# Investment and Labor Absorption on Poverty Levels through the Dynamics of Economic Growth in West Papua

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***ABSTRACT***

*Poverty in Indonesia is not only caused by low income but also by limited access to education, health, and basic services. West Papua has a high poverty rate compared to the national average, suggesting that economic growth and investment have not been effective in reducing it. This study aims to analyze the impact of investment and labor absorption on poverty through economic growth in West Papua. The research method used BPS secondary data from 13 districts/cities during 2011–2023, analyzed with Eviews 13 and Microsoft Excel. Panel data regression with Chow, Hausman, and Lagrange Multiplier tests is used to determine the best model, as well as regression tests, $R^2$, and F-tests to measure relationships between variables. The results showed that investment and GDP growth significantly reduced poverty, while labor absorption had no significant effect. The impact of investment depends on the sector and the distribution of benefits, while economic growth has the greatest influence on poverty reduction. Therefore, policies must direct investment to labor-intensive sectors, improve the quality of the workforce, and ensure inclusive economic growth so that the benefits are evenly distributed throughout society.*

***Keywords***: *Investment, Labor Absorption, Gross Domestic Regional Product, Poverty.*

***ABSTRAK***

*Kemiskinan di Indonesia tidak hanya disebabkan oleh pendapatan rendah tetapi juga terbatasnya akses terhadap pendidikan, kesehatan, dan layanan dasar. Papua Barat memiliki tingkat kemiskinan yang tinggi dibandingkan dengan rata-rata nasional, menunjukkan bahwa pertumbuhan ekonomi dan investasi belum efektif menguranginya. Penelitian ini bertujuan untuk menganalisis dampak investasi dan penyerapan tenaga kerja terhadap kemiskinan melalui pertumbuhan ekonomi di Papua Barat. Metode penelitian menggunakan data sekunder BPS dari 13 kabupaten/kota selama 2011–2023, dianalisis dengan Eviews 13 dan Microsoft Excel. Regresi*

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*data panel dengan tes Chow, Hausman, dan Lagrange Multiplier digunakan untuk menentukan model terbaik, serta uji regresi, $R^2$, dan uji F untuk mengukur hubungan antar variabel. Hasil penelitian menunjukkan bahwa investasi dan pertumbuhan PDB secara signifikan mengurangi kemiskinan, sedangkan penyerapan tenaga kerja tidak berpengaruh signifikan. Dampak investasi tergantung pada sektor dan distribusi manfaat, sedangkan pertumbuhan ekonomi memiliki pengaruh terbesar terhadap pengentasan kemiskinan. Oleh karena itu, kebijakan harus mengarahkan investasi ke sektor-sektor padat karya, meningkatkan kualitas tenaga kerja, dan memastikan pertumbuhan ekonomi yang inklusif sehingga manfaatnya merata ke seluruh masyarakat.*

***Kata kunci**: Investasi, Penyerapan Tenaga Kerja, Produk Domestik Bruto Regional, Kemiskinan.*

## INTRODUCTION

Poverty remains a significant challenge for many developing countries, including Indonesia. As a multidimensional problem, poverty is not only related to low incomes but also includes limited access to education, health, and other basic services. West Papua Province is one of the regions in Indonesia with a relatively high poverty rate compared to the national average. Although various efforts have been made to reduce poverty rates, the results achieved have not been optimal. Therefore, a comprehensive and sustainable strategy is needed to overcome this problem. Research conducted by Ratri (2011) shows that increasing GDP per capita has an effect on reducing poverty levels. However, in West Papua, GDP growth has not fully succeeded in reducing the poverty rate significantly. This is in line with research Harianja and Findi (2018) which states that despite economic growth, inequality in income distribution is still the main inhibiting factor in reducing poverty.

Investment is one of the key factors in encouraging economic growth and poverty alleviation. Through investment, especially in strategic sectors, it is hoped that new jobs will be created that can increase people's income. However, in West Papua, investment realization still faces various obstacles, such as limited infrastructure and low accessibility. Previous research has shown that investment has a positive influence on Gross Regional Domestic Product (GDP) and labor absorption. However, an increase in GDP is not always followed by a decrease in poverty rates, which shows that economic growth is not yet fully inclusive (Purnomo & Kusreni, 2019). Research conducted by Nizar et al. (2013) also found that investment has a positive influence on economic growth and poverty reduction. However, in West Papua, investment realization still faces various obstacles, such as limited infrastructure and low accessibility (Lillyani, 2018).

In addition to investment, labor absorption also plays an important role in poverty alleviation efforts. Adequate employment can increase people's income and reduce poverty levels. However, in West Papua, the low quality of human resources and the limited industrial sector that is able to absorb a large number of workers are challenges in themselves. Research conducted by Sokian et al. (2020) shows that the increase in labor absorption is not always directly proportional to the decrease in poverty rates, which indicates the need to improve the quality of work and decent wages. In line with these findings, Priskila's research (in Hosio et al., 2019) also shows that the agricultural sector in Sorong Regency, West Papua, has a significant contribution to labor absorption. However, the low quality of human resources and the limited industrial sector that is able to absorb a large number of workers remain the main obstacles in reducing the poverty rate in this region.

As interacting factors, investment and labor absorption cannot be separated from the dynamics of economic growth in efforts to alleviate poverty. Positive economic growth is expected to be the main driver in improving people's welfare, although its impact on poverty is highly dependent on income distribution and economic policies implemented. The interaction between these factors can significantly affect poverty rates, as evidenced by various studies focusing on Indonesia's economic landscape. Investment in sectors

such as manufacturing has been shown to have a positive impact on economic growth, which in turn reduces poverty levels (Balqis et al., 2024). Higher levels of investment correlate with increased job creation, especially in the non-agricultural sector, which is important for poverty alleviation (Rambe et al., 2023).

Effective labor absorption reduces the unemployment rate, thereby reducing the risk of poverty. Studies show that areas with higher labor absorption experience an increase in family income and overall well-being (Rochdianingrum & Laily, 2022; Putra & Arif, 2023). The quality of the workforce, influenced by education and skills training, is essential for maximizing economic growth and reducing poverty (Rambe et al., 2023; Ali, 2023). Other research states that investment and absorption of labor are very important for economic growth and poverty alleviation. It is important to realize that mere economic growth does not guarantee poverty reduction. Factors such as income inequality and growth inclusivity must also be addressed to ensure sustainable poverty alleviation efforts (Ali, 2023). This shows that the role of economic growth dynamics is related to investment and labor.

The dynamics of economic growth act as a mediator in the relationship between investment, labor absorption, and poverty levels. Positive economic growth is expected to improve the welfare of the community as a whole. However, without an even distribution of income, economic growth can widen social gaps. Research conducted by Maulani et al. (2023) shows that economic growth has a negative and significant influence on poverty, but these effects can vary depending on the economic structure and policies implemented. In addition, Amri et al. (2020) show that with the increase in economic growth, it is expected that there will be a decrease in the open unemployment rate in West Papua Province. However, without an even distribution of income, economic growth can widen social disparities, as explained in the study (Nababan et al., 2023). Based on this description, this study aims to analyze the impact of investment and labor absorption on poverty levels through the dynamics of economic growth in West Papua. By understanding the relationship between these variables, it is hoped that this study can provide policy recommendations based on empirical evidence to encourage more inclusive and sustainable economic development in West Papua.

## LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

### Investment and Proverty Rate

Investment plays an important role for every business. Investment provides opportunities for business entities to expand their businesses, improve production facilities, and increase production so that they can expand employment (Adelya et al., 2025). Investment plays an important role in driving economic growth and poverty reduction, although its impact is highly dependent on the institutional context and redistribution policies. Studies have shown that public investment and infrastructure increase productivity and open up wider economic access for the poor (Zhang & Zhang, 2006; Calderón & Servén, 2010). Foreign Direct Investment (FDI) can accelerate growth, but its effectiveness in poverty alleviation is determined by institutional quality and financial inclusion (Quinonez et al., 2018). On the other hand, investment in human capital through education and health has been proven to break the chain of poverty between generations and increase productivity (Glewwe et al., 2011). The development of the financial sector and microcredit has also expanded access to capital for the poor (Beck et al., 2007). However, the literature confirms that growth in investment returns does not automatically reduce poverty without a fair distribution of benefits and sustainability policies (Barbier, 2010). Thus, investment becomes a vital instrument, but its effectiveness is largely determined by governance, inclusion, and a sustainable development orientation.

Previous research has shown that investment has a negative and significant influence on poverty rates (Budiarti & Hartono, 2023). However, different results were shown by Komaria et al. (2025), who found that investment in the form of Foreign Investment (PMLN) actually has a positive but not significant effect on poverty, while Domestic

Investment (PMDN) tends to be more relevant in reducing poverty rates. In addition, Ainunnisa and Hidayat (2019) emphasized that the increase in the percentage of poverty is influenced by the high open unemployment rate, which occurs due to the imbalance between the supply and demand of labor in the industrial sector and the investment value that has not been optimal in absorbing labor. On the contrary, reducing poverty rates can be achieved through improving the quality of human resources, especially through higher levels of education, because education plays an important role as capital to obtain better jobs.

H1: Investment has negative effect on poverty rate.

**Labor Force Absorption and Poverty Rate**

Labor absorption is generally defined as the ability of an economy to provide jobs for the available labor force (Todaro & Smith, 2015). The literature shows that increasing employment opportunities is one of the main mechanisms of poverty alleviation, as access to productive work directly increases the income of poor households (Fields, 2012). The study of Dollar and Kraay (2002) emphasized that economic growth accompanied by increased labor absorption is more effective in reducing poverty than capital-intensive growth. Ravallion (2012) also emphasized that the quality of employment is key, because informal work with low productivity is often not enough to lift households out of poverty. In addition, Loayza and Raddatz (2010) found that labor-intensive sectors such as agriculture and manufacturing contribute more to poverty reduction because they are able to absorb large numbers of poor labor. Thus, labor absorption is not only an indicator of economic health, but also a fundamental instrument in reducing poverty rates through increasing equitable access to income. Research on the link between labor force participation and poverty shows mixed results. Yaningsih et al. (2025) found that the participation rate of the female labor force in the agricultural sector has no effect on poverty. In line with that, Sianturi et al. (2024) stated that the labor force participation rate has a negative but not significant influence on the poverty variable. In contrast to these findings, Sari and Artha (2025) show that female labor force participation actually has a negative and significant influence on household poverty status, which means that its contribution is able to reduce poverty levels in Indonesia.

H2: Labor force absorption has a negative effect on poverty rate.

**Gross Domestic Product, Investment Value, and Labor Force Absorption**

Gross Domestic Product (GDP), especially for a region, is defined as the total value of goods and services produced by a region in a given period, which is often used as a key indicator of regional economic performance (BPS, 2022; Todaro & Smith, 2015). The relationship between Gross Regional Domestic Product (GRDP) and poverty lies in its role as a measure of regional economic capacity in creating income and employment. An increase in GDP is usually expected to reduce poverty rates through the trickle-down effect, i.e., the distribution of growth benefits to the poor (Dollar & Kraay, 2002). However, the literature confirms that this relationship is not automatic, because economic growth reflected in the increase in GDP can be non-inclusive if it is only concentrated in capital-intensive sectors or in certain groups of people (Ravallion, 2012). The study of Loayza and Raddatz (2010) shows that growth structure is important: labor-intensive sectors in GRDP are more effective at reducing poverty than capital-intensive sectors. Thus, GRDP is closely related to poverty alleviation, but its impact is strongly influenced by income distribution patterns, economic sector composition, and inclusive development policies

Empirical studies of the relationship between economic growth and poverty have yielded mixed findings. Kamil et al. (2025) show that the Gross Regional Domestic Product (GDP) has a significant negative effect on poverty in West Nusa Tenggara, which

means that increasing GDP can reduce poverty rates. Similar results were shown by Syaifullah and Malik (2017), who found that GDP has a negative and significant effect on poverty in ASEAN-4 countries. Similarly, Yusrya (2023) emphasized that in the short term, GDP has a negative influence on poverty, even though the number of people actually has a positive impact on increasing poverty. However, in contrast to these findings, Ginting (2010) actually found a significant positive relationship between GDP and poverty levels, indicating that economic growth is not always followed by a decrease in poverty.

H3: Gross regional domestic product growth moderates the influence of investment value on poverty rate.
H4: Gross regional domestic product growth moderates the influence of labor force absorption on poverty rate.

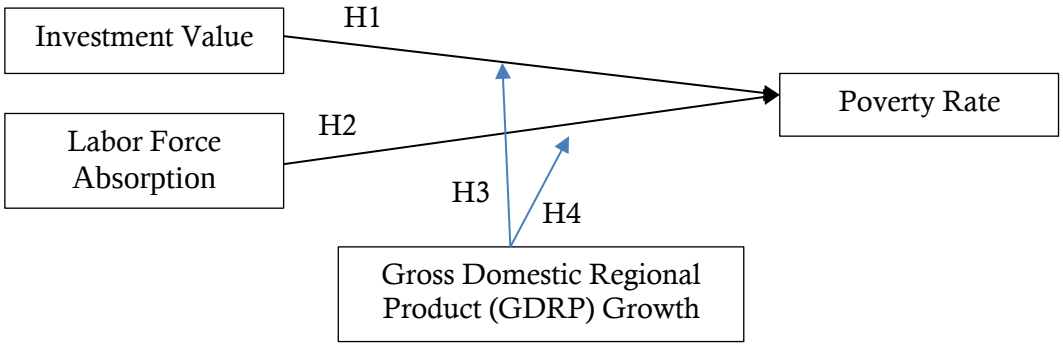


**Figure 1.** Research Framework

The research framework in Figure 1 posits that investment and labor absorption directly influence poverty reduction, while regional economic growth moderates these effects. Investment (H1) and labor absorption (H2) are expected to lower poverty, but their impacts may vary depending on the level of Gross Domestic Regional Product (GDRP) growth. Specifically, GDRP growth is hypothesized to moderate the relationship between investment and poverty (H3) as well as between labor absorption and poverty (H4), highlighting the combined role of economic growth, investment, and employment in shaping poverty outcomes.

## RESEARCH METHODS

This study uses secondary data obtained from the Central Statistics Agency (BPS). The data used covers 13 districts/cities during the period 2011 to 2023. Data analysis was carried out with the help of Eviews 13 software and Microsoft Excel. Dependent Variables: Poverty Rate in 2011–2023. The independent variables in this study consist of Investment Value (X1) and Labor Force (X2), with Gross Regional Domestic Product (GRDP) Growth (Z) serving as the moderating variable.

The data analysis in this study begins with descriptive statistical analysis, which aims to describe the characteristics of both dependent and independent variables to understand the distribution patterns of the data before proceeding to regression testing. This step is crucial for identifying potential outliers or trends that may impact the regression results. Afterward, panel data regression model selection is carried out through several stages. The Chow Test is first used to determine whether the Common Effect Model (CEM) or the Fixed Effect Model (FEM) is more suitable. Next, the Hausman Test is applied to decide between the Fixed Effect Model (FEM) and the Random Effect Model (REM). Finally, the Lagrange Multiplier Test is conducted to confirm the most appropriate model, whether it is a homoskedastic FEM or one using the Cross-Section Weight method if

needed. This systematic approach ensures that the regression model chosen is both statistically sound and suitable for the characteristics of the data.

All stages of analysis were carried out using Eviews 13 software and Microsoft Excel 2019. The next stage is a regression test to estimate the relationship between independent variables and poverty levels. In addition, the determination coefficient ($R^2$) and the Adjusted $R^2$ test were performed to assess the extent to which independent variables were able to explain variations in poverty levels. The F test was also performed to test the simultaneous influence of independent variables on dependent variables. The regression results are then interpreted to understand the implications of the relationship between variables and provide policy recommendations based on the research findings.

## RESULTS

The analysis process in this study starts with descriptive statistics, which are used to explain the characteristics of both dependent and independent variables in order to observe data distribution patterns prior to conducting regression analysis. This stage is crucial for detecting potential outliers or trends that could affect the outcomes of the regression test (Ghozali, 2016).

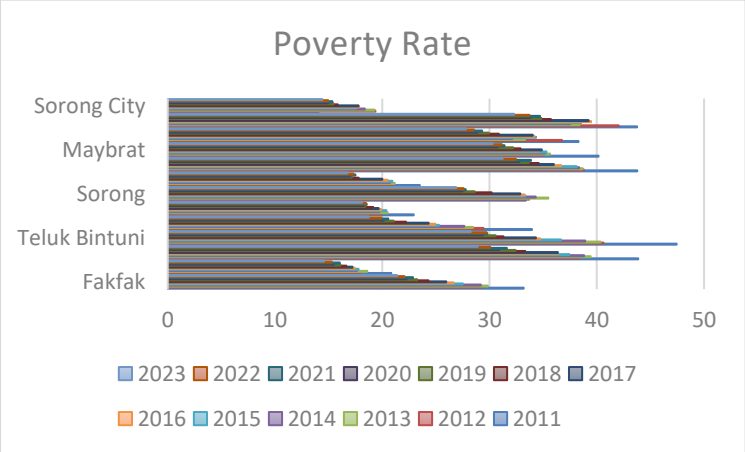


**Figure 2.** Poverty Rate in West Papua Regency/City (2011–2023)

Based on Figure 2, the percentage of poor people in West Papua has been on a downward trend from 2011 to 2023 in almost all districts/cities. The districts with the highest poverty rates are Bintuni Bay, Wondama Bay, Arfak Mountains, and Tambrauw, all of which had poverty rates above 40% in 2011, but are experiencing a gradual decline. For example, Bintuni Bay fell from 47.44% (2011) to 28.24% (2023), and Tambrauw from 43.77% to 31.23%. Sorong City has the lowest poverty rate compared to other regions, with 14.04% in 2011, which had increased in 2012 to 19.36%, but continued to decline to 14.41% in 2023.

Fakfak and Manokwari Regencies also showed significant improvements, with Fakfak decreasing from 33.18% (2011) to 21.38% (2023) and Manokwari from 33.95% to 18.73%. Raja Ampat, which has a lower poverty rate than other regions, has also experienced a steady decline from 23.5% (2011) to 16.76% (2023). However, there are several areas such as South Manokwari and the Arfak Mountains that have experienced fluctuations. South Manokwari fell from 38.28% (2011) to 27.8% (2023), while the Arfak Mountains, although declining from 43.75% to 32.29%, experienced a temporary increase in certain years. Overall, poverty rates in West Papua show a fairly good improvement, reflecting improved community welfare, although there are still challenges in some remote areas.

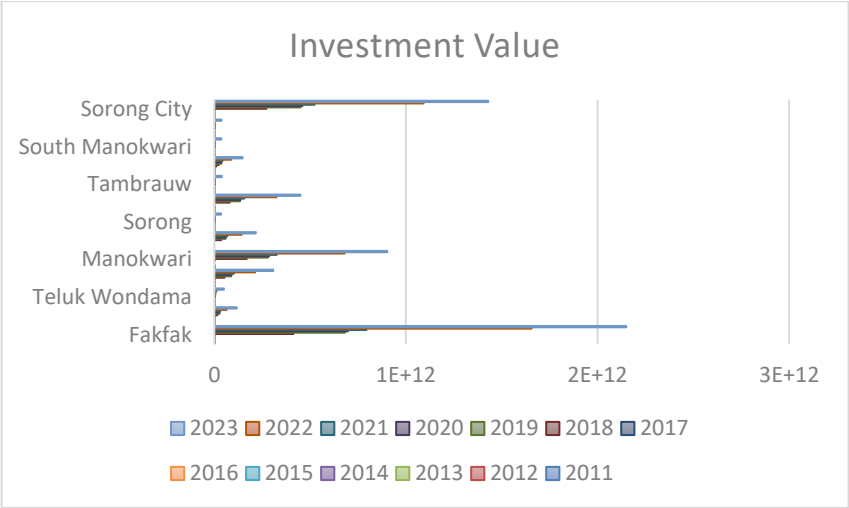


**Figure 3.** Investment Value (Thousand Rupiah) by Regency/City in West Papua

Based on Figure 3, the value of investment in West Papua has experienced a significant surge in recent years, especially after 2017. The district with the highest investment is Sorong City, which in 2011 was only IDR 9.01 billion, but increased drastically to IDR 1.42 trillion in 2023. Fakfak also experienced a large increase, from IDR 15.83 billion in 2011 to IDR 2.14 trillion in 2023. Bintuni Bay showed a sharp increase after 2017, reaching IDR 3.07 trillion in 2023.

Meanwhile, districts such as South Manokwari, Arfak Mountains, and Maybrat also recorded significant investment growth. Maybrat, for example, increased from IDR 450.2 million in 2011 to IDR 1.47 trillion in 2023. Manokwari also jumped from IDR 1.99 billion in 2011 to IDR 902.48 billion in 2023.

Some areas with smaller investment, such as South Sorong and Tambrauw, also saw an increase, albeit in more moderate amounts. Overall, this increase in investment value reflects economic growth and the increasing attractiveness of West Papua for investors in various sectors.

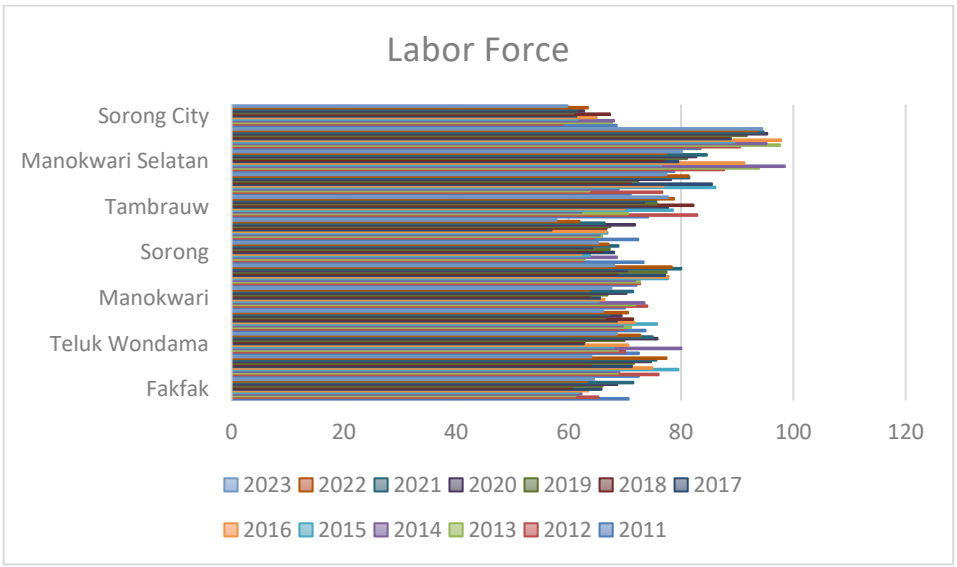


**Figure 4.** Labor Force Participation Rate (TPAK) by District/City (Percent)

Based on Figure 4, the Labor Force Participation Rate (*Tingkat Partisipasi Angkatan Kerja*/TPAK) in West Papua shows fluctuations that vary in each district/city from 2011 to 2023. The districts with consistently the highest participation rates are the Arfak and

South Manokwari Mountains, with figures often exceeding 90%, peaking at 97.82% in 2016. Meanwhile, the cities of Sorong and Raja Ampat tend to have lower participation rates, with figures below 70% in most years. Fakfak experienced an upward trend, from 61.2% in 2013 to 71.53% in 2021, but again fell to 64.52% in 2023. At the provincial level, the West Papua TPAK also fluctuated, with the highest figure of 70.78% in 2011 and tending to decline to 66.51% in 2023. The decline in participation in some regions can be caused by various factors, such as demographic changes, labor migration, and economic dynamics that affect people's participation in the job market.

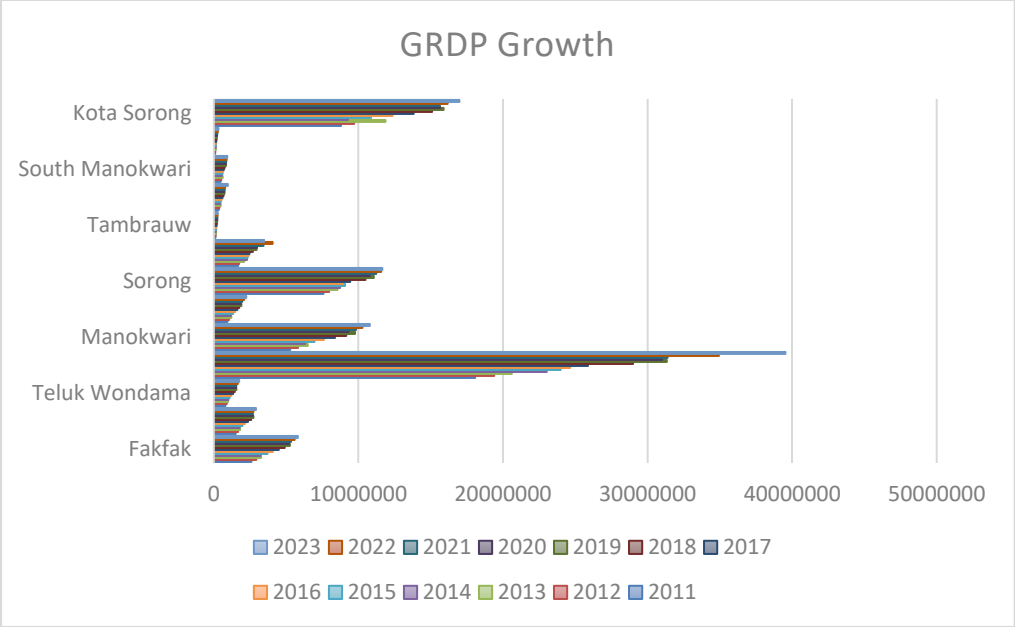


**Figure 5.** Gross Regional Domestic Product (GRDP) 2011-2023

Figure 5 shows the Gross Regional Domestic Product (GRDP) on the basis of prevailing prices in West Papua, showing an increasing trend from 2011 to 2023 in almost all districts/cities, reflecting fairly stable economic growth. Bintuni Bay recorded the highest figure, jumping from 18 trillion rupiah in 2011 to 39.5 trillion rupiah in 2023, confirming its strategic role in West Papua's economy, most likely driven by the oil and gas industry and other natural resources. The city of Sorong, as a major economic center, has also experienced significant growth, reaching 16.9 trillion rupiah in 2023, making it one of the economic drivers in the region. Meanwhile, districts such as Tambrauw, Maybrat, and Arfak Mountains, despite having a smaller GDP, continue to show an increase from year to year, signaling economic improvement in various sectors. This data gives an idea that West Papua continues to grow, with great potential to progress if infrastructure and investment continue to be improved.

**Table 1**. Chow Test

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 89.256.668 | -12.153 | 0.0000 |
| Cross-section Chi-square | 351.436.667 | 12 | 0.0000 |

Based on the results of the Chow Test shown in Table 1, the Cross-section F value is 89 256 668 with a probability of 0.0000, and the Cross-section Chi-square value is 351 436 667 with a probability of 0.0000. The probability (p-value) of these two tests is less than 0.05, which means that we reject the null hypothesis ($H_0$) that states that the best model is the Common Effect Model (CEM). Thus, a more suitable model to use in this analysis is the Fixed Effect Model (FEM). The selection of FEM showed that there were significant differences in individual characteristics in the panel data, so an approach that

considered the specific effects of each individual was more appropriate than the general model without individual effects.

**Table 2.** Hausman Test

| Test | Value |
|---|---|
| Test Summary | Cross-section random |
| Chi-Sq. Statistic | 15.190.693 |
| Chi-Sq. d.f. | 3 |
| Prob. | 3 |

Based on Table 2, the results of the Hausman test are shown in the table. The Chi-Square Statistic value is 15 190 693 with a degree of freedom (d.f.) = 3, and a probability (p-value) of 0.0017. In the Hausman test, the null hypothesis ($H_0$) states that the Random Effect Model (REM) model is better, while the alternative hypothesis ($H_1$) states that the Fixed Effect Model (FEM) model is more suitable. If the p-value > 0.05, then REM is chosen because it assumes there is no correlation between individual effects and independent variables. Conversely, if $p < 0.05$, then FEM is better because there is a correlation between individual effects and independent variables. In the results of this test, the p-value of 0.0017 is less than 0.05, so we reject the null hypothesis ($H_0$) and choose the Fixed Effect Model (FEM) as the more suitable model for the analysis. This shows that the individual effects in the panel data have a correlation with independent variables, so the FEM approach is more appropriate than REM.

**Table 3.** Lagrange Multiplier Test Result

| Methods | Hypothesis Test Result for LM Test | | |
|---|---|---|---|
| | Cross-section | Time | Both |
| Breusch-Pagan | 524.6368 | 1.106113 | 525.7429 |
| | (0.0000) | (0.2929) | (0.0000) |
| Honda | 22.90495 | 1.051719 | 16.93992 |
| | (0.0000) | (0.1465) | (0.0000) |
| King-Wu | 22.90495 | 1.051719 | 16.93992 |
| | (0.0000) | (0.1465) | (0.0000) |
| Standardized Honda | 26.44722 | 1.309270 | 15.34858 |
| | (0.0000) | (0.0952) | (0.0000) |
| Standardized King-Wu | 26.44722 | 1.309270 | 15.34858 |
| | (0.0000) | (0.0952) | (0.0000) |
| Gourieroux et al. | -- | -- | 525.7429 |
| | | | (0.0000) |

Based on the Table 3, the results of the Lagrange Multiplier (LM) test, the probability value of Breusch-Pagan (cross-section and both) is 0.0000, which is less than 0.05, so it rejects the null hypothesis ($H_0$) and chooses the Random Effect Model (REM) as a more suitable model than the Common Effect Model (CEM). Meanwhile, the time effect test showed a p-value of 0.2929, which was insignificant, so the time effect had no effect. However, since the main test showed significant results, the best model chosen was REM.

Based on Tables 1, 2, and 3, the model test results, the Chow Test shows that the Fixed Effect Model (FEM) is better than the Common Effect Model (CEM), so FEM is chosen. Furthermore, the Hausman Test also showed that FEM was better than the Random Effect Model (REM), thus strengthening the selection of FEM. Meanwhile, the Lagrange Multiplier (LM) test showed that REM was better than CEM, but since previous test results had determined that FEM was better, the best model chosen for this analysis was the Fixed Effect Model (FEM).

**Table 4.** Heteroscedasticity Test

| Model | Value | df | Probability |
|---|---|---|---|
| Likelihood ratio | 1.584.080 | 13 | 0.2578 |
| Restricted LogL | -5.693.330 | 165 | |
| Unrestricted LogL | -5.614.126 | 165 | |

Based on the results in Table 4, the Likelihood Ratio (LR) Test for Heteroscedasticity, the null hypothesis ($H_0$) states that the residual is homoscedastic. From the test results, a probability value of 0.2578 was obtained, which is greater than 0.05. Since the p-value > 0.05, it fails to reject $H_0$, so it can be concluded that there is no heteroscedasticity problem in the model. Thus, the model used has a constant residual variance, so the estimated results are more reliable.

**Table 5.** Multicollinearity Test

| Variable | Investment | Labor Absorption |
|---|---|---|
| Investment | 1 | -0.2741896322590007 |
| Labor Absorption | -0.2741896322590007 | 1 |

Based on Table 5, the results of the multicollinearity test, the correlation value between the Investment and Labor Absorption variables is -0.274, which is much smaller than 0.9. This shows that there are no multicollinearity issues in the model. Thus, both variables can be used in regression analysis without worrying about too high a linear relationship between them, so that the estimated results remain valid and can be interpreted properly.

**Table 6.** Partial and Moderation Test Result

| Test | Variable | Coefficient | Std. Error | T-Statistic | Prob. |
|---|---|---|---|---|---|
| Partial Test Result | Constant | 2.869.219 | 3.989.506 | 7.191.917 | 0.0000 |
| | Investment | -5.31E-12 | 9.93E-13 | -5.342.301 | 0.0000 |
| | Labor Absorption | -0.003022 | 0.054735 | -0.055208 | 0.9560 |
| Moderation Test Result | Constant | 1.402.635 | 8.642.926 | 1.622.871 | 0.0000 |
| | Investment | 8.71e-13 | 5.90e-13 | 1.476.218 | 0.1420 |
| | Labor Absorption | -0.035177 | 0.028317 | -1.242.244 | 0.2161 |
| | GDP Growth | -3.50e-07 | 7.74e-08 | -4.518.460 | 0.0000 |
| | Interaction Variables | -0.001861 | 0.000118 | -1.580.289 | 0.0000 |

Table 6 shows the partial test results. The regression results showed that Investment had a significant influence on the dependent variable with a negative coefficient of -5.31E-12 and a probability of 0.0000, which means that the change in investment had a significant effect. Meanwhile, Labor Absorption did not have a significant influence because the probability value was 0.9560, which was well above 0.05, so the change in labor absorption did not have a significant impact on the model before the moderation test was carried out.

Table 6 also shows the results of regression analysis with moderation variables in influencing poverty levels. The results showed that investment and labor absorption had no significant effect on poverty, with p-values of 0.1420 and 0.2161, respectively. Although investment has a positive direction of influence (8.71E-13) and labor absorption has a negative direction (-0.035177), the effect is not strong enough to affect poverty levels. On the contrary, GDP growth has a significant influence with a p-value of 0.0000 and a negative coefficient (-3.50E-07), indicating that increased economic growth can reduce poverty. In addition, the moderation effect of GDP growth on the relationship between investment and poverty is also significant (p-value 0.0000) in a negative direction (-0.001861), which means that in conditions of high economic growth, the influence of investment on poverty is weakening.

**Table 7.** Hypothesis Test Resut

| Variable | Coefficient | Std. Error | T-Statistic | Prob. |
|---|---|---|---|---|
| Constanta | 3.722.113 | 3.464.871 | 1.074.243 | 0.0000 |
| Investment | -2.28E-12 | 9.00E-13 | -2.529.355 | 0.0124 |
| Labor Absorption | -0.053734 | 0.045846 | -1.172.063 | 0.2430 |
| GDP Growth | -9.27E-07 | 1.11E-07 | -8.390.183 | 0.0000 |

Based on the results of the regression analysis in Table 7, the model used to explain the influence of investment, labor absorption, and GDP growth on the poverty rate can be written as follows:

$$Y=3.722.113-2.28E-12X1-0.053734X2-9.27E-07Z$$

In this study, the dependent variable (Y) is the poverty level, while the independent variables consist of investment (X1) and labor absorption (X2), with GDP growth (Z) acting as the moderating variable. The interpretation of the regression results is that Constant (C) is valued at 3,722,113 with a p-value of 0.0000, which means this value is statistically significant. This shows that if all independent variables are zero, the poverty rate is estimated to be 3,722,113. Investment (X1) has a negative coefficient of -2.28E-12 with a p-value of 0.0124, which means it has a significant effect on poverty at a significance level of 5%. This means that increased investment will reduce poverty levels. Labor Absorption (X2) has a negative coefficient of -0.053734 with a p-value of 0.2430, which shows that this variable has no significant effect on the poverty rate. Although the direction of the effect is negative (suggesting that increased labor uptake can lower poverty), the effect is not statistically strong enough. GDP growth (Z) has a negative coefficient of -9.27E-07 with a p-value of 0.0000, which means it is significant in influencing poverty. This negative value shows that the higher the economic growth, the lower the poverty rate.

**Table 8.** R Square Result

| Test | Value |
|---|---|
| R-Squared | 0.906994 |
| Adjusted R-Squared | 0.897876 |
| F-Statistic | 9.947.068 |

Table 8 shows the results of the F-statistic (9.947.068) with a probability value of 0.000000 show that simultaneously, independent variables (investment, labor absorption, and GDP growth) significantly affect poverty levels. Because the p-value is well below 0.05, the model as a whole can be said to be significant, so the variables used together contribute to explaining the change in poverty levels. The high R-squared value (0.906994) shows that this regression model is able to explain 90.7% of the variation in poverty levels, while the remaining 9.3% is influenced by other variables that are not included in the model. This indicates that the model has an excellent fit in explaining the relationship between independent variables and poverty levels. Adjusted R-squared (0.897876). Adjusted R-squared is lower than R-squared because it takes into account the number of variables in the model. The value of 89.8% indicates that the model still has high predictive ability despite adjustments to the number of independent variables.

## DISCUSSION

The regression analysis indicates that investment significantly reduces poverty, as it generates employment, boosts productivity, and drives economic growth, thereby improving overall well-being. Both domestic and foreign investments are generally associated with lower poverty rates, though the impact varies depending on the sector and how benefits are distributed. While most studies support the positive role of investment in poverty reduction, caution is needed since certain forms, particularly foreign investment, may have mixed outcomes if not managed effectively.

A study in East Java found a significant negative relationship between domestic investment and poverty, suggesting that increased domestic investment leads to a reduction in the poor population (Zuraida & Asmara, 2024). In Indonesia's nickel-producing provinces, domestic investment has proven to have a considerable impact on poverty alleviation, while foreign and government investment have not yielded significant results (Vidriza & Talmera, 2024).

Research from Pakistan shows that FDI has a negative impact on poverty, suggesting that attracting foreign investment can help reduce poverty rates (Nisar et al., 2024). However, he also noted that FDI could displace local businesses, potentially increasing unemployment, complicating its overall effect on poverty (Nisar et al., 2024). A global analysis revealed that a 1% increase in education funding correlated with a 3.09% reduction in poverty rates, emphasizing the importance of investment in education as a strategy for poverty alleviation (Jain et al., 2024).

The analysis shows that labor absorption has a negative relationship with poverty, indicating that higher employment tends to reduce poverty; however, the effect is not statistically significant, suggesting that increased job opportunities alone are not sufficient to directly improve welfare. This may be due to low job quality or inadequate wages, highlighting that while employment is often viewed as a pathway to poverty reduction, its impact depends on the nature of the jobs created. For policymakers, this underscores the need to focus not only on employment quantity but also on job quality to achieve meaningful poverty alleviation.

Research on the relationship between labor absorption and poverty mentions Studies show that higher labor absorption correlates with lower poverty rates, as seen in Indonesia, where labor absorption significantly impacts urban poverty rates (Angraeni et al., 2024). Despite the negative relationship, the lack of statistical significance in some models suggests that increased labor uptake may not always translate into substantial poverty alleviation (Angraeni et al., 2024). In North Macedonia, active labor market policies have shown a sustained decline in unemployment, indirectly supporting labor absorption (Ameti & Idrizi, 2024). Factors such as immigration and economic conditions can affect labor absorption rates, complicating the direct relationship with poverty reduction. Labor absorption is an important factor in poverty reduction; its effectiveness can be undermined by external economic conditions and the statistical significance of its impact in certain models.

Economic growth measured by GRDP shows a significant role in reducing poverty by raising incomes, improving purchasing power, and enhancing overall welfare, while also acting as a moderating factor that weakens the effect of investment on poverty under high-growth conditions. This suggests that although investment and labor absorption contribute to poverty reduction, economic growth remains the more dominant driver, emphasizing the need for policies that promote inclusive growth to ensure its benefits reach the poor effectively. Other aligned studies show that while economic growth generally correlates with poverty reduction, the impact can be insignificant. For example, in Jambi Province, economic growth shows a negative but insignificant impact on poverty levels (Mawaddah et al., 2024). In China, economic growth has been associated with significant poverty reductions, especially in urban areas, highlighting the importance of regional policies and income distribution (Huang, 2024).

Research emphasizes that increasing human resources significantly has an impact on poverty reduction, with a 1% improvement in human resource quality leading to a 7.39% reduction in poverty (Nasriati, 2024). Education has been identified as an important factor in reducing poverty, suggesting that strategies that focus on improving education can yield better outcomes than relying solely on economic growth (Imah et al., 2024). Economic growth is an important component of poverty alleviation, it is not a standalone solution. The interaction of factors such as education, human resource development, and local policies plays an important role in determining the effectiveness of economic growth in reducing poverty. As such, a multifaceted approach is essential for sustainable poverty reduction strategies.

## CONCLUSION

The results of this study reveal that investment significantly contributes to reducing poverty, although its effectiveness depends on the sector and how its benefits are distributed, with its impact tending to weaken under conditions of high economic growth. While investment can create jobs and boost productivity, it must be strategically directed

to ensure real benefits for the poor. In contrast, labor absorption does not show a significant effect on poverty, suggesting that increased employment does not automatically improve welfare, likely due to the prevalence of informal jobs with low wages; thus, employment policies should prioritize job quality and worker welfare rather than merely expanding employment numbers. Meanwhile, economic growth (GDP) emerges as the most influential factor in alleviating poverty by raising incomes, improving purchasing power, and enhancing overall welfare, while also moderating the relationship between investment and poverty. This indicates that in periods of rapid economic growth, poverty reduction relies not only on growth itself but also on equitable income distribution and supportive social policies.

The findings of this study imply that while investment and economic growth play important roles in poverty reduction, policies must prioritize inclusive and well-targeted investments as well as improvements in job quality to ensure real welfare gains for the poor. However, the study is limited by its reliance on aggregate data, which may not fully capture sectoral differences, job quality, or the distributional aspects of economic growth that influence poverty outcomes. Future research should consider disaggregated data across sectors and regions, incorporate qualitative measures of employment quality and income distribution, and explore additional moderating factors such as education, social protection, and institutional quality to provide a more comprehensive understanding of the mechanisms through which investment, labor absorption, and economic growth interact to reduce poverty.

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