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The Mediating Role of Labour Force Partisipation Rate in the Effects of Domestic and Foreign Direct Investment on Poverty in East Kalimantan Province

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Abstract: This study aims to determine the influence of Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI) on Poverty through the labor force participation rate (LFPR) in districts/cities of East Kalimantan Province. This study uses a quantitative approach. The data used are secondary data obtained through publications and surveys. The type of data is panel data for 10 districts/cities in East Kalimantan Province for the 2015–2025 period with 110 observations. The analysis tool uses path analysis with the help of STATA 17.0 software. The results of the study showed that DDI had a significant effect on LFPR, and FDI had an insignificant effect on LFPR. DDI also had a significant effect on poverty, while FDI had an insignificant effect. Furthermore, LFPR has a significant effect on poverty, which shows that the increase in the participation of the working-age population in the labor market is related to poverty reduction. However, the results of mediation testing showed that LFPR did not significantly mediate the influence of DDI or FDI on poverty. Research implications emphasize investment aimed at productive job creation, human resource quality, local worker involvement, and stronger regional economic linkages, particularly amid the economic transformation and urban development in East Kalimantan.

Keywords: DDI, FDI, LFPR, Poverty, Stata.

INTRODUCTION

Poverty is a multidimensional phenomenon that is not only related to low-income levels but also reflects the limitations of individuals and households in accessing various resources that support improving the quality of life, such as productive employment opportunities, education, health services, decent housing, and other public services. Poverty is a condition in which people are exposed to multiple disadvantages actual and potential (Alkire et al., 2018). Therefore, poverty is the deprivation of capabilities. And since capabilities are multiple, as are the aspects of life, the measurement of poverty via measuring the deprivation of capabilities brings multi-dimensionality in its measurement (Haq et al., 2024). Therefore, poverty is the

deprivation of capabilities. Since capabilities are multiple, as are the aspects of life, the measurement of poverty via measuring the deprivation of capabilities brings multidimensionality in its measurement. Poverty is a function of the absence of capability, which is the freedom to pursue a lifestyle. It is the holistic and realistic perspective of the tangible manifestations of poverty using social indicators that contribute to the degree of deprivation in poor countries (Nunes, 2008). Poverty traps are self-reinforcing mechanisms which cause poverty to persist and keep the poor below a critical threshold of well-being (Balboni, 2022; C. B. Barrett, 2005; C. B. G. T. M. L. Barrett, 2016; Carter & Barrett, 2006; Carter & Barrett, 2006; Kwak, 2013). Poverty is explicitly included in the Sustainable Development Goals (SDGs) Number 1, namely no poverty. Poverty is still one of the strategic issues in Indonesia's national development. This development aims to solve poverty in all its forms and become the backbone of the SDGs agenda because multidimensional poverty is still a global problem. In the SDGs, poverty alleviation is carried out through the provision of social security and increased access to basic needs. This goal is Bappenas' Priority for Inclusive Development. Poverty is measured through indicators such as the proportion of the population below the national poverty line.



Figure 1. 17 Goals SDGs

The Indonesian government continues to strive to reduce the poverty rate through various strategic policies. One of the steps taken is the issuance of Presidential Instruction (Inpres) Number 8 of 2025 concerning *Optimizing the Implementation of Poverty Alleviation and the Elimination of Extreme Poverty*. The Presidential Instruction aimed to increase the effectiveness of the implementation of poverty alleviation programs and accelerate the elimination of extreme poverty throughout Indonesia. Its implementation is carried out through an integrated, collaborative, and synergistic approach by involving various stakeholders, including the central government, local governments, and other related parties, so that poverty alleviation efforts can run in a more coordinated and sustainable manner. An increase in population size without being accompanied by sufficient employment opportunities, improvements in human resource quality, and equitable distribution of economic opportunities may contribute to higher poverty levels (Puspitasari & Hakim, 2026).

According to Keynes' theory of investment, investment is one of the main components of aggregate demand that has a strategic role in driving economic activity. Increased investment will increase production capacity, expand demand for production factors, and produce a *multiplier effect* that has an impact on increasing national income and employment opportunities. From the perspective of structural development, Lewis' Two-Sector Model explains that the process of economic transformation occurs through the transfer of labor from the traditional low-productivity sector to the more productive modern sector. (Rada & Schiavone, 2025). In this context, investment serves as a catalyst for economic transformation

if it can encourage the expansion of the modern labor-intensive sector to increase the absorption of local labor. On the other hand, if investment is more concentrated in capital-intensive sectors or extractive industries that have limited links to the domestic economy, then the resulting economic growth will not necessarily be followed by an increase in job opportunities. This phenomenon is known as jobless growth, which is a condition where economic growth cannot create jobs proportionately.

East Kalimantan is one of the provinces with large economic capacity and natural resources. The economic structure of this area has for many years been supported by mining, quarrying, natural resource-based processing industries, plantations, and construction. In the last three years, the position of East Kalimantan has become more strategic after the development of the capital city of the archipelago. The development encourages an increase in domestic and foreign investment, especially in the construction, infrastructure, property, energy, transportation, and various supporting services sectors.

However, increased investment and high value of gross regional domestic product have not eliminated poverty. Poverty is still found in several districts/cities, especially in rural, coastal, inland, plantation areas, and areas that have limited access to growth centers. This condition shows the paradox of regional development, namely that the region has a wealth of natural resources and a large investment flow, but some people have not received the benefits of development proportionally. However, investment in domestic investment can have a significant effect on poverty (Wayus & Syarief, 2025). Another study concluded that domestic investment, foreign investment, and labor force have a significant negative correlation with poverty (Muna et al., 2024).

The phenomenon of poverty in East Kalimantan is also related to the inequality of economic structure between regions. When the economic structure is driven by main resources on subsistence, but the push of the global economy and the direction of development moves to manufacturing and services as Industry 4.0, the structure will fail due to the mismatch between its resources, economic stage, and the direction of development (Sartika, 2024). The cities of Samarinda, Balikpapan, and Bontang have relatively more developed industrial and service activities, while some districts still depend on mining, plantations, agriculture, and primary economic activities. Dependence on the extractive sector makes regional economies vulnerable to changes in commodity prices. In addition, the mining sector has capital-intensive characteristics, so its contribution to the formation of regional output is much greater than its contribution to labor absorption.

POVERTY RATE BY REGENCY/CITY MARCH 2025			
No.	Regency/City	Poverty Rate (%)	Category
1	Mahakam Ulu Regency	11.48	Very High
2	Kutai Barat Regency	7.82	High
3	Kutai Timur Regency	7.10	High
4	Paser Regency	6.55	Moderate
5	Berau Regency	6.58	Moderate
6	Kutai Kartanegara Regency	6.18	Moderate
7	Samarinda City	4.30	Low
8	Penajam Paser Utara Regency	4.16	Low
9	Balikpapan City	2.30	Very Low
10	Bontang City*	3.27	Low
East Kalimantan Province		5.51	Low

Sources: BPS, 2025

Figure 1. Poverty Rate by Regency/City in East Kalimantan Province – March 2025

During the 2023–2025 period, the development of the IKN and the increase in investment activities have created new economic opportunities. However, there is a risk that the job opportunities that are created are not fully accessible to the local community due to mismatches in competencies, education levels, certifications, and labor needs. Jobs with high skill levels can be filled more by workers from outside the region, while local workers are concentrated in informal and low-wage jobs. If this condition continues, increased investment will only increase economic output without producing optimal poverty reduction.

Domestic investment has a strategic role because it generally has a closer relationship with local economic actors. Domestic investment has the potential to drive regional business growth, expand supply chains, and increase demand for local labor. Meanwhile, foreign investment can bring capital, technology, production methods, managerial capabilities, and international market access. However, the benefits of foreign investment against poverty depend on the capacity of the regions to create linkages between foreign companies, local workers, micro, small, and medium enterprises, and domestic economic sectors. In addition, East Kalimantan Province is experiencing changes in economic and spatial structure due to the development of the IKN. The large investment flow needs to be accompanied by employment policies that ensure that local communities get economic benefits. Local governments need empirical evidence on the types of investments that are most effective in creating jobs and reducing poverty. The results of the research can be used to formulate more inclusive investment policies, strengthen vocational education and training, increase the linkage between large companies and MSMEs, and expand local workers' access to formal employment.

METHODS

This study employed a quantitative methodology with causal associative research design to examine the effect of Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI) to Poverty with Labor Force Participation Rate as Mediating in East Kalimantan Province. This study used secondary data obtained from the Central Statistics Agency (BPS) in the form of panel data and covering the period from 2015 to 2025. The sampling technique used was saturated sampling. The units of analysis include the regencies and cities of East Kalimantan Province. There are Balikpapan City, Samarinda City, Bontang City, Berau Regency, West Kutai Regency, East Kutai Regency, Kutai Kartanegara Regency, North Penajam Paser Regency, Paser Regency, and Mahakam Hulu Regency. Resulting in a total of 110 observations.

The analytical method employed in this study is path analysis. According to (Streiner, 2005), path analysis is appropriate when the study involves variables that can be directly observed and aims to decompose effect into direct, indirect, and total components. The data were analyzed using panel data regression with the assistance of Stata software. The appropriate estimation model was determined through the Chow test, Hausman test, and Lagrange Multiplier test to identify the most suitable specification among the common effects, fixed effects, and random effects models. In this study, all variables analyzed poverty, Domestic Direct Investment (DDI), Foreign Direct Investment (FDI), and Labor Force Participation Rate are directly measurable using BPS data. Path analysis is therefore considered the most suitable method, as it can explain both the magnitude of effect and the mechanisms through which variables exert their influence, aligning with the research objectives.

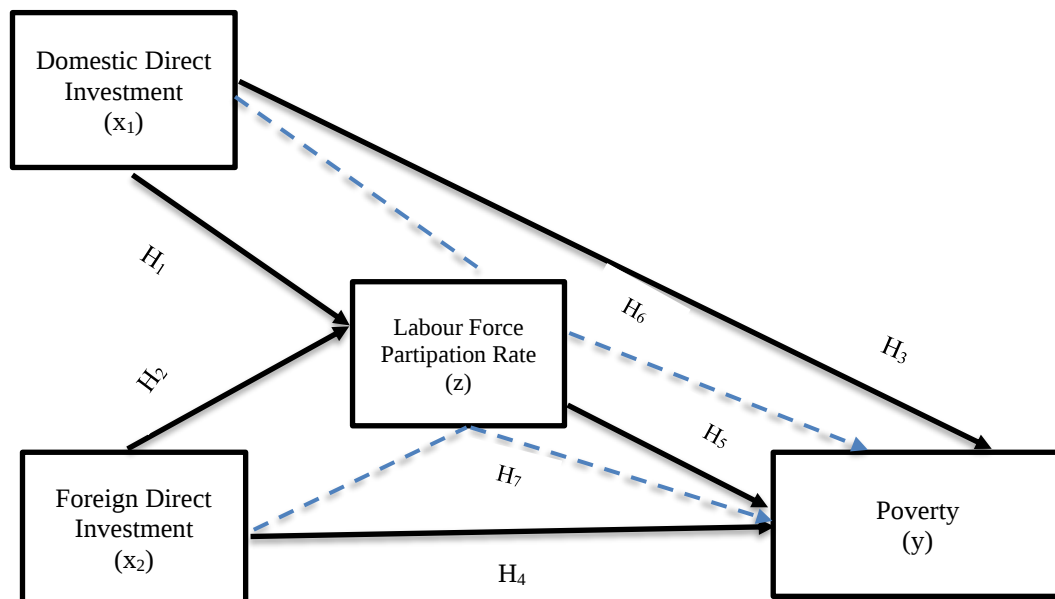


Figure 1. Conceptual Framework

The dependent variable in this study was poverty, measured by the percentage of the poor population. The independent variables were Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI) to Poverty and Labor Force Participation Rate (LFPR) as Mediating. The definitions, measurements, and data sources for each variable are summarized in Table 1.

Table 1. Operational Variables

Variables	Definitions	Measurements	Sources
Poverty (y)	Percentage of the poor population relative to the total population	Poverty rate (%)	BPS
Domestic Direct Investment (DDI) (x ₁)	Realized domestic capital investment	Billion Rupiah (Rp)	BPS
Foreign Direct Investment (FDI) (x ₂)	Realized foreign direct investment	Billion Rupiah (Rp)	BPS
Labor Force Participation Rate (LFPR) (z)	Percentage of the labor force relative to the working-age population	LFPR (%)	BPS

Source: data processing, 2026

The Path model Structure consist of two sub-structures with model equations written as follows:

$$Z = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_1 \quad (1)$$

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z + \varepsilon_2 \quad (2)$$

Description, Y = Poverty; α = Constant; $\beta_{1,2,3}$ = Regression Coefficient; X_1 = Domestic Direct Investment; X_2 = Foreign Direct Investment; Z = Labor Force Participation.

This was followed by diagnostic testing of basic assumptions, including normality, multicollinearity, autocorrelation, and linearity. The next step involved estimating sub-structure I and sub- structure II. Based on the estimation results, direct, indirect, and total effect were computed using path coefficients.

RESULTS AND DISCUSSION

Before conducting hypothesis testing, a descriptive statistical analysis is performed to provide an overview of the research data. The results of the descriptive statistical analysis are presented below.

Table 2. Descriptive statistical test results

Variable	N	Min	Max	Mean	Std. Deviation
Domestic Direct Investment	109	0.00	2.38e+13	3.19e+12	4.59e+12
Foreign Direct Investment	110	0.00	1.84e+14	3.42e+12	1.79e+13
Labour Force Participation	110	59.89	79.02	66.832	4.007
Poverty	110	1.97	11.90	7.013	2.628

Source: data is processed (2026)

Based on Table 2, the descriptive statistics show the characteristics of the data on Domestic Direct Investment, Foreign Direct Investment, Labor Force Participation, and Poverty in the regencies and cities of East Kalimantan Province during the 2015–2025 period. The analysis was conducted on 110 observations, although the Domestic Direct Investment variable had 109 observations because one data point was missing.

The Domestic Direct Investment variable has a minimum value of 0.00 and a maximum value of Rp23.80 trillion, with a mean of Rp3.19 trillion and a standard deviation of Rp4.59 trillion. The fact that the standard deviation exceeds the mean indicates that Domestic Direct Investment exhibits considerable variation across districts/cities and observation years. These differences point to disparities in the realization of domestic investment across regions during the study period. The maximum value of Domestic Direct Investment, at Rp23.80 trillion, indicates that certain regions and years have domestic investment realizations significantly higher than those in other observations.

The Foreign Direct Investment variable has a minimum value of 0.00 and a maximum value of Rp184.40 trillion. The average value of Foreign Direct Investment is Rp3.42 trillion, while its standard deviation reaches Rp17.90 trillion. The magnitude of the standard deviation relative to the average value indicates that Foreign Direct Investment exhibits very high variation across regencies/cities and years. The very wide range between the minimum and maximum values also indicates significant differences in foreign investment inflows across regions. The maximum value of Rp184.40 trillion is exceptionally high compared to most other observations and should therefore be considered in further analysis, as it has the potential to influence the data distribution.

The labor force participation variable has a minimum value of 59.89 and a maximum value of 79.02. The mean value of labor force participation is 66.832, with a standard deviation of 4.007. These results indicate that labor force participation rates across regencies and cities fall within a relatively controlled range. The relatively small standard deviation compared to the mean value indicates that the variation in Labor Force Participation across regions is not as significant as the variation in the investment variable. Thus, labor force participation conditions were relatively more homogeneous during the study period.

The Poverty variable has a minimum value of 1.97 and a maximum of 11.90, with a mean of 7.013 and a standard deviation of 2.628. These results indicate variations in poverty levels across regencies and cities during the 2015–2025 period. The minimum Poverty value of 1.97 indicates that there are regions with relatively low poverty levels, while the maximum value of 11.90 indicates the presence of regions with relatively high poverty levels. These differences illustrate that poverty conditions across regions in East Kalimantan Province still exhibit significant variation.

Table 3. Test results of the regression analysis of equation 1 in the CEM, FEM, REM

Variable	CEM	FEM	REM
Domestic Direct Investment	-0,001098 (0,190)	0,001522 (0,024)	0,001277 (0,052)
Foreign Direct Investment	-0,000266 (0,215)	-0,000032 (0,823)	-0,000057 (0,689)
Konstanta	67,270610*** (0,000)	66,361100*** (0,000)	66,447140*** (0,000)
R-squared	0,0305	0,0560	0,0112
Prob. F / Wald χ^2	0,1908	0,0595	0,1101
Observasi	110	110	110
Regency/City	10	10	10

Note: The numbers in parentheses are p-values. *** p < 0.01; ** p < 0.05; * p < 0.10.

Source: Data is processed (2026)

Table 4. Model suitability test results of equation 1

Test	Statistic	Probability	The selected model
Chow Test (CEM vs FEM)	F(9,98) = 21,07	0,0000	FEM
Hausman Test (FEM vs REM)	$\chi^2(2) = 6,84$	0,0326	FEM
LM Test (CEM vs REM)	chibar ² (01) = 174,18	0,0000	REM
Final Model			FEM

Source: Data is processed (2026)

Based on the model suitability test results, the Fixed Effect Model (FEM) was selected. Furthermore, the results of the Fixed Effect Model regression analysis are summarized in Table 3.

$$Y = 66,361100 + 0,001522 X_1 - 0,000032 X_2 + e_1 \dots\dots\dots (1)$$

In Equation 1, the dependent variable is Labor Force Participation, while the independent variables are Domestic Direct Investment and Foreign Direct Investment. The FEM estimation results show that Domestic Direct Investment has a coefficient of 0.001522 with a probability of 0.024. Since this probability value is less than 0.05, Domestic Direct Investment has a positive and significant effect on Labor Force Participation Rate. This means that an increase in Domestic Direct Investment tends to be followed by an increase in Labor Force Participation Rate in the regencies and cities of East Kalimantan Province. Therefore, **H₁ is accepted**.

Foreign Direct Investment has a coefficient of -0.000032 with a p-value of 0.823. Since this p-value is greater than 0.05, Foreign Direct Investment does not have a significant effect on Labor Force Participation Rate. Although the coefficient is negative, the relationship is not statistically strong enough to conclude that Foreign Direct Investment influences Labor Force Participation Rate. Therefore, **H₂ is rejected**.

The R-squared value of 0.0560 indicates that the variation in Domestic Direct Investment and Foreign Direct Investment in the FEM model explains approximately 5.60% of the variation in Labor Force Participation Rate. The remaining 94.40% is explained by other factors outside the model. The F-probability value of 0.0595 indicates that the model is not yet statistically significant at the 5% level, although it is close to the 10% significance threshold.

Table 5. Test results of the regression analysis of equation 2 in the CEM, FEM, REM

Variable	CEM	FEM	REM
Domestic Direct Investment	-0,001731* (0,000)	-0,000355* (0,007)	-0,000370* (0,005)
Foreign Direct Investment	-0,000121 (0,318)	-0,000012 (0,658)	-0,000013 (0,632)
Labour Force Participation Rate	0,260087* (0,000)	-0,035846* (0,065)	-0,032558* (0,092)
Konstanta	-9,780022***	9,524780***	9,310056***

	(0,009)	(0,000)	(0,000)
R-squared	0,2946	0,1270	0,0006
Prob. F / Wald χ^2	0,0000	0,0041	0,0032
Observasi	110	110	110
Regency/City	10	10	10

Note: The numbers in parentheses are p-values. *** p < 0.01; ** p < 0.05; * p < 0.10.

Source: Data is processed (2026)

Table 6. Model suitability test results of equation 2

Test	Statistic	Probability	The selected model
Chow Test (CEM vs FEM)	F(9,97) = 265,59	0,0000	FEM
Lagrange Multiplier Test (CEM vs REM)	chibar ² (01) = 373,98	0,0000	REM
Hausman Test (FEM vs REM)	$\chi^2(3) = 4,57$	0,2065	REM
Final Model			REM

Source: Data is processed (2026)

Based on the model suitability test results, the Random Effect Model (REM) was selected. Furthermore, the results of the Fixed Effect Model regression analysis are summarized in Table 5.

$$Y = 9,310056 - 0,000370 X_1 - 0,000013 X_2 - 0,032558 Z + e_2 \dots\dots\dots (2)$$

In Equation 2, the dependent variable is Poverty, while Domestic Direct Investment, Foreign Direct Investment, and Labor Force Participation serve as explanatory variables. Based on the REM results, Domestic Direct Investment has a coefficient of -0.000370 with a probability of 0.005. A probability value less than 0.05 indicates that Domestic Direct Investment has a negative and significant effect on Poverty. This means that an increase in Domestic Direct Investment tends to be followed by a decrease in the Poverty rate. Therefore, **H₃ is accepted.**

Foreign Direct Investment has a coefficient of -0.000013 with a p-value of 0.632. These results indicate that Foreign Direct Investment has a negative relationship with Poverty, but this effect is not statistically significant. Therefore, **H₄ is rejected.**

Labor Force Participation Rate has a coefficient of -0.032558 with a probability of 0.092. The negative coefficient indicates that an increase in Labor Force Participation Rate tends to be followed by a decrease in Poverty. The probability value of 0.092 is greater than 0.05 but less than 0.10. Thus, Labor Force Participation Rate has a negative effect on Poverty at the 10% significance level but is not significant at the 5% level. Therefore, **H₅ is accepted.**

A Wald χ^2 value of 13.80 with a Prob > χ^2 value of 0.0032 indicates that Domestic Direct Investment, Foreign Direct Investment, and Labor Force Participation Rate collectively have a significant effect on Poverty. Thus, Equation 2 is appropriate for explaining the variation in Poverty in this study.

Table 7. Mediation analysis test results

Correlation	Track a	Track b	Indirect Effect (a × b)	Sobel Z	p-value	Conclusion
DDI → LFPR → Poverty	0,001522	- 0,032558	-0,0000496	-1,359	0,174	No Mediation
FDI → LFPR → Poverty	- 0,000032	- 0,032558	0,00000103	0,222	0,824	No Mediation

Source: Data is processed (2026)

The Sobel test results indicate that Labor Force Participation Rate does not mediate the effect of Domestic Direct Investment on Poverty. The indirect effect of -0.0000496 yields a Sobel value of -1.359 with a p-value of 0.174, which is not significant at the 5% level. Labor Force Participation Rate was also not found to mediate the effect of Foreign Direct Investment on Poverty. The indirect effect of 0.00000103 yielded a Sobel value of 0.222 with a p-value of 0.824, making it insignificant. Thus, the effect of Domestic Direct Investment on Poverty is best understood as a direct effect, not through the mechanism of Labor Force Participation Rate. Meanwhile, Foreign Direct Investment does not show a significant direct or indirect effect on Poverty through Labor Force Participation Rate.

Table 8. Classical Assumption Test

Test	Statistic	Probability	Criteria	Conclusion
Heteroskedasticity	$\chi^2(1) = 0,14$	0,7104	$p > 0,05$	No heteroskedasticity
Multicollinearity	Mean VIF = 1,02	–	$VIF < 10$	No Multicollinearity
Normality of residuals	Shapiro-Wilk W = 0,98073	0,11247	$p > 0,05$	The residuals are normally distributed

Source: Data is processed (2026)

The Breusch–Pagan/Cook–Weisberg test yielded a χ^2 value of 0.14 with a p-value of 0.7104. Since the p-value is greater than 0.05, H_0 is not rejected. Thus, there is no indication of heteroscedasticity in the tested model.

The Variance Inflation Factor (VIF) results show VIF values of 1.03 for Labor Force Participation, 1.02 for Domestic Direct Investment, and 1.02 for Foreign Direct Investment. The mean VIF value is 1.02, and all values are well below the threshold of 10. Thus, there is no multicollinearity among the independent variables in the model.

The Shapiro–Wilk test on residual_P2 yielded a W value of 0.98073 with a probability of 0.11247. Since the p-value of 0.11247 is greater than 0.05, H_0 is not rejected. Thus, the residuals of Equation 2 are normally distributed.

Discussion

The Effect of Domestic Direct Investment on Labor Force Participation Rate

An increase in domestic investment is linked to greater participation by the working-age population in economic activities. Thus, domestic investment not only expands the region's economic capacity but also creates incentives for residents to enter and remain in the labor market. Additionally, investment plays a crucial role in alleviating poverty. DDI contributes by creating jobs and providing basic infrastructure that supports the productivity of the poor, consistent with findings on the effectiveness of pro-poor public spending (Anam, 2023; Ernawati, 2021).

This finding is consistent with the Labor Demand Theory, which explains that increased investment can expand production activities and the demand for labor. The expansion of economic activity increases income-earning opportunities, thereby encouraging the working-age population to participate in the labor market. However, it should be emphasized that an increase in the LFPR is not always synonymous with an increase in the number of people employed, as the LFPR also includes individuals who are actively seeking employment.

The context in East Kalimantan from 2015 to 2025 supports these connections. Domestic investment activities in East Kutai, Kutai Kartanegara, Paser, and West Kutai related to mining, plantations, manufacturing, construction, trade, and services are expanding economic activity and creating opportunities to enter the labor market. In Balikpapan and Samarinda, a more diversified economic structure driven by trade, services, transportation, construction, and urban activities also creates economic incentives for the working-age population to participate.

The COVID-19 pandemic period from 2020 to 2021 introduced a significant dynamic. The slowdown in economic activity may have reduced job opportunities and influenced residents' decisions to enter the labor market. Conversely, the economic recovery since 2022 and increased development activities for the New Capital City (IKN) in North Penajam Paser and Kutai Kartanegara have opened new economic opportunities that can boost the participation of the working-age population. Thus, the positive and significant relationship between domestic investment (PMDN) and the labor force participation rate (LFPR) indicates that domestic investment plays a role in increasing the working-age population's engagement in the labor market. Hasil penelitian ini mendukung penelitian (Wayus & Syarief, 2025).

The Effect of Foreign Direct Investment on Labor Force Participation Rate

The increase in foreign investment has not had a strong enough impact on the decisions of the working-age population to participate in the labor market in the regencies and cities of East Kalimantan during 2015–2025.

This finding can be explained through the FDI Spillover Theory and labor market theory. Theoretically, foreign investment brings capital, technology, knowledge, and market access, but its impact on labor force participation depends heavily on the characteristics of the investment sector and its linkages with the local labor force.

This situation is relevant to East Kalimantan's economic structure, which remains heavily reliant on natural resource-based sectors. In East Kutai, Kutai Kartanegara, West Kutai, and Paser, investments in mining and natural resource-based sectors tend to involve large amounts of capital and technology. These conditions allow for increased production capacity without necessarily resulting in a proportional increase in labor force participation.

Furthermore, a skills mismatch may be one factor explaining this weak relationship. If foreign investment requires workers with specific skills that are not yet sufficiently available in the region, an increase in investment does not automatically boost the participation of the local population in the labor market.

The case of Bontang, a region with a large-scale industrial base, also demonstrates that economic activities characterized by high productivity and capital intensity do not always result in a significant increase in the labor force participation rate (LFPR). Meanwhile, in Balikpapan and Samarinda, the impact of foreign direct investment (FDI) on the LFPR depends on the extent to which such investment creates economic opportunities accessible to the local population.

The development of the National Capital City (IKN) presents new opportunities for increased economic activity in Penajam Paser Utara and Kutai Kartanegara, but the benefits for the LFPR still depend on the alignment of the local population's skills with the labor needs created. Thus, the negative and insignificant effects indicate that FDI has not yet become a factor that consistently drives an increase in the participation of the working-age population in East Kalimantan's labor market.

The Effect of Domestic Direct Investment on Poverty

The increase in DDI is related to the reduction of poverty rates in districts/cities in East Kalimantan Province during 2015–2025. These findings are consistent with the Pro-Poor Growth Theory, which explains that investment can contribute to poverty reduction through increased economic activity, income, productivity, and earning opportunities. DDI, FDI, and LAFR has a negative and significant effect on poverty (Muna et al., 2024) (Ayu Agustina et al., 2026).

In Kutai Kartanegara, East Kutai, Paser, and West Kutai, domestic investment in mining, plantations, processing industries, construction, and supporting sectors can expand people's economic activities. Meanwhile, Balikpapan and Samarinda have a more diversified economic

structure through trade, services, transportation and construction, thus providing more channels for investment to affect people's welfare.

Berau has different characteristics because economic activity is also supported by tourism, fisheries, trade and services. Investment in these sectors has the potential to create new sources of income for the community. In North Penajam Paser, the development of the IKN since the early 2020s has increased construction, trade and service activities that have the potential to expand the community's economic opportunities.

The COVID-19 pandemic in 2020–2021 was an important period as the contraction in economic activity put pressure on household income and poverty conditions. The economic recovery after 2022 then boosted investment activities and regional economies. Thus, the results of the study show that PMDN has a significant poverty-reducing effect in East Kalimantan

The Effect of Foreign Direct Investment on Poverty

The results of the study show that Foreign Direct Investment has a negative but not significant effect on poverty. The negative direction suggests that the increase in FDI economically tends to reduce poverty, but the effect is not statistically strong enough. DDI, FDI, and LAFR has a negative and significant effect on poverty (Muna et al., 2024).

These findings can be explained through Trickle Down Theory and the concept of Inclusive Growth. Foreign investment can increase output, productivity and economic activity, but these increases do not necessarily directly improve the welfare of the poor.

This phenomenon is relevant to the characteristics of East Kutai, Kutai Kartanegara, Paser, and West Kutai, which have economic activities based on natural resources. Foreign investment in relatively capital-intensive sectors can generate large economic added value, but its linkage to poor households and the local economy can be limited.

This condition can produce an enclave economy, which is a large-scale economic activity that has a relatively limited relationship with the local community. As a result, increased investment does not necessarily result in a broad distribution of economic benefits. In Bontang, for example, large-scale industries generate high economic activity and added value, but the relatively capital-intensive nature of the industry can limit the transmission of investment benefits to the poor. Meanwhile, the development of IKN in North Penajam Paser and Kutai Kartanegara provides new investment opportunities, but its impact on poverty requires a transmission process through income, economic opportunities, and local community involvement. Thus, FDI has the potential to reduce poverty, but has not shown a statistically consistent effect

The Effect of Labor Force Participation Rate on Poverty

That the greater the proportion of the working-age population who are active in the labor market, the lower the poverty rate. These results are consistent with Labor Market Theory, Human Capital Theory, and Pro-Poor Growth Theory. Participation in the labor market increases the chances of individuals earning income, thereby increasing the ability of households to meet basic needs. However, since LFPR includes both working and job-seeking populations, this negative relationship should not be interpreted as an increase in the number of jobs. The findings are more accurately interpreted as that the involvement of the working-age population in labor market activities is related to increasing household economic capacity and reducing poverty.

Unlike other variables, the LFPR shows a negative but relatively weak relationship with poverty. Ini menunjukkan bahwa an increase in labor force participation alone is not enough without improvements in the quality of the workforce and the availability of decent job opportunities. Labor force participation will only have a significant impact if it is accompanied

by increased productivity and broader access to formal employment (Kataoka, 2019; Kusumawardhani, 2023; Rammohan, 2023) From a labor market perspective, the most direct channels to poverty are the Labor Force Participation Rate (LFPR) and the quality of human capital. Increased participation, particularly among women and youth, can improve household welfare; however, the effect largely depends on the quality of the jobs absorbed (Kusumawardhani, 2023).

The context of East Kalimantan supports this relationship. Balikpapan and Samarinda have relatively diverse labor markets through trade, services, transportation, construction and urban economic activities. Meanwhile, Kutai Kartanegara, East Kutai, Paser, and West Kutai have opportunities for economic participation through mining, plantations, construction and supporting sectors.

In Berau, tourism, fisheries, trade and service activities provide an alternative source of income for the working-age population. On the other hand, the geographical characteristics and accessibility of Mahakam Ulu suggest that limited access to economic centers can be an obstacle to population participation in the labor market.

The COVID-19 pandemic in 2020–2021 shows the importance of labor market conditions to household welfare. Restrictions on economic activity affect income opportunities, while economic recovery after 2022 increases economic activity and opportunities for community participation. The development of IKN also provides new dynamics for North Penajam Paser and Kutai Kartanegara. Increased construction, trade, transportation, and service activities open opportunities for economic participation for working-age populations, although these benefits remain dependent on the suitability of skills and access to local communities. Thus, increasing LFPR is related to poverty reduction, but policies must be directed so that such participation translates into productive work and adequate income.

The Mediating role on the effect of Domestic Direct Investment on Labor Force Participation Rate

The results of the study showed that LFPR did not mediate the influence of PMDN on poverty. This result is interesting because PMDN directly has a positive and significant effect on LFPR, while LFPR has a negative and significant effect on poverty. However, the combination of the two pathways has not produced a significant mediation effect.

These findings are in line with Pro-Poor Growth Theory, which asserts that increasing labor force participation does not automatically reduce poverty. The impact depends on the quality of work, wages, productivity, and income stability. This is relevant in Kutai Kartanegara, East Kutai, Paser, and West Kutai, where domestic investment is largely concentrated in mining, plantations, construction, and supporting sectors that do not necessarily generate productive jobs for the poor.

The 2020–2021 pandemic further exposed this condition, when economic activity weakened and the quality of work was depressed. Meanwhile, economic recovery and urban development in North Penajam Paser and Kutai Kartanegara since 2022 have increased economic activity, but the benefits still depend on the involvement of local workers and linkages with MSMEs. Thus, PMDN is more dominant in influencing poverty through direct channels than through LFPR. These findings suggest that increased investment needs to be followed by productive jobs, upskilling and decent wages and local economic engagement to deliver inclusive growth. The results of this study support the research (Rahma & Syafii, 2026) that LFPR cannot mediate the investment relationship with poverty.

The Mediating role on the effect of Foreign Direct Investment on Labor Force Participation Rate

The results of the analysis show that LFPR does not play a mediator role at all in the relationship between FDI and poverty. The PMA does not demonstrate a mediation mechanism through the LFPR, which indicates the weak linkage of foreign investment to the local labor market. These findings are consistent with the H₂ and H₄ results, namely FDI has no significant effect on LFPR and does not have a significant effect on poverty. This condition shows the weak mechanism for the transmission of foreign investment through the local labor market.

In the context of East Kalimantan, the dominance of investment in relatively capital-intensive sectors, the need for special skills, and the limited linkage of investment with the local economy can explain the weakness of this mechanism.

Theoretically, this condition can be explained through FDI Spillover Theory and the concept of *inclusive growth*. FDI does bring capital, technology, knowledge and market access, but its benefits to local workers are highly dependent on the characteristics of the investment sector and its linkage with the regional economy. This phenomenon can be seen in areas such as East Kutai, Kutai Kartanegara, West Kutai and Paser, which have economic activities based on natural resources. Investment in the mining sector and natural resource-based industries tends to have a high capital and technology intensity. As a result, an increase in investment value does not necessarily result in an increase in local employment opportunities in equal proportions.

The condition of Bontang also provides an important illustration. As a region with a large industrial base, increased investment activity can generate high output and added value, but large-scale and relatively high-tech industries do not always have large *employment multipliers*. Thus, the benefits of investment in poverty are not automatically transmitted through the labor market. In addition, there is a possibility of skill mismatch between the needs of the company and the characteristics of the local workforce. If foreign investment requires a workforce with certain technical skills, increased investment can increase productivity without significantly increasing the absorption of local labor.

The development of IKN also provides an important context. The development of the IKN area creates new investment and economic activities, especially in construction, infrastructure, transportation, and services. However, in the early stages of development, the needs of the workforce tend to be more specific so that not all local workers can directly benefit. Therefore, the impact of investment on poverty through LFPR requires a longer process and is highly dependent on improving the competence of the local workforce.

Thus, the results of the FDI mediation show that the large amount of foreign investment has not been able to create a strong transmission mechanism from investment towards poverty reduction through labor participation.

The novelty of this study lies in identifying an asymmetric investment poverty mechanism in East Kalimantan, where domestic and foreign investment generate substantially different effects on labour force participation and poverty. More importantly, despite the significant direct effects of domestic investment on both labour force participation and poverty, the Labour Force Participation Rate does not significantly mediate the investment poverty relationship. This finding challenges the conventional assumption that greater labour market participation necessarily constitutes the transmission channel through which investment reduces poverty. The results of this study support the research (Rahma & Syafii, 2026) that LFPR cannot mediate the investment relationship with poverty

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study demonstrates that domestic investment (PMDN) has a positive and significant effect on the labor force participation rate (LFPR) and a negative and significant effect on poverty, whereas foreign investment (PMA) has no significant impact on either LFPR or poverty. LFPR itself has a negative and significant effect on poverty. However, LFPR was not found to mediate the impact of either domestic or foreign investment on poverty. Overall, this study indicates that domestic investment is more effective than foreign investment in boosting labor market participation and reducing poverty; however, an increase in the labor force participation rate (LFPR) has not been the primary channel through which investment benefits translate into poverty reduction. These findings underscore the importance of shifting policy orientation moving beyond a mere focus on increasing investment value and labor participation toward the creation of productive jobs, skills enhancement, decent wages, and the engagement of local workers and MSMEs.

In the context of the IKN development and East Kalimantan's economic transformation, investment policies should prioritize investments that foster local employment linkages and inclusive growth. This ensures that investment-driven growth not only stimulates economic activity but also leads to improved welfare and more equitable poverty reduction. These findings underscore that poverty reduction in East Kalimantan requires investment that creates productive jobs, enhances human resource quality, and strengthens local economic linkages, rather than simply increasing investment volumes or labor force participation.

Limitations

This study has several limitations. First, it relies solely on domestic investment (PMDN), foreign investment (PMA), the labor force participation rate (LFPR), and poverty metrics; consequently, it does not account for other factors that could potentially explain poverty, such as economic growth, wages, education, income inequality, and labor productivity.

Second, using the LFPR as a mediating variable has limitations, as it reflects population participation in the labor market rather than the quality or productivity of the jobs themselves. Third, aggregated regency/city-level data fail to capture variations in investment characteristics and socioeconomic conditions at the household or individual level.

Recommendations

Future research should shift from merely examining “whether investment reduces poverty” to investigating “through what mechanisms, in which sectors, and in which regions investment can generate quality jobs and reduce poverty.” This would make a stronger academic contribution to the growing body of literature on inclusive growth in East Kalimantan.

Author Contributions

All authors made significant contributions to this study. These contributions included research conceptualization, development of the theoretical framework, data collection, data analysis, interpretation of results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. All authors confirm that they have read and approved the final version of the article.

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