

Analysis of the Determinants of Labor Absorption in the Industrial Sector in West Nusa Tenggara

Dirman¹, St. Maryam², M. Irwan³

^{1,2,3}University of Mataram

ABSTRACT: This study aims to analyze the influence of the Regional Minimum Wage, Investment Value, Industrial Sector Gross Domestic Product, Inflation, and Number of Business Units on labor absorption in the small and medium industrial sector in West Nusa Tenggara Province. A descriptive quantitative approach was used, utilizing secondary data sourced from the Department of Industry of West Nusa Tenggara Province and the Central Statistics Agency (BPS) of West Nusa Tenggara. The data analysis employed panel data regression with EViews 12 software. The panel data consisted of cross-sectional data from 10 districts/cities and time series data from 2019 to 2023. The results indicate that the Regional Minimum Wage, Investment Value, Industrial Sector GDP, and Number of Business Units collectively have a positive and significant effect on labor absorption in small and medium industries in the province. Individually, each of these variables also shows a positive and significant influence. Conversely, the inflation variable does not significantly impact labor absorption in small and medium industries in West Nusa Tenggara.

KEYWORDS: Investment Value, Industrial Sector GDP, Inflation, Number of Business Units, Labor Absorption

1. INTRODUCTION

According to Law No. 25 of 2004, national development in Indonesia is defined as a systematically and integratively planned endeavor to ensure the effectiveness, efficiency, and success of development goals. As Indonesia comprises multiple provinces, districts, and municipalities, regional development becomes an inseparable part of national development. Therefore, development efforts must be inclusive and benefit the broader population, particularly marginalized communities. Development also involves essential transformations in economic growth acceleration, social structure, income inequality, unemployment, and poverty alleviation (Todaro, 2000).

2. LITERATURE REVIEW

2.1 Employment

According to Law No. 13 of 2003 on Manpower, Article 1 Paragraph 1 defines employment as all matters relating to the workforce before, during, and after the work period. Paragraph 2 defines the workforce as every individual capable of performing work to produce goods and/or services for personal or community needs. Mulyadi (2014) states that labor refers to the population of working age (15–64 years) who can contribute to the production of goods and services, given labor demand and willingness to work. Similarly, Dumairy (1997) defines labor as the population within the working age limits, and Simanjuntak (2010) includes those employed, unemployed, or involved in non-market activities (e.g., studying or homemaking) within the definition. The working-age population, whether employed or seeking work, is considered the labor force (BPS, 2021).

2.2 Small and Medium Industries (SMIs)

According to Law No. 3 of 2014 on Industry, industry encompasses all economic activities that process raw materials and/or utilize industrial resources to produce value-added goods, including industrial services. Sandi (2010:148) further defines industry as efforts to manufacture finished goods from raw materials through large-scale production processes aimed at achieving high-quality outcomes at minimal cost. Industry is classified by scale into: Large Industries: High production volume, advanced technology, and large workforce. Small and Medium Industries: Moderate to small-scale production, simpler technology, and smaller workforce.

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2.3 Labor Absorption

Labor absorption refers to the number of available jobs filled, reflecting employment growth. It is driven by labor demand and signifies how many job seekers are integrated into the workforce (Kuncoro, 2013). Todaro (2011) describes labor absorption as the number of workers recruited to fill job vacancies. The degree of labor absorption depends on the demand for labor and varies across sectors (Sumarsono, 2003).

3. RESEARCH METHODOLOGY

3.1 Type of Research

This study employs a quantitative descriptive approach. Sugiyono (2018) explains that quantitative research is grounded in positivism, targets specific populations or samples (usually via random sampling), and involves numerical data analysis to test hypotheses. Emzir (2009) notes that quantitative research focuses on hypothesis testing and variable measurement using statistical tools, while Arikunto (2006) emphasizes its reliance on numerical data in collection, interpretation, and presentation.

3.2 Data Analysis Method

Panel data regression was used for analysis, processed using EViews software. The data comprises time series (2019–2023) and cross-sectional data (10 districts/cities), forming a pooled panel dataset. The three modeling approaches evaluated were the Common Effect Model, Fixed Effect Model, and Random Effect Model (Basuki, 2016). The regression equation is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \epsilon_{it}$$

Where:

Y = Labor absorption (individuals) X₁ = Minimum wage (IDR)

X₂ = Gross Domestic Product of Industrial Sector (million IDR)

X₃ = Investment value (IDR) X₄ = Inflation (percent)

X₅ = Number of industrial units (units) β_0 = Constant

ϵ = Error term

i = Region (district/city) t = Year (2019–2023)

Model selection was based on Chow test, Hausman test, and Lagrange Multiplier test, followed by classical assumption testing, hypothesis testing, and coefficient of determination (R²) evaluation.

4. RESULTS AND DISCUSSION

4.1 Panel Data Regression Analysis.

The analysis method used is use analysis panel data regression with use tool Eviews 12 data processing. This data in the form of time series data from 2019-2023 and cross section consisting of from 10 districts / cities so that the data used is pooled data (panel data), for see influence between variables studied . The approach used For making a model from panel data is the Common Effect Model and Fixed Effect Model and Random Effect Model, then done determination method estimate with using the Chow Test, Housman Test and Langrange Multiplier. After determine model best between third model analysis regression data panel the , will chosen Wrong One model Which furthermore will used For test assumption classic , test hypothesis , And test coefficient determination (R²).

4.2 Hypothesis Test

1. F Test (Simultaneous)

Table 1 Results of F Test Results

Weighted Statistics			
R-squared	0.818060	Mean dependent var	1.134454
Adjusted R-squared	0.797385	S.D. dependent var	0.181613
S.E. of regression	0.081749	Sum squared resid	0.294048
F-statistic	39.56769	Durbin-Watson stat	1.094607
Prob(F-statistic)	0.000000		

Source Data: Eviews 12 Test Results.

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Based on Table 1, the results of the F test above show that mark probability F shows the number 0.000, where number This smaller from 0.05, so that concluded that together or simultaneous show that all variable Independent Regional Minimum Wage, Investment Value, Product Gross Domestic Product of Industrial Sector, Inflation and Number of Business Units (X) have an influence significant to Absorption power work (Y).

2. t-test (partial)

Table 2 Results of t -test (partial)

Dependent Variable: LOG_Y				
Method: Panel EGLS (Cross-section random effects) Date: 03/20/25 Time: 20:47				
Sample: 2019 2023				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.71296	4.094774	-2.860466	0.0064
LOG_X1	1.043945	0.284747	3.666218	0.0007
LOG_X2	0.039873	0.017214	2.316288	0.0253
LOG_X3	0.431354	0.103305	4.175556	0.0001
X4	0.012158	0.006488	1.873849	0.0676
X5	2.46E-05	9.55E-06	2.572941	0.0135

Source Data: EvIEWS 12 Test Results.

Based on results on show that X 1, X 2, X 3 and X 5 (Regional minimum wage, Investment value, Product Gross Domestic Product of Industrial Sector and Number of Business Units) influential significant and positive against Y (Labor Absorption), because mark the probabilities are 0.0064, 0.0007, 0.0253 and 0.0135, respectively, where mark This smaller from 0.05. While Regional minimum wage, Investment Value, Product Gross Domestic Industry Sector, Inflation and Number of Business Units (X4) not influential significant at the level significance of 5% because mark probability more from 0.05, namely of 0.06. However, mark This influential significant at 10% significance.

3. R-squared (R2) test

Table 3 Results of the R-squared Test (R²)

R-squared	0.818060	Mean dependent var	1.134454
Adjusted R-squared	0.797385	S.D. dependent var	0.181613
S.E. of regression	0.081749	Sum squared resid	0.294048
F-statistic	39.56769	Durbin-Watson stat	1.094607
Prob(F-statistic)	0.000000		

Source Data: EvIEWS 12 Test Results.

Based on results regression show that R2 value is 0.818, this is show that variable Regional minimum wage, Investment Value, Product Gross Domestic Industry Sector, Inflation and Number of Business Units (X) used in this study capable explain or influence variable Absorption power work (Y) was 81%, while the remaining 19% is influenced by other variables outside variables of this study.

The Effect of Regional Minimum Wage on Labor Absorption in the Industrial Sector

Based on the results of this study, it can be seen that the Regional Minimum Wage has a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province from 2019 to 2023. The probability value of the Regional Minimum Wage variable (X1) is 0.0007, which is less than 0.05. Similar research was also conducted by Gea Dwi Asmara, Rahmat Saleh, and Galuh Jati Asmara (2024) in their study titled "The Effect of Minimum Wage on Labor Absorption in Indonesia from

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2015 to 2020". They found that the minimum wage has a positive effect on labor absorption in Indonesia from 2015 to 2020, *ceteris paribus*. This means that in general, an increase in the minimum wage will lead to an increase in the number of workers in Indonesia from 2015 to 2020.

This finding is also in line with conventional economic theory (Kusnaini, D, 1998), which states that the minimum wage can increase labor productivity and reduce the consequences of unemployment, or in other words, can increase labor absorption. On the other hand, a reasonable minimum wage can increase work motivation, reduce turnover, and increase productivity.

According to Card and Krueger (1995), in some cases, an increase in the minimum wage does not reduce employment opportunities, and can even increase labor absorption through the multiplier effect of higher purchasing power. In summary, the study suggests that the Regional Minimum Wage has a positive and significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province, which is consistent with the findings of previous studies and conventional economic theory.

The Effect of Industrial Sector Investment on Labor Absorption in the Industrial Sector

The results of this study show that the probability value of the Investment Value variable (X_2) is 0.0253, which is less than 0.05. Based on the regression analysis, Investment Value (X_2) has a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province from 2019 to 2023. Similar findings were also reported by Nofandillah and Aris Soelistyo (2018), who found that investment and labor absorption have a positive relationship, and the magnitude of investment affects the increase in labor absorption. Additionally, Rizka Jafar and Andi Nur Fajar (2021) found that investment capital has a significant positive effect on labor absorption in the small industrial sector.

According to classical economic theory, investment is considered a key driver of economic growth. When investment increases, a country's production capacity also increases, leading to an increase in labor demand. Todaro & Smith (2015) in "Economic Development" note that productive investment creates labor demand and helps reduce structural unemployment. In summary, the study suggests that Investment Value has a positive and significant effect on Labor Absorption in the Industrial Sector in West Nusa

Tenggara Province, which is consistent with the findings of previous studies and classical economic theory.

The Effect of Gross Regional Domestic Product of the Industrial Sector on Labor Absorption in the Industrial Sector

Based on the results of this study, it can be seen that the Gross Regional Domestic Product (GRDP) of the Industrial Sector has a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province from 2019 to 2023. Similar research was also conducted by Silvia and Susilowati (2023), who found that GRDP has a positive and significant impact on labor absorption. This finding is consistent with Keynesian theory, which suggests that the goods and services market has an impact on the labor market. In the production function, it is explained that a larger labor input is required to increase output, which implies that when there is demand for output, there is also demand for new inputs. Therefore, an increase in the capacity of a goods or services market will lead to an increase in labor demand.

In summary, the study suggests that GRDP of the Industrial Sector has a positive and significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province, which is consistent with the findings of previous studies and Keynesian theory.

The Effect of Inflation on Labor Absorption in the Industrial Sector

Based on the results of this study, it can be seen that Inflation does not have a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province from 2019 to 2023. The probability value of the Inflation variable (X_4) is 0.0676, which is greater than 0.05, indicating that it is not significant at the 5% significance level. Similar findings were also reported by I Gusti Agung Indradewa and Ketut Suardhika Natha (2015), who found that inflation does not have a significant effect on labor absorption in Bali Province, with a probability value of $0.56 > \alpha$ (0.05).

The results of this study are consistent with Classical and Monetarist theory (Milton Friedman), which suggests that in the long run, inflation is neutral with respect to real variables such as output and employment, as it only affects nominal prices. Therefore, in the long run, inflation will not increase labor absorption. Additionally, the Rational Expectations theory (Robert Lucas and Thomas Sargent) suggests that workers and economic agents can anticipate inflation. If inflation is anticipated, there will be no real effect on output and employment. In summary, the study suggests that Inflation does not have a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province, which is consistent with the findings of previous studies and Classical and Monetarist theory.

The Effect of Number of Business Units on Labor Absorption in the Industrial Sector

Based on the results of this study, it can be seen that the Number of Business Units has a significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province from 2019 to 2023. Similar research was also conducted by Harlim Putra Mahadi and Alpon Satrianto (2023), who found that the number of business units has a significant and positive effect on labor absorption. When the number of business units increases, the number of workers used in the production process will

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also increase. The relationship between wages and labor absorption can be described as follows: the higher the wage level, the higher the production costs, and as a result, companies will conduct efficiency by reducing the number of workers employed (Simanjuntak, 2001). In summary, the study suggests that the Number of Business Units has a positive and significant effect on Labor Absorption in the Industrial Sector in West Nusa Tenggara Province, which is consistent with the findings of previous studies.

5. CONCLUSION

Conclusion from Determinant research results Labor Absorption in the Small and Medium Industry Sector in West Nusa Tenggara Province is the Regional Minimum Wage, Investment Value, Product Gross Domestic Product of the Industrial Sector, and Number of Business Units and in general partial and simultaneous influential positive and significant to absorption power work in the sector industry small and medium enterprises in the province of West Nusa Tenggara, while inflation No influential in a way significant

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