

Analysis of Determinants of Labor Force Participation Rate in West Nusa Tenggara Province in 2013-2022

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ABSTRACT

This study aims to analyze the influence of Economic Growth, Minimum Wage, and Education Level on the Labor Force Participation Rate in West Nusa Tenggara Province in 2013-2022. The population in this study is the entire working-age population which is the labor force in West Nusa Tenggara Province. The method used in this study is a quantitative method using secondary data, the analysis technique used is multiple linear regression in the form of panel data. The data was processed using Eviews12 and the tests carried out were the Goodness Of Fit Test, Partial Test (Test T), Simultaneous Test (Test F). The results of the study show Economic Growth (X1) with a probability of $0.2536 > 0.5$ which means that the Economic Growth variable does not have a significant effect on the Labor Force Participation Rate in NTB Province in 2013-2022. Furthermore, the Minimum Wage variable (X2) shows a probability value of $0.9316 > 0.5$ which means that the Minimum Wage variable does not have a significant effect on the Labor Force Participation Rate in NTB Province in 2013-2022. The Education Level variable (X3) with a probability of $0.0000 < 0.5$ shows that the Education Level variable has a significant effect on the Labor Force Participation Rate in NTB Province in 2013-2022. The results of the F test with a probability of 0.000000 show that Economic Growth, Minimum Wage, and Education Level simultaneously have a significant effect on the Labor Force Participation Rate (Y) in NTB Province.

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1. INTRODUCTION

Indonesia is one of the countries with the largest population in the world which occupies the fourth position after the People's Republic of China, India and the United States. When the population growth rate is accelerating, it will increase the number of labor and labor force. If the available job opportunities are insufficient while the number of labor force is increasing, this will

only cause the number of unemployed to increase, which will ultimately become a burden on development for the country.

Currently, Indonesia has 34 provinces which are divided into three regions, namely the west, central and east. West Nusa Tenggara Province is one of those in the central region. Where as one of the provinces in Indonesia which is a developing country, of course West Nusa Tenggara

Province faces various problems, one of which is in the economic field regarding employment. Data from the Central Statistics Agency of West Nusa Tenggara Province shows that from year to year the unemployment rate in every regency/city in West Nusa Tenggara Province increases, which shows that the absorption of labor needs to be paid more attention. When the number of unemployed continues to increase, it will encourage the emergence of poverty problems and other social problems that are the burden of national development borne by the state. Economic development is a process in which per capita income increases in the long term which leads to economic growth. One of the indicators of economic development is by looking at the level of labor force participation in an area (Rukmana, 2019). The Central Statistics Agency (BPS) defines the labor force participation rate as a percentage between the number of people who are included in the labor force and the number of people aged ten years and above.

Economic development is a process that can cause the per capita income of a society's population to increase in the long term. One of the goals of economic development is to provide enough jobs to pursue faster labor force growth. This is because population growth in developing countries tends to be faster so that it can exceed per capita growth..

NTB Province has a Labor Force Participation Rate which is also quite high, at 73.31 percent, ranking 4th in Indonesia. The high level of Labor Force Participation shows that in NTB there are still job opportunities available for the working-age population, so that it can reduce the unemployment rate.

The number of working-age population (15 years and above) in NTB in August 2022 is estimated to reach 3.95 million people. Of the entire working-age population, around 70.93 percent are in the labor force and 29.07 percent are not in the labor force. The labor force includes the working and unemployed population, while the non-labor force consists of residents who are still in school, take care of households, and carry out other activities including income recipients

and working-age residents who are unable to carry out any activities.

2. LITERATURE REVIEW

According to Priyono (2002), the Labor Force Participation Rate (TPAK) is one of the indicators of the success of the economic development of a region/region. The Labor Force Participation Rate is the ratio/comparison between the population that belongs to the labor force (working or looking for a job) and the total working-age population. The working class is a workforce that actually has a job or has been absorbed by job demand, both fully employed and semi-unemployed. The population classified in the working age is those aged 15 to 64 years or it can also be said to be productive age. The more working population/population classified as working-age, it means that the more labor force is available in the job market. This should be directly proportional to the participation of the labor force.

Payaman Simanjuntak (2001:36) The Labour Force Participation Rate (LFPR) is a measure of the level of population participation in the labor force which can provide a clear picture of how far the population that is of working age (ten years and above) is actually active in working and not actively working.

According to Adam Smith, the economy will grow and develop if there is an increase in population that expands the market and encourages specialization. Adam Smith, in his work "The Wealth of Nations" (1776), put forward the concept of capital accumulation as one of the main engines of economic growth. Smith argued that investment in physical capital, such as machinery and means of production, would increase productivity and economic output. This accumulation of capital will drive growth because it increases production capacity and creates jobs.

According to Schumpeter, economic growth is largely determined by entrepreneurship. This theory emphasizes the innovations carried out by entrepreneurs, where technological advances are highly

determined by the entrepreneurial spirit of the community who are able to see opportunities to open new businesses or expand existing businesses. With the opening of new businesses and business expansion, additional jobs are available to absorb the workforce that is increasing every year. Economic Growth is a process of changing the economic condition of a country in a sustainable manner towards better conditions during a certain period. Economic growth can also be interpreted as a process of increasing the production capacity of an economy in the form of an increase in national income. Economic growth shows the growth of the production of goods and services in an economic area at a certain interval of time. The higher the economic growth rate, the faster the process of increasing regional output, so that it is possible for development in a region to be better.

3. METHODS

The research design used in this study is quantitative research. Quantitative research

is a method based on the philosophy of positivism that shows and proves theories to explain an event as well as developing and describing statistics to show the relationship between variables (Narbuko, 2013). The population in this study is all residents of NTB Province aged 15 years and above who are the labor force whose data was obtained from the Central Statistics Agency of NTB Province.

4. RESULTS AND DISCUSSION

4.1 Classic Assumption Test Results

4.1.1 Multicollinearity Test

Ghozali (2018) stated that the multicollinearity test aims to test whether the regression model finds a correlation between independent variables. A good regression model should not have a correlation between independent variables, to detect or not there is multicollinearity in the regression model, namely if the correlation value > 0.85 then there is a multicollinearity problem and if the correlation value < 0.85 then there is no multicollinearity.

Table 4.7 Multicollinearity Test

	X1	X2	X3
X1	1	-0,612	0,054
X2	-0.612	1	0,304
X3	0.054	0,304	1

Based on table 4.7, the value obtained is less than < 0.85 , which means that there is no multicollinearity problem in the data of this research panel.

4.1.2 Heteroscedasticity Test

The heteroscedasticity test aims to test whether there is a variance inequality in the regression model from the residual of one

observation to another. If the variance from one residual to another observation is fixed, it is called homoscedasticity and if it is different, it is called heteroscedasticity. Homoskedasity is the similarity of variance from residual (Ghozali, 2018).

Table 4.8 Heterokedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.965080	3.751182	2.656517	0.0094
X1	-9.43E-08	2.09E-07	-0.451557	0.6527
X2	-3.31E-07	2.15E-06	-0.154002	0.8780
X3	-0.365454	0.145721	-2.507906	0.0140

Based on table 4.8, through the heterosexuality test with the geljser test method, if the probability value is greater than 0.05, the data has passed the heterosexuality test.

4.2 Hypothesis Test Results

4.2.1 Panel Data Regression Analysis

Based on the results of the analysis using Eviews, the regression equation of Economic Growth (X1), Minimum Wage (X2), and Education Level (X3) to the Labor Force Participation Rate or Y in West Nusa Tenggara Province was obtained:

$$Y = 2.558 + 3.44e-07(X1) - 2.65e-07(X2) + 4.23(X3)$$

The equation can be explained as follows:

1) Constants (2,558):

If all independent variables (X1, X2, and X3) are valued at 0, then the TPAK value is estimated to be 2,558. This is the baseline rate of labor force participation that is predicted without considering the factors of Economic Growth, Minimum Wage, and Education Level.

2) Coeficin X1 (3.44e-07):

This coefficient shows that every 1 unit increase in economic growth (X1) will increase the TPAK by 3.44e-07. This means that economic growth has a positive relationship with the labor force participation rate. In other words, the higher the level of Economic Growth, the greater the Labor Force Participation Rate in NTB Province.

3) Coeficin X2 (- 2.65e-07)

The coefficient obtained is - 2.65e-07, then every increase of 1 unit in the Minimum Wage (X2) will decrease the TPAK by - 2.65e-07. The effect of the Minimum Wage on the Labor Force Participation Rate is negative, but very small and almost insignificant in this model. In other words, even though the Minimum Wage has increased, the impact on the increase in labor participation in NTB Province is very small and even has a negative effect.

4) Coeficin X3 (4.23):

This coefficient is positive, which is 4.23. Every 1 unit increase in the Education Level (X3) will increase the Labor Force Participation Rate by 4.23. This shows that the increase in the level of education in NTB Province has experienced a slight increase in Labor Force Participation. This can be caused by the tendency that with the increase in education levels, people tend to continue their education in order to have better job opportunities, so that it has the potential to increase labor participation, especially in NTB Province.

4.2.2 T Test (Partial Test)

This statistical test of T is to test the success of the regression coefficient partially. This test was carried out to find out whether the independent variable (X) singly affects the bound variable Y by comparing the calculated t value of each independent variable with the number of t tables with a validity degree of 5% ($\alpha = 0.05$).

Table 4.9 T Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.558439	5.385570	0.475054	0.6359
X1	3.44E-07	3.00E-07	1.149166	0.2536
X2	-2.65E-07	3.08E-06	-0.086024	0.9316
X3	4.238480	0.209211	20.25932	0.0000

Based on the results of the partial T test that has been carried out, the following is a discussion of each variable in relation to the Labor Force Participation Rate in West Nusa Tenggara Province:

1) The Influence of Economic Growth on TPAK

From the regression results, a t-statistic value of 1.149166 and a p-value of 0.2536 were obtained, which means greater than the significance level of 5% (0.05). This

shows that the Economic Growth variable (X1) does not have a significant effect on TPAK.

2) Effect of TPAK Minimum Wage

The Minimum Wage variable (X2) shows a t-statistic value of -0.086024 with a p-value of 0.9316, which is smaller than the significance level of 5% (0.05). This means that partially, the Minimum Wage has a significant influence on TPAK. Each increase in the Minimum Wage significantly increases Labor Force Participation in NTB Province.

3) The Influence of Education Level on TPAK

The Education Level variable (X3) has a t-statistic value of 20.25932 and a p-value of

0.0000 which is smaller than 0.05. This shows that the education variable has a significant effect on TPAK. Although it is expected that higher education can increase labor force participation, these results show that in NTB, increasing education levels has a direct impact on increasing labor force participation.

4.2.3 Test F (Simultaneous Test)

Simultaneous tests were used to determine whether independent variables together affected the dependent variables and to measure the accuracy of the sample regression function in estimating the actual value through goodness of fit.

Table 4.10 Test Results F

Cross-section fixed (dummy variables)			
R-squared	0.861209	Mean dependent var	60.98300
Adjusted R-squared	0.842065	S.D. dependent var	21.97710
S.E. of regression	8.733915	Akaike info criterion	7.293043
Sum squared resid	6636.471	Black criterion	7.631715
Log likelihood	-351.6521	Hannan-Quinn criter.	7.430109
F-statistic	44.98680	Durbin-Watson stat	2.558675
Prob(F-statistic)	0.000000		

The F-statistic value obtained is 44.98680 with a probability of 0.000000. This F-statistic value measures the overall significance of the model. A probability (p-value) close to 0.05 indicates that the model as a whole is almost significant at a 95% confidence level. Although it is not completely below the significance limit value of 0.05, the probability value is 0.000000, indicating that there is a fairly strong relationship between the independent variables (Economic Growth, Minimum Wage, and Education Level) and the dependent variable (TPAK). However, because of the probability value of 0.000000, this result also shows that the influence of independent variables on TPAK still needs to be further investigated to ensure its consistency. This may be due to other factors that have not been measured or the variability of the data in the study period that may affect the final result.

4) Detreminant Analysis (R2)

R-squared	Adjusted R-squared
0.861209	0.842065

The regression results show that the R-squared value of 0.861209 indicates that only 86% of the variation in the Labor Force Participation Rate (TPAK) in West Nusa Tenggara Province can be explained by the independent variables in this study, namely Economic Growth (X1), Minimum Wage (X2), and Education Level (X3). The rest, around 14%, is explained by other factors such as socio-economic conditions, natural disasters, government policies, and so on.

4.3 RESULTS AND DISCUSSION

4.3.1 The Influence of Economic Growth on TPAK

Based on the results of the regression of panel data that has been carried out, the

Economic Growth variable with a probability of $0.2536 > 0.05$ shows that the Economic Growth variable (X1) has not had a significant effect on TPAK in NTB in the last 10 years. The results of this study are in line with previous research conducted by Cut Dinul (2021) which in his research stated that there was a negative relationship between economic growth and the level of labor force participation. This can happen because the growth formation rate is not only generated from the working population, but also through other factors, such as the state of world economic growth, political conditions, and the condition of land and natural resources.

According to Sokian (2020), the migration factor is one of the factors that results in an increase in economic growth if migrants who enter an area are a workforce with a high level of productivity. With a high level of productivity, incoming migrants can help the destination area in processing their resources so that the income of the region will be maximized. But on the other hand, if the incoming migrants are not in the labor force, it will increase the number of unproductive residents. So that it becomes a burden for the regional economy and will slow down economic growth.

4.3.2 The Effect of Minimum Wage on TPAK

Based on the results of the regression of panel data that has been carried out, the Minimum Wage variable with a probability of $0.9316 > 0.05$ shows that the Minimum Wage variable (X2) has not had a significant effect on TPAK in NTB Province in the last 10 years. The results of this study are not in line with the theory put forward in Simanjuntak (1985) which said that wages have a positive and significant effect on the level of labor force participation. Wages are able to influence a person to be active in the labor market, because wages are expected to meet the needs of oneself and family. The results of the research obtained are supported by a study conducted by Mumekh (2023) which shows that the Minimum Wage has a significant relationship with the level of labor force participation.

This study is also not in line with the research conducted by Hidayat (2014), the

results of the study show a significant value of 0.001 when compared to the significance level of α (0.05), then it can be seen that the significance value is smaller than the significance level ($0.001 < 0.05$) so that H_0 is rejected H_a is accepted, thus there is an influence of the minimum wage (X1) on TPAK in South Sulawesi in 2004-2012. The theory states that if the minimum wage in society increases, then TPAK also increases. This is due to the large number of family members who are interested in entering the job market. Likewise, when the minimum wage decreases, the TPAK also decreases, due to the more expensive price of time. In addition, the high wage increase makes the potential of people to work the minimum wage itself is a minimum wage set at the regional, sectoral and subsectoral minimums.

4.3.3 The Influence of Education Level on TPAK

Based on the results of the regression of panel data that has been carried out, the Education variable with a probability of $0.0000 < 0.05$ shows that the Education variable (X3) has a significant effect on TPAK in NTB in the last 10 years. As expected, higher education can increase force participation in NTB, Education has a direct impact on the level of labor force participation.

The results of this study are not in line with the previous research researched by (Bonneri, 2018) entitled The Effect of Education and Wages on the Labor Force Participation Rate in Manado City. The results of the study show that although education is expected to increase labor force participation, the results of the regression analysis of panel data show that education does not have a significant influence on TPAK in districts/cities in the province.

5. CONCLUSION

Based on the results of the research on the Determinant Analysis of the Labor Force Participation Rate in West Nusa Tenggara Province, some conclusions that can be drawn are as follows:

- 1) Based on the results of economic growth regression (X1) of $0.2536 > 0.05$. It does not have a significant effect on TPAK. The results of the analysis show that the economic growth variable does not have a significant influence on the Labor Force Participation Rate in West Nusa Tenggara Province.
- 2) Based on the results of the minimum wage regression (X2) of $0.9316 > 0.05$. This shows that the Minimum Wage variable does not have a significant effect on TPAK. Any increase in the Minimum Wage in NTB does not directly increase labor force participation.
- 3) Based on the results of the regression of the education level (x3) of $0.0000 < 0.05$. This shows that the Education Level variable has a significant effect on TPAK. Any increase in the level of education in NTB will directly increase labor force participation.
- 4) Based on the results of the Result Regression with a probability of test F (simultaneous) of 0.000000, it shows that economic growth, minimum wage and education simultaneously or together have a significant effect on the level of labor force participation in districts/cities in NTB Province.

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