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Challenges and Opportunities for Labor Absorption: Case Study in West Java Province through Panel Data Approach

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Abstract

Despite having a relatively high economic growth rate, West Java Province still faces severe challenges in labor absorption, as reflected by the high Open Unemployment Rate (OUR). This study aims to analyze the effect of Gross Regional Domestic Product (GRDP), investment, and minimum wages on OUR in West Java Province during 2018-2022. This study uses a panel data approach by combining time series and cross-sectional data from several districts/cities in West Java. The data were analyzed using the panel data regression method with a fixed effect model (FEM) selected based on the results of the Hausman test. The results showed that GRDP had a negative and significant effect on OUR, indicating that economic growth was correlated with a decrease in the unemployment rate. On the other hand, investment did not significantly affect OUR in West Java during the study period. Meanwhile, the minimum wage also did not significantly affect. This study recommends encouraging inclusive economic growth, especially in labor-intensive sectors, and directing investment policies to create quality jobs. Training programs and workforce skills must also be improved to suit industry needs.

Keywords: Gross regional domestic product, investment, open unemployment rate, minimum wage, unemployment.

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INTRODUCTION

West Java, the province with the largest population in Indonesia (Afandi et al., 2023; Barwanto & Ramadhan, 2024; Putri et al., 2023; Wilantari et al., 2022), has complex employment dynamics (Sya'bana & Al Muizzuddin Fazaalloh, 2023). Indeed, this population density can play an essential role in economic growth (Purnamasari, 2024). Research also reveals that West Java province has a reasonably advanced growth rate (Widiyarto, 2024). However, on the other hand, West Java is still faced with a high open unemployment rate (OUR) (Adipratomo et al., 2024; Ardiansyah et al., 2024; Fatmawati et al., 2024; Utomo & Prajanti, 2022; Vikia et al., 2023), above the national figure (Septiyanto & Tusianti, 2020), which indicates serious challenges (Triatmanto & Bawono, 2023) and an imbalance between economic growth and labor absorption.

Various factors influence the dynamics of labor absorption in West Java, including economic growth as reflected in GRDP (Hafiz et al., 2021; Perdana & Gunarto, 2024; Prastyadewi et al., 2013), minimum wage levels (Prastyadewi et al., 2013; Purnomo, 2021; Rasyid & K, 2022), and investment flows (Hafiludin et al., 2024; Ummah, 2021). Based on empirical research, GRDP has a significant influence on labor application (Hafiz et al., 2021; Perdana & Gunarto, 2024; Prastyadewi et al., 2013), although other studies have found the opposite (Rasyid & K, 2022; Ummah, 2021). High economic growth is expected to encourage the creation of new jobs. However, economic growth that is not accompanied by an increase in the quality of human resources and an equal income distribution can widen the gap and worsen the unemployment rate.

The minimum wage level, as one of the policy instruments to protect workers' rights, also has a significant influence on labor absorption (Hafiz et al., 2021; Prastyadewi et al., 2013; Purnomo, 2021; Rasyid & K, 2022), although other studies have shown otherwise (Perdana & Gunarto, 2024). Setting a minimum wage that is too high is feared to hamper investment (Nasution & Siregar, 2020) and reduce employment opportunities, especially in labor-intensive sectors. Meanwhile, a minimum wage that is too low can reduce people's purchasing power and have a negative impact on economic growth.

Domestic and foreign investment are the main driving forces behind job creation. Research also shows that investment can positively affect labor absorption (Hafiludin et al., 2024; Ummah, 2021). However, the flow of investment is not necessarily in line with the need for labor in West Java. Investment in capital-intensive sectors, for example, tends to absorb less labor than investment in labor-intensive sectors. Based on the explanation above, this study attempts to analyze the influence of GRDP, minimum wages, and investment on OUR in West Java Province using a panel data approach.

METHOD

This research is quantitative that aims to analyze the effect of Gross Regional Domestic Product (GRDP), investment, and minimum wages on the Open Unemployment Rate (OUR) in West Java Province from 2018 to 2022. The data used is panel data, which combines time series data and cross-sectional data from several districts/cities in West Java. Using panel data allows for more

in-depth and comprehensive analysis because it can capture variations between time and regions and overcome potential problems of unobserved heterogeneity.

The data was collected through secondary sources, such as the West Java Central Statistics Agency (BPS) and official reports from related local governments. The independent variables in this study include GRDP, investment, and minimum wages, while the dependent variable studied is the Open Unemployment Rate (OUR). Data analysis uses the panel data regression method, which consists of two main models: the fixed effects model and the random effects model. The selection of the most appropriate model is done through the Hausman test, which will determine whether a fixed or a random effects model is more appropriate.

RESULTS AND DISCUSSION

Table 1: Least Squares Panel Data Regression Results (2018-2022)

Dependent Variable: TPT
Method: Panel Least Squares
Date: 02/07/24
Time: 07:14
Sample: 2018 – 2022
Periods included: 5
Cross-sections included: 27
Total panel (balanced) observations: 135

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.430609	1.237912	1.963474	0.0522
PDRB	-0.066201	0.016001	-4.137170	0.0001
INV	0.004060	0.026840	0.151072	0.8802
UM	4.001186	0.577958	6.922971	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.822983	Mean dependent var		8.569333
Adjusted R-squared	0.774093	S.D. dependent var		2.319683
S.E. of regression	1.025239	Akaike info criterion		3.226137
Sum squared resid	127.6371	Schwarz criterion		3.489193
Log likelihood	-170.1727	Hannan-Quinn criterion		3.341856
F-statistic	16.83323	Durbin-Watson stat		1.694728
Prob(F-statistic)	0.000000			

Based on the model selection test, the estimation with the fixed effect model was selected for this research model. Based on the results of the Chow Test and Hausman Test that have been carried out, the following FEM equation is obtained:

OUR = 2.43060857498 - 0.0662005916007PDRB + 0.00640638892185INV + 4.00118568386MW

A t-test was conducted to see the level of significance of the independent variables individually in influencing the variation of the dependent variable. Based on the t-test results, the Prob value for the GRDP variable was 0.0001, meaning that partially, the GRDP variable

significantly affected the number of unemployed in Regencies/Cities in West Java in 2018-2022. While the Investment variable produced a Prob value of 0.8802, this indicates that the Prob value> α (0.05). This means that the investment variable does not significantly affect the open unemployment rate in Regencies/Cities in West Java Province in 2018-2022. As for the Minimum Wage (MW) variable, it produced a Prob value <α (0.05), which is 0.0000, meaning that partially, the MW variable had a significant effect on the open unemployment rate in Regencies/Cities in West Java Province in 2018-2022.

The Influence of GRDP on OUR

The regression results show a significant negative influence between GRDP and OUR in West Java between 2018 and 2022. GRDP in West Java in 2018-2022 shows significant economic development, reflecting an increase in production output and community income that can encourage community welfare. At the same time, OUR in West Java shows a downward trend during the same period. It can be concluded that economic growth reflected in the increase in GRDP has succeeded in creating more jobs and absorbing a larger workforce.

The regression analysis results show that the significant negative coefficient between GRDP and OUR supports the hypothesis that an increase in GRDP contributes to a decrease in OUR. This means an increase in economic output correlates with a decrease in OUR in West Java. Gross Domestic Product (GDP) is the market value of final goods and services produced in a country in a certain period (Michael, 2014). Several supporting factors that strengthen this relationship include infrastructure improvements and pro-business policies implemented by local governments. Further analysis shows that specific sectors, such as manufacturing and services, play a vital role in this context. Increased output in the manufacturing sector, which is labor-intensive, tends to have a more significant impact on reducing unemployment than other sectors that absorb less labor.

The Influence of Investment on OUR

Investment is often considered one of the main drivers of economic (Destefanis & Rehman, 2023; Islam & Beloucif, 2024) and employment growth (Dao et al., 2023) and opportunity (Le et al., 2022) that results in job creation (Dao et al., 2023). However, the results of the latest research in West Java in 2018-2022 show that investment does not significantly affect OUR. This in-depth analysis aims to explain this phenomenon by supporting economic theory and previous research and using accurate data. According to Keynes, unemployment is a spillover effect from imbalances in the product market (Coen et al., 1987). One of the components of aggregate demand in Keynes' theory is investment.

According to classical and Keynesian economic theory, investment should positively impact labor absorption (Bortis, 2023). Investment increases production capacity and labor demand. However, some theories also show that not all investments lead to decreased unemployment. This depends on the type and efficiency of the investment. During 2018-2022, West Java experienced fluctuations in investment, with significant investment peaks in specific years.

Oliver Blanchard provides a more detailed view of corporate investment. According to Blanchard, investment decisions are based on expected future profits (Blanchard & Johnson, 2013). This study confirms that investment does not significantly affect OUR in West Java in 2018-2022. Although investment is essential for economic growth, policies that support job creation need more attention to reduce OUR. The government must develop a more holistic approach, covering various economic and social aspects, to achieve sustainable unemployment reduction.

The Influence of Minimum Wages on OUR

Minimum wages are one of the policy instruments used by the government to protect workers from exploitation (Mansoor & O'Neill, 2021) and ensure that they get a decent income. The minimum wage policy in West Java is often updated to adjust to dynamic economic conditions. From 2018 to 2022, there was a significant influence on the minimum wage policy, which is expected to affect the OUR.

In economic theory, increasing the minimum wage can increase the OUR because companies may not be able to bear higher labor costs, thus reducing the number of workers employed. Higher wages force companies to reduce the number of workers they employ to control the costs they will incur. This study uses secondary data from BPS West Java in 2018-2022. Panel regression analysis is used to analyze whether the minimum wage affects the OUR.

CONCLUSION

This study examines the effect of GRDP, investment, and minimum wages on OUR in West Java for the period 2018-2022 using a fixed effects model (FEM). The results show that GRDP has a negative and significant effect on OUR. An increase in GRDP, which reflects economic growth, correlates with a decrease in OUR, indicating that economic growth has created jobs and absorbed labor. Supporting factors such as infrastructure improvements and pro-business policies have contributed to reducing unemployment, especially in the manufacturing sector, which has high labor intensity and is more significant in reducing OUR. On the other hand, investment does not significantly affect OUR. Although classical and Keynesian economic theories emphasize that investment drives labor absorption, these findings show the opposite in West Java during the period studied.

The study's recommendations include promoting inclusive economic growth, especially in labor-intensive sectors such as manufacturing, to create jobs. The government also needs to direct investment policies to focus on creating quality jobs and review minimum wage policies to maintain a balance between worker welfare and company capabilities. In addition, workforce training and skills enhancement programs should be improved to meet industry needs.

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