysis used multiple linear regression in conjunction with Eviews 12. Multiple linear regression is a statistical analysis method used to show the relationship between one dependent variable (which is to be described or predicted) and two or more independent variables (which influence the dependent variable).

$$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + E_t$$

Where

Y_t = Income Level

X_1 = Number of Unemployed

X_2 = Number of Jobs

β_0 = Constanta

β_1 and β_2 = Coefficient

E_t = Error term

t = Time series 1983-2023

Analysis Technique

Descriptive analysis and inferential analysis are the two main stages of data analysis. The first stage provides an overview of the data used. It also makes it possible to see annual patterns and trends of the variables under study, which provides an initial understanding of how the variables interact with each other. After that, the analysis is conducted using multiple regression methods to test the research conjectures. This analysis process utilises statistical software such as EViews or SPSS to guarantee precise analysis results. By calculating the coefficient of determination, which shows how much influence each variable has on national income, this regression technique helps researchers assess how the independent variables affect the dependent variable. In addition, this method of analysis makes use of the t-test and F-test to strengthen the conjecture. The t-test is used to assess how important each independent variable is in relation to the dependent variable. In contrast, the F-test is used to simultaneously assess how important all independent variables are in relation to the dependent variable to determine whether the impact of unemployment and employment on national income is meaningful or not. (Wooldridge, 2016).

Statistical test

a. Test t (Partial): In statistical analysis, the t (partial) test is used to evaluate how much influence each independent variable has on the dependent variable separately. This approach aims to determine whether each independent variable has a significant impact on the dependent variable, assuming other variables remain constant. Based on the test rules, if the t-count value is greater than the t-table, then H0 will be rejected, which means that the independent variable has a significant influence on the dependent variable. Conversely, if the t-count is smaller than the t-table, H0 is accepted, which indicates that the independent variable has no significant effect on the dependent variable.
b. The Simultaneous Test (FU Test) is a statistical technique used in regression analysis to determine whether all independent variables significantly impact the dependent variable. Using a significance limit of α = 5%, the regression coefficients of the independent variables can help us

Determine whether they have a similar impact on the dependent variable. The calculated F value is considered to have a significant effect on the dependent variable, but it is not considered to have a significant effect.

c. The Coefficient of Determination (R) is a statistical measure that shows how much of the dependent variable can be explained by the independent variables in the regression model. On a scale of 0 to 1, a value of 1 means that the independent variables can explain most of the variation in the dependent variable. To illustrate, if the value obtained is 0.91, this indicates that the independent variables are able to explain 91 per cent of the variation that occurs in the dependent variable. Factors outside the model are responsible for the remaining 9 per cent. According to this study, a high value indicates that changes in national income are primarily due to the level of employment and unemployment.
d. Classical Assumption Test: Classical assumption tests are conducted to ensure that the regression model provides precise, bias-free, and consistent estimates by reducing statistical errors. They test for normality, multicollinearity, heteroscedasticity, and autocorrelation. The aim is to ensure that the regression model used is appropriate and that the results of the analysis can be interpreted accurately. If the classical assumptions are correct, then the regression model can be used to make accurate predictions or forecasts.
e. Normality Test: The purpose of the normality test is to ensure that the regression model's residuals have a normal distribution. Normal residuals are one of the most important assumptions in regression, especially for statistical validity tests such as the t-test and F-test. In this study, normality analysis was performed with the Jarque-Bera statistic, and the results showed that the residuals had a probability of 0.765 to have a normal distribution (>0.05). Therefore, the usual standard has been violated.
f. Multicollinearity TestThe purpose of multicollinearity analysis is to identify whether there is a significant relationship between the independent variables in the model. High multicollinearity can make the regression coefficients challenging to understand and inaccurate. In this study, the Variance Inflation Factor (VIF) was evaluated. The results show that all independent variables have VIFs below 10. Since there is no multicollinearity problem, the reliability of the model is not affected by the interaction between the independent variables.
g. Heteroscedasticity Test: This test is used to determine whether there is a difference in the residual variation between the observed data and the predicted data in the regression model. If the residual variation between data remains consistent, it is called homoscedasticity. Conversely, if the variation is different between fixed data, it is called heteroscedasticity. According to Ghozali (2013), the Glejser test is performed by calculating the absolute value of the model residuals for the unbound variable. In this test, the decision is taken based on the probability of Obs R squared. If the value is greater than the significance level of a = 5% (0.05), it can be concluded that there is no problem with heteroscedasticity.

RESULTS AND DISCUSSION

Multiple regression analysis results

Based on the analysis of the research data, the results obtained are as follows:

REGRESSION DATA

Regression Test Results		
Dependent Variable: Y		
Method Least Squares		
Date	12/08/2024	Time: 16:59
Sambel:	1983 2023	
Included	Observations: 41	

Variables	coefficient	Std.Error	t.Statistic	Prob
Income	-1733233	117682.9	-14 .72799	0. 0000
Unemployment	-0.10634	0.016109	-6.601.182	0. 0000
Employment	0.032455	0.001957	1.658.625	0. 0000
R-Squared	0.913598	Mean dependent Var		556390.2
Adjusted R-squared	0.90905	S.D. dependent Var		535118.7
S.E. of regression	161380.4	Akaike info criterion		26. 89127
Sum squared resid	9.90E+11	Schwarz criterion		27. 01666
Log-likelihood	-5.482.771	Hannan-Quinn criteria		26.93693
F-statistic	2.009.017	Durbin-Watson stat		0.318369
Prob(F-statistic)	0.000 000			

Source: Eviews 12 output results (processed data)

Variables	Coefficient	t-statistic	P>[t]
X1 (Unemployment)	-0.106340	-6.601182	0.0000 ***
X2 (occupation)	0.032455	16.58625	0.0000 ***
Constant	-1233233.	-14.72799	0.0000 ***
R-Square			0.913598
Prob			0.0000 ***

Description (***),(**),(*) significant 1%, 5% or 10%

If the p-value = **0.0000**, then the result is significant at all commonly used significance levels, i.e.:

- **1% (0.01)**
- **5% (0.05)**
- **10% (0.10)**

In other words, the variable has a highly significant influence on the dependent variable in the regression model. These results show robust evidence to reject H0 in favour of the alternative hypothesis H1.

The output results in the table can be formulated using the following multiple regression equation model.

$$Y_t = -1733233 constanta_t - 1,06340 Pengangguran_t + 0,032455\ Pekerjaan_t$$

Interpretation

1. Constant (-1733233): This constant represents the initial prediction of national income when all independent variables X1 and X2 have a value of zero. It is significant and negative, indicating that if there is no unemployment and no jobs at all, national income will be at a significant negative number (in the context of this model).
2. Unemployment coefficient (-1.06340): This coefficient indicates that for every 1 unit increase in the number of unemployed, total national income will decrease by 1,063.40. This relationship is negative, which means that an increase in unemployment will decrease national income.
3. Income Coefficient (0.032455): This coefficient indicates that for every 1 unit increase in income, total national income will increase by 0.032455. This relationship is positive, which means that an increase in individual income will lead to an increase in national income.

Analysis of the 1% Increase:

Suppose there is a 1% increase in one of the variables, then the impact on the other variables is:

1. **If Unemployment increases by 1%:** Since the coefficient of unemployment is negative, a 1% increase in the number of unemployed will lead to a decrease in Income in proportion to the decrease in value. However, it will not affect income directly unless there is an indirect relationship (for example, through the impact of unemployment on individual income).
2. If Income increases by 1%: A 1% increase in income will lead to an increase in Income by 0.032455×the value of the increase in income. However, this does not directly affect the number of unemployed unless there is an interaction that is not explained in this model.

3. Partial test statistic test (t-test)

The t-table value obtained is 1.687 with a confidence level of 95% or α=5% and df=(n-k)=(40-3)=37. According to the test rules, H0 is not rejected, and H1 is rejected if the t-count is lower than the t-table and the Prob value is more significant than 0.05. Conversely, if the t-count is higher than the t-table and the Prob value is less than 0.05, H0 is rejected, and H1 is not rejected.

1. Rate

   The regression results show that the t-count is 6.601182, and the probability value is 0.0000 because the t-count> t-table value is 6.601182> 1.687. The probability value is <0.05, then H0 is rejected, and H1 is not rejected, which means that the unemployment rate has a significant effect on national income in Indonesia.

2. Employment Level

   The regression results show a t-count of 16.58625 and a probability value of 0.0000. Because the t-count is greater than the t-table, namely 16.58625> 1.687, and the probability value is <0.05, H0 is rejected, and H1 is not rejected. This means that the level of employment has a significant effect on Indonesia's national income.

Simultaneous test (F test)

The regression output shows that the f-statistic is 200.9017, and the probability value is 0.0000. Because the probability value is <0.05, it is concluded that the level of unemployment and employment together has a significant effect on national income.

Test the coefficient of determination.R^2 :

The output results show that the coefficient of determination.R^2 A value of 0.913598 indicates that the level of unemployment and employment in Indonesia can explain 91.35% of the variation in income levels. Other variables that are not included in this model explain the remaining 8.65%.

Based on the results of multiple regression analysis, it is known that the unemployment rate and employment rate have a significant influence on national income. The constant value of -1,733,233 indicates that if the unemployment rate and employment rate are equal to zero, then national income is projected to be negative by 1,733,233 million USD. This reflects the existence of other factors that significantly affect national income beyond the variables used in the model.

The coefficient of the unemployment rate of -0.10634 shows a significant negative relationship. This means that every 1 million increase in the unemployment rate will lead to a decrease in national income by USD 0.10634 million. Conversely, the employment rate coefficient of 0.032455 shows a significant positive relationship, where every 1 million increase in the employment rate will increase national income by 0.032455 million USD.

The partial test results (t-test) show that the unemployment rate (t-count = -6.601) and employment rate (t-count = 16.586) have a probability value of 0.0000, which means they are both significant at the 95% confidence level. In addition, the simultaneous test (F-test) with an F-statistic value of 200.9017 and a probability of 0.0000 indicates that the unemployment and employment rates together significantly affect national income. The R-squared value of 91.35% indicates that the model is able to explain 91.35% of the variation in national income. In comparison, the remaining 8.65% is influenced by other factors such as foreign investment, fiscal policy, or global commodity price fluctuations.

Multicollinearity test

MULTIclinearity TEST

Variance Inflation Factors

Date: 12/08/24 Time: 17:03

Sample: 1983 2023

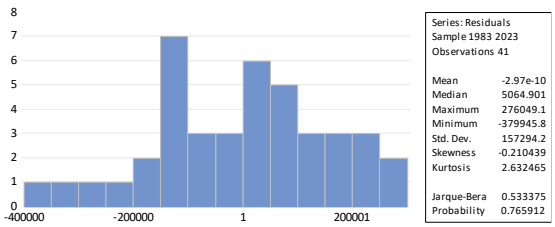
Included Observations: 41

Variable	Coefficient Variance	Uncentered VIF	Centred VIF
Income	1.38E+10	21.80263	NA
Unemployment	0.00026	15.45764	2.81171
Employment	3.83E-06	50.31797	2.81171

Source: Eviews 12 output results

Based on the results of the Known output, the variable's Variance Inflation Factor (VIF) value is 2.811710. This value is still below the commonly used limit of **10**. This indicates that the independent variable does not have a serious multicollinearity problem. In other words, the relationship between the independent variables in the regression model is relatively low and will not significantly affect the coefficient estimates. The model can be considered stable in this context.

test



Source: Eviews 12 Output Results

From the output data results, it is known that the **Jarque-Bera** probability **= 0.765**. This value is more significant than 0.05 (or another chosen significance level, such as 5%). This indicates that there is no evidence to reject the notion that the residuals have a normal distribution. In other words, the model's residuals are considered normal, so this assumption is met, and the results of the regression analysis are reliable.

Heteroscedasticity test

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	0.951536	Prob. F(5,35)	0.4605
Obs*R-square	4.906346	Prob. Chi-Square(5)	0.4274
scales explained SS	3.440104	Prob. Chi-Square(5)	0.6325

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/08/24 Time: 17:04
Sample: 1983 2023
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Income	4.54E+11	2.54E+11	1.789543	0.0822

Unemployment^2	-0.004911	0.002544	Adjur ted R-squared	1.930.375	0.0617	Depe nden t var	3.12 E+10
Unemployment*Employment	0.000276	0.000458		0.602164	0.5510		
Unemployment	47702.39	42519.60		1.121.892	0.2695		
Employment^2	4.42E-05	4.31E-05	S.E of regression	3.13 E+10	Akait e info criteri on	51.3 073 0	
Employment	11570.70	7.440.577		1.024.210	0.3128		
				1.555.081	0.1289		
			Sum squared resid	3.43 E+22	Schw arz criteri on	51.5 580 7	
R-squared	0.119667	Mean dependent var	2.41E+10				
Adjusted R-squared	0.006095	S.D. dependent var	Log-likelihood	3.12E+10 1045 807	Hann an-Quin n criteri a	51.3 986 2	
S.E. of regression	3.13E+10	Akaike info criterion	5.138.730				
Sum squared resid	3.43E+22	Schwarz criterion	5.155.807				
Log-likelihood	1.045.800	Hannan-Quinn criteria	5.139.862				
F-statistic	0.951536	Durbin-Watson stat	1.024.913	F-statistic	0.95 1536	Durbi n-Wars on stat	1.02 491 3
Prob(F-statistic)	0.951536						
				Prob(F-statistic)	0.46 0457		

Source: Eviews 12 Output Results

Description(***),(**),(*) are significant at 1%, 5% or 10%.

Variables	Coefficient	Std.Error	T-statistic	Prob
Income	4.54 E+11	2.54 E+11	1.78 954 3	0.0 822 *
Unemployment^2	-0.00 4911	0.00 2544	-1.93 037 5	0.0 617 *
Unemployment*Employment	0.00 0276	0.00 0458	0.60 210 4	0.5 510 *
Unemployment	4770 2.39	4251 9.60	1.12 189 2	0.2 695 *
Employment^2	4.42 E-05	4.31 E-05	1.02 421 0	0.3 128 *
Employment	-1157 0.70	7440 .577	-1.55 508 1	0.1 289 *
R-squared	0.11 9667	Mean dependent var	2.41 E+10	

The output results using the white test show that the Obs*R-squared probability value is 0.4274, which is greater than the general significance level, which is 0.05 (5%). Thus, we fail to reject the null hypothesis ($\mathbf{H}_0$), stating that there is no.

Heteroscedasticity problem. Thus, it can be concluded that the regression model does not suffer from heteroscedasticity, and the assumption of constant residual variance (homoscedasticity) is met. This model is suitable for use in the analysis.

Based on the results of the statistical analysis that was conducted, there is a significant relationship between the unemployment rate and the type of employment that affects income. The F test shows that unemployment and employment have a significant partial effect on the dependent variable income, and the t-test shows that both have a simultaneous effect on income. This suggests that unemployment and employment are two important factors that affect an individual's income level. The coefficient of determination (R2) shows that the model used can explain most of the income differences caused by the unemployment rate and type of employment. The results of the classical assumption tests, which include normality, multicollinearity, and heteroscedasticity tests, show that the regression model used has met the statistical requirements. Thus, the resulting estimates can be considered valid and unbiased. Therefore, the findings of this study indicate that, on the one hand, a high unemployment rate can contribute to a decrease in people's income. On the other hand, certain types of employment can contribute to an increase in income. These results suggest that policies that encourage the creation of decent jobs and reduce unemployment are essential for improving people's economic welfare.

DISCUSSION

1. Effect of Unemployment Rate on National Income in Indonesia

   The results show that the unemployment rate has a significant negative relationship with national income. When the unemployment rate increases, the amount of productive labour involved in economic activity decreases. This reduces the contribution to the production of goods and services, which in turn hinders national economic growth. In addition, high unemployment also has an impact on household consumption, as individuals who lose their jobs tend to reduce their spending. This decrease in purchasing power can slow down the economy as a whole. In other words, the unemployment rate not only has a direct impact on individual income but also has far-reaching effects on the national economic balance. High unemployment also creates uncertainty in the economy, such as an increased burden on the state budget for subsidies and social assistance. This phenomenon suggests that unemployment is a strategic issue that must be addressed immediately to ensure long-term economic stability in Indonesia.
2. The Effect of Employment Rate on National Income in Indonesia

   The employment rate shows a significant positive relationship with national income. When more people work, their contribution to the economy through production, consumption, and investment activities increases. In addition, an increase in the employment rate also encourages the growth of productive sectors, which in turn expands the national economic base. Quality employment plays an important role in supporting economic growth. Employees who have skills that match the needs of the industry tend to contribute more than jobs that only utilise low-productivity labour. Therefore, focusing on improving the quality of the workforce through education, training, and certification is a strategic step to boost national income growth.

The statistical model used in this study has met the classical assumptions in terms of validity. Normality, multicollinearity, and heteroscedasticity tests show that the model is free from bias and that the analysis results are reliable. Thus, the relationship shown between the unemployment rate, employment rate, and national income accurately reflects the condition of the Indonesian economy.

Overall, this study's results provide an important message for the government and policymakers to focus on reducing unemployment and increasing quality employment. Effective policies in these two areas will not only increase national income but also support society's overall welfare.

CONCLUSION

The research results show that the unemployment rate has a negative effect, which means that an increase in unemployment will reduce national income. This is due to reduced labour productivity, which reduces the contribution to overall economic activity. In contrast, the employment rate has a significant positive impact, where the more individuals are employed, the higher the national income. This reflects the important role of labour in driving national consumption, investment, and production.

This study reinforces previous findings regarding the importance of addressing unemployment as a strategy to support economic growth. This study also reveals a new finding that the quality of employment plays a significant role in strengthening the positive impact of employment levels on economic growth. Not only creating a large number of jobs but also ensuring that these jobs have high productivity value and are relevant to the needs of the labour market are important aspects that need to be considered. Strategic policies to create high-quality jobs need to be strengthened to promote sustainable economic growth. This research also opens up opportunities for further exploration, especially in relation to the role of foreign investment, fiscal policy, and technology in strengthening the relationship between unemployment, employment, and national income.

1. The government and policymakers need to strengthen job creation programs, especially in high-value-added sectors such as modern technology, manufacturing, and services.
2. Addressing structural and frictional unemployment should be a priority, for example, through job training, vocational education, and incentives for investment in labour-intensive sectors.
3. Fiscal policy, foreign investment, and technological progress are other components that affect national income and require additional research.

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