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Infrastructure, and Labor Market on Poverty in Indonesia

Adlina Khairunnisa[1*], Prayudha Ananta[2]
Universitas Lampung[1,2]
adlinakhairu256@gmail.com[1], prayudha.ananta@feb.unila.ac.id[2]

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Coresponding author:
Adlina Khairunnisa
Universitas Lampung
E-mail: adlinakhairu256@gmail.com

ABSTRACT
Purpose: This study examines the influence of institutional, quality, infrastructure development, and labor market conditions on poverty reduction in Indonesia.
Methodology: This study employs a quantitative approach using Partial Least Squares Structural Equation Modeling (PLS-SEM). This study utilizes secondary data obtained from the National Research and Innovation Agency (BRIN), Statistics Indonesia (BPS), the Worldwide Governance Indicators (WGI), and several other official institutions. The variables examined in this study include institutions, infrastructure, the labor market, and poverty.
Results: The findings reveal that institutional quality, infrastructure, and labor market conditions exert negative and statistically significant effects on poverty. Among the independent variables, the labor market made the strongest contribution to poverty reduction.
Conclusions: Improvements in institutional quality, infrastructure provision, and labor market performance are crucial for reducing poverty in Indonesia. The labor market is identified as the most influential factor because it directly affects employment opportunities and household incomes.
Limitations: This study is limited to three explanatory variables, while other factors beyond the research model may also contribute to the poverty dynamics.
Contribution: This study provides empirical evidence of the importance of institutional strengthening, infrastructure expansion, and labor market development as strategic instruments for poverty alleviation in Indonesia.

Keywords: *Infrastructure, Institutions, Labor Market, PLS-SEM, Poverty*

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1. Introduction

Poverty remains one of the most persistent challenges in economic development, particularly in developing countries such as Indonesia (Qulsum, Anggraini, & Putri, 2024). Poverty is not solely associated with low-income levels but also reflects limited access to education, healthcare services, employment opportunities, and other essential public facilities. Consequently, it has become a central objective of national development policies and a key indicator of economic welfare (Kartobi & Dewi, 2025). Although Indonesia has experienced a gradual decline in poverty rates in recent years, poverty continues to be a significant socioeconomic issue (Simanjuntak & Solihin, 2025). Unequal regional development has generated disparities in welfare distribution across provinces and districts. While some regions have achieved rapid economic progress, others continue to face inadequate infrastructure, weak institutional capacity, and underdeveloped labor market conditions.

From the perspective of development economics, poverty is closely associated with structural and institutional factors. One of the most important determinants is the quality of institutions. Effective institutions contribute to better governance, improved public accountability, stronger law enforcement and reduced corruption. According to Acemoglu and Robinson (2013), inclusive institutions encourage sustainable economic growth and contribute to equitable welfare distribution. Infrastructure development also plays a fundamental role in poverty reduction. Adequate infrastructure enhances public access to essential services, such as electricity, transportation, and safe drinking water (Nurhalizah, 2023). Infrastructure contributes to higher economic productivity, lower transaction costs, and broader economic opportunities for society.

Labor market performance is another crucial factor influencing poverty. A well-functioning labor market increases employment opportunities, improves wage levels, and expands economic participation, and stable employment and adequate income enable households to fulfill their basic needs more effectively and improve their overall standard of living. Previous studies have extensively examined the relationships between institutions, infrastructure, labor market conditions, and poverty. However, most earlier studies have focused on individual variables. Therefore, this study attempts to integrate these three variables into a single analytical framework to provide a more comprehensive understanding of the determinants of poverty in Indonesia (Kou & Yasin, 2024). This study aims to analyze the influence of institutions, infrastructure, and labor market conditions on poverty using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach (Sarstedt, Ringle, & Hair, 2021). The findings are expected to contribute both theoretically and practically, particularly in supporting evidence-based poverty alleviation policies in Indonesia.

2. Literature Review and Hypothesis/es Development

2.1 Poverty

Poverty refers to the inability of individuals or households to meet their basic needs, including food, clothing, housing, education, and health care. According to Statistic Indonesia (BPS), poverty is measured based on household expenditure capacity to meet minimum living standards. solely influenced by economic factors but is also closely related to institutional quality, infrastructure development, and labor market conditions. Therefore, poverty alleviation requires a multidimensional approach (Andrian, Sitorus, MK, & Chandra, 2021).

Beyond income limitations, poverty is strongly associated with structural inequalities that restrict access to opportunities and resources. In many developing regions, disparities in education quality, healthcare availability, and employment opportunities contribute significantly to poverty persistence across generations. Individuals living in poverty often face barriers such as low skill levels, limited access to productive assets, and inadequate social protection systems, which further reduce their ability to improve their economic conditions. Moreover, regional disparities in infrastructure development, particularly in rural and remote areas, exacerbate poverty by limiting market access, mobility, and participation in formal economic activities (Bhimasta, Surya, & Pramudita, 2025).

Additionally, governance quality plays a crucial role in determining the effectiveness of poverty alleviation programs. Weak institutional frameworks, corruption, and inefficient public service delivery can reduce the impact of government interventions aimed at improving welfare. Conversely, strong institutions and well-targeted social policies can significantly enhance poverty reduction outcomes through improved resource allocation and program implementation (Kurniasari & Oktavilia, 2023). Labor market dynamics also influence poverty levels, where informal employment, low wages, and job insecurity remain major challenges in several economies. Furthermore, external shocks such as economic crises, inflation, and climate-related disasters can push vulnerable households deeper into poverty, highlighting the importance of resilience-building strategies (Febriandika, Rahayu, & Kumar, 2022). Therefore, addressing poverty requires not only economic growth but also inclusive development policies that integrate social, institutional, and environmental dimensions to ensure sustainable improvements in the living standards.

2.2 The Influence of Institutions on Poverty

Institutions are formal rules that regulate social, economic, and political interactions in society. Acemoglu and Robinson (2013) argue that institutional quality determines economic development success. Strong institutions create economic stability, improve public policy effectiveness and enhance the quality of government services. Conversely, weak institutions increase corruption, bureaucratic inefficiency and economic instability. In this study, institutional variables are measured using several indicators, including organized crime, budget transparency, bureaucratic reform implementation, anti-corruption efforts, property rights, and environmental management.

In addition, institutional quality influences the level of public trust and investor confidence in a country's economic system (Damanik, Prasetyo, Alie, & Oktaria, 2025). When institutions function effectively, they provide clear rules and predictable enforcement mechanisms that reduce uncertainty in economic transactions. This condition encourages both domestic and foreign investments, which, in turn, stimulates job creation and income growth. Moreover, strong institutions ensure that public resources are allocated efficiently and equitably, thereby reducing the risk of rent-seeking behavior and elite capture. In the context of development, institutional strength is closely linked to the government's capacity to implement poverty alleviation programs, enforce environmental regulations, and maintain social stability. Therefore, improvements in institutional indicators are expected to have a positive multiplier effect on overall economic performance and social welfare.

2.3 The Influence of Infrastructure on Poverty

Infrastructure refers to the physical facilities that support economic and social activities (Merdikawati & Izzati, 2025). Adequate infrastructure improves connectivity, expands access to public services, and promotes economic growth (Simanjuntak & Solihin, 2025). In the context of poverty, infrastructure plays a vital role in improving the living standards. Electricity infrastructure, roads, and access to clean water help communities gain better economic opportunities (Sumarto, Suryahadi, Arifianto, Sadler, & Akhmadi, 2004). The infrastructure variable in this study is measured through indicators, namely road infrastructure quality, electrification ratio, access to safe drinking water, and water loss.

Infrastructure development also plays a crucial role in reducing regional inequality and supporting balanced economic growth across urban and rural areas. Well-developed infrastructure reduces transportation and transaction costs, thereby increasing market efficiency and enabling local producers to compete in broader markets (Bado, Alam, Haeruddin, & Irwandi, 2023). Improved road networks facilitate the distribution of goods and services, and a reliable electricity supply supports both household welfare and industrial productivity. Access to clean water and sanitation further contributes to public health improvements, which, in turn, enhances human capital quality and labor productivity.

Moreover, infrastructure investment has a multiplier effect on economic activity as it stimulates private sector participation and encourages new business formation in underserved regions (Verico & Qibthiyyah, 2023). Digital infrastructure, such as Internet connectivity, has also become increasingly important in enabling access to information, education, and financial services, particularly for low-income households. In this regard, infrastructure not only serves as a physical foundation for development but also acts as a catalyst for social inclusion and poverty alleviation. Therefore, strengthening infrastructure indicators is essential for improving economic resilience and achieving sustainable development.

2.4 The Influence of Labor market on Poverty

The labor market connects workers with employment opportunities. An effective labor market increases job opportunities, improves job quality, and raises public income (Kusuma, Setiawan, Verma, & Utomo, 2021). Active labor market policies, such as job training, skill enhancement, and employment programs, play an important role in reducing unemployment and, consequently, poverty. In this study, the labor market variable is assured using indicators such as active labor market policies, worker wages, and wage equality between men and women.

In addition, labor market dynamics are closely influenced by macroeconomic conditions, technological advances, and structural changes in the economy. The increasing adoption of digital technologies and automation has transformed job structures, creating new opportunities and challenges for workers. While high-skilled labor tends to benefit from these changes, low-skilled workers may face job displacement and wage stagnation if adequate upskilling programs are not provided to them. Therefore, continuous investment in education, vocational training, and workforce development is essential to ensure labor market adaptability. Strengthening labor market institutions and promoting inclusive employment policies can help reduce inequality and support sustainable economic growth.

2.5 The Role of Economic Growth in Poverty Reduction
Economic growth is widely recognized as a primary driver of poverty reduction in developing countries. Sustainable economic growth creates employment opportunities, increases household income, and strengthens the government's fiscal capacity to provide social welfare programs. Setiawan, Wardhani, and Yanto (2025) state that economic growth contributes to poverty alleviation when the benefits of growth are distributed inclusively across society. In Indonesia, rapid economic growth over the last two decades has significantly contributed to reducing the national poverty rate, although regional inequality remains relatively high.

The relationship between economic growth and poverty reduction is also influenced by the quality of institutions and infrastructure development. Regions with stronger institutions and better infrastructure tend to experience more inclusive growth because economic activities can be conducted efficiently. Furthermore, labor market conditions determine whether economic growth can be translated into higher employment and improved public welfare. These findings suggest that poverty reduction strategies should not only focus on economic growth but also on improving the supporting institutional and social environments. Several studies have indicated that infrastructure investment increases economic productivity and stimulates local business activities. For example, road infrastructure development reduces transportation costs and improves rural communities' market access. Better infrastructure also attracts private investments, which contribute to job creation and income generation. Therefore, infrastructure development acts as both a direct and indirect instrument for poverty reduction (Calderon & Serven, 2014).

2.6 Governance and Public Service Effectiveness
Good governance plays an important role in improving the effectiveness of public services and social protection programmes. Governance quality refers to the ability of governments to formulate and implement effective policies while maintaining their accountability and transparency. According to the Worldwide Governance Indicators (WGI), governance consists of several dimensions, including government effectiveness, regulatory quality, rule of law, political stability, and control of corruption.

Effective governance improves the allocation of public resources and ensures that development programs reach targeted beneficiaries (Pramono, 2018). In the context of poverty reduction, transparent governance systems help reduce budgetary leakage and improve the efficiency of social assistance programs. Conversely, weak governance may increase corruption and reduce public trust in institutions, ultimately hindering development outcomes (Musakwa, 2024). In Indonesia, bureaucratic reforms and anticorruption policies have become essential components of national development strategies. The implementation of digital governance systems, public financial transparency, and integrated social assistance programs has contributed to improving policy effectiveness. These reforms are expected to strengthen institutional performance and accelerate poverty reduction across all regions.

2.7 Infrastructure and Regional Development Disparities
Infrastructure inequality remains a major challenge in Indonesia's development process. Although urban regions generally have better access to roads, electricity, healthcare, and digital infrastructure, many rural and remote regions still have limited public facilities. This imbalance contributes to unequal

economic opportunities and persistent poverty in disadvantaged regions. Transportation infrastructure is particularly important for connecting rural communities to economic centers (Prus & Sikora, 2021). Poor road quality often increases transportation costs, limits market access, and reduces agricultural profits. Consequently, rural households may face lower income opportunities than urban households. Therefore, infrastructure investment in rural areas is necessary to support inclusive economic development and reduce poverty disparities (Chotia & Rao, 2017). Access to electricity also significantly affects economic productivity and education outcomes.

Households with reliable electricity access are more capable of conducting productive economic activities, operating small businesses and supporting children's educational activities. Similarly, access to safe drinking water and sanitation improves public health and reduces healthcare expenditures among low-income households. Digital infrastructure has become increasingly important in the modern economy. Internet access allows communities to access information, educational resources, online financial services and digital employment opportunities. During the COVID-19 pandemic, digital infrastructure became crucial for maintaining economic activities and supporting remote learning systems. Therefore, improving digital connectivity is considered an important component of poverty alleviation strategies.

2.8 Labor Market Transformation and Human Capital

The labor market in Indonesia has undergone significant transformation due to industrialization, technological advancements, and globalization. Changes in the labor market influence employment structures, wage distribution, and workforce participation. The transition from agricultural employment to manufacturing and service sectors has created new opportunities while also generating challenges related to workforce skills and productivity. Human capital development is essential for improving labor market competitiveness. Education and vocational training programs help workers acquire the skills required by modern industries. According to Annisa and Hamzah (2025), investment in human capital increases labor productivity and earning potential, which contributes to long-term economic growth and poverty reduction.

In Indonesia, labor market challenges include informal employment, youth unemployment, and skill mismatches between workers and industry demands (Irwan & Adam, 2015). Many workers remain employed in low-productivity sectors with unstable income. Consequently, labor market policies should focus not only on employment creation but also on improving job quality and workforce skills. Government programs such as vocational education, entrepreneurship training, and employment subsidies have been introduced to support labor market development. These programs aim to improve labor productivity, reduce unemployment, and encourage economic inclusion among vulnerable groups in society. Gender equality in employment opportunities is also important because women's participation in the labor force contributes significantly to household welfare and reduces poverty.

3. Methodology

This study employs a quantitative research approach using Partial Least Square Structural Equation Modeling (PLS-SEM) (Sarstedt et al., 2021). This approach was selected because it is suitable for analyzing complex simultaneous relationships among the latent variables. This study uses secondary data obtained from the National Research and Innovation Agency (BRIN), Statistics Indonesia (BPS), Worldwide Governance Indicators (WGI), and several other official institutions. The dataset consisted of 381 observations. The dependent variable in this study is poverty, which is measured using indicators P0, P1, and P2. The independent variables are institutions, infrastructure, and the labor market. Data analysis was conducted using the SmartPLS software. The analytical procedures included descriptive statistics, structural model evaluation (inner model), multicollinearity testing, coefficient of determination analysis, hypothesis testing, and goodness-of-fit evaluation.

Table 1. Operational definition and measurement of research variables

Variables	Indicator	Operational Definition	Source
Poverty	1. P0 2. P1 3. P2	Percentage of the population living in poverty, poverty gap index, and poverty severity index.	Statistics Indonesia (BPS)
Institutions	1. KT 2. TP 3. TA 4. PRB 5. UPK 6. HAK 7. TPL	1. Organized crime 2. Homicide rate 3. Budget transparency 4. Implementation of bureaucratic reform 5. Anti-corruption efforts 6. Property rights 7. Environmental management quality	National Research Innovation Agency (BRIN)
Infrastructure	1. PSPMAJ 2. KIJ 3. RE 4. AML 5. TKA	1. Fulfillment of minimum service standards for road accessibility 2. Road infrastructure quality 3. Electrification ratio 4. Access to safe drinking water 5. Water loss rate	National Research Innovation Agency (BRIN)
Labor Market	1. KPTKA 2. UP 3. KUPL	1. Active labor market policies 2. Wages 3. Gender wage equality	National Research Innovation Agency (BRIN)

Table 1 shows the operational definitions and indicators used to measure the variables in this study, including poverty, institutions, infrastructure, and the labor market. Poverty is measured using the poverty headcount ratio (P0), poverty gap index (P1), and poverty severity index (P2) based on Statistics Indonesia (BPS) data. Institutional quality is assessed using indicators such as organized crime, homicide rate, budget transparency, bureaucratic reform implementation, anti-corruption efforts, property rights, and environmental management quality. Infrastructure is measured using road accessibility standards, road infrastructure quality, electrification ratio, access to safe drinking water, and the water loss rate. The labor market variable is evaluated through active labor market policies, wage levels, and gender wage equality, with data sourced from the National Research and Innovation Agency (BRIN).

4. Results and discussion

4.1 Descriptive Analysis

Before presenting the descriptive results, it is important to note that the measurement of the variables relies on standardized secondary indicators from official institutions such as the BPS and BRIN. Because the data were obtained from authoritative institutions with established methodologies, conventional validity and reliability testing was not applied in this study (Subhaktiyasa, 2024). Descriptive statistics indicate that poverty levels vary significantly across Indonesian regions. Provinces with stronger institutional quality and better infrastructure generally demonstrate lower poverty rates than less developed regions. Urban provinces tend to experience higher economic productivity, better public services, and more employment opportunities than rural provinces. The infrastructure indicators examined in this study revealed substantial improvements in electrification ratios and access to safe drinking water over the study period. Government investment in transportation infrastructure has also contributed to increased regional connectivity. Nevertheless, disparities remain, particularly in eastern Indonesia and remote rural areas.

Institutional indicators demonstrate gradual improvements in governance quality, particularly in terms of transparency and bureaucratic reform implementation. However, corruption and administrative inefficiencies continue to pose significant challenges in several regions. These institutional limitations may reduce the effectiveness of development programs and slow down poverty alleviation efforts. Labor market indicators reveal that employment opportunities and wage conditions are positively associated with improvements in welfare. Regions with stronger industrial and service sectors tend to experience lower poverty levels because employment absorption is relatively high. The findings also indicate that labor market inclusiveness is important for ensuring equitable economic growth. The results of the statistical analysis indicate that institutional, infrastructure, and labor market variables have a negative and statistically significant effect on poverty in Indonesia. These findings suggest that improvements in governance quality, infrastructure development, and labor market performance contribute to poverty reduction. Before testing the hypothesis, the structural model was evaluated using the Variance Inflation Factor (VIF) and coefficient of determination (R-squared). The VIF values for all independent variables were below 5, indicating that the model did not suffer from multicollinearity problems (Aurellia & Perdana, 2020).

Table 2. Multicollinearity test result

Construct	Inner VIF
Infrastructure	1.151
Institutions	1.261
Labor Market	1.188

Table 2 shows the results of the collinearity assessment among the independent constructs, including infrastructure, institutions, and the labor market, using the Inner Variance Inflation Factor (VIF). The results show that all VIF values are below the recommended threshold of 5, indicating that there is no multicollinearity problem among the constructs in the model. Specifically, infrastructure (1.151), institutions (1.261), and labor market (1.188) demonstrated low correlation levels, confirming the adequacy of the structural model for further analysis.

Based on Table 3, the R-squared value was 0.267, which means that institutions, infrastructure, and the labor market explain 26,7% of the variation in poverty, while the remaining 73, 3% is explained by other variables outside the research model.

Table 3. R-Squre results

	R-square	R-square adjusted
Poverty	0.267	0.261

The hypothesis testing results show that all independent variables have a significant negative relationship with poverty. This indicates that improvements in institutions, infrastructure, and labor market conditions are associated with lower poverty levels in Indonesia (Yarsasi, Tahyudin, & Hariguna, 2025).

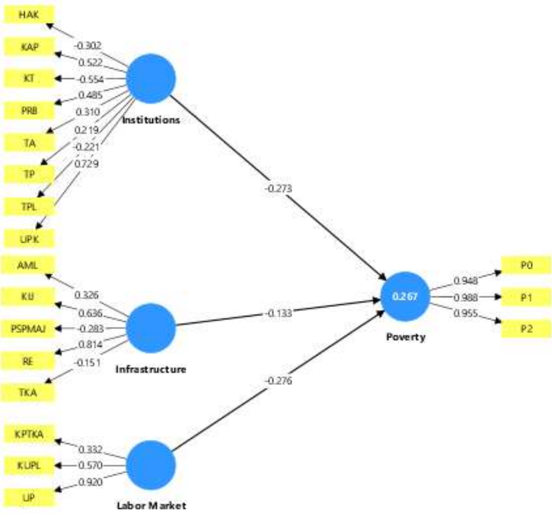

Figure 1. Structural model with path coefficients

The structural model shown in Figure 1 reports the path coefficient values obtained from the PLS-SEM analysis. These coefficients represent the magnitude and direction of the hypothesized relationship among the constructs. Accordingly, the figure provides empirical evidence of the direct effects of institutions, infrastructure, and labor market conditions on poverty.

tabel 3. Path Coefficient Result

Construct	Original sample	T-statistics	P-values	Description	Construct
Infrastructure	-0.133	2.367	0.018	Significant	Infrastructure
Institutions	-0.273	2.857	0.004	Significant	Institutions
Labor Market	-0.276	7.076	0.000	Significant	Labor Market

Table 4 shows the results of the structural model analysis, including path coefficients, t-statistics, and p-values for the relationships between infrastructure, institutions, and labor market variables. The results indicate that all constructs have a significant negative effect, with infrastructure (β=-0.133, p=0.018), institutions (β=-0.273, p=0.004), and labor market (β=-0.276, $p<0.001$) all statistically significant. These findings suggest that improvements in these constructs are associated with a reduction in the dependent variables within the model.

The empirical findings indicate that institutional quality has a negative and statistically significant effect on poverty in Indonesia. This result implies that improvements in governance quality are associated with lower poverty levels (Tan, 2024). Strong institutions can ensure policy effectiveness, improve accountability, strengthen public trust, and minimize inefficiencies caused by corruption and weak governance (Acemoglu & Robinson, 2013). The indicators used in this study, such as organized crime control, budget transparency, bureaucratic reform implementation, anti-corruption efforts, and property rights protection, demonstrate that institutional performance significantly influences the poverty dynamics. Improved transparency and accountability in public finance management enable government expenditures to be allocated more efficiently toward social welfare programs and poverty alleviation initiatives (Apriani, Bashir, & Subardin, 2025). In addition, anti-corruption measures contribute positively to poverty reduction because corruption frequently causes budget leakage, inefficient public spending and unequal access to development benefits. These findings support the argument proposed by Acemoglu and Robinson (2013), who state that inclusive institutions encourage sustainable economic growth and contribute to a more equitable distribution of welfare.

The results of this study also reveal that infrastructure has a negative and significant effect on poverty. Infrastructure development directly contributes to improving living standards and increasing access to basic public services. Adequate infrastructure facilitates economic activities, increases productivity, and improves market access. The indicators examined in this study included road accessibility, road quality, electrification ratio, access to safe drinking water, and water loss rate. The findings demonstrate that Indonesia's electrification ratio consistently improved over the study period. Broader access to electricity enables households to conduct more productive economic activities, improve educational outcomes, and enhance overall living conditions. Similarly, improvements in access to safe drinking water indicate progress in providing basic services. Access to clean water reduces health risks, lowers household medical expenditure, and improves labor productivity. These improvements are particularly important for low-income households because they reduce economic vulnerability and improve the quality of life. Infrastructure development also indirectly affects poverty reduction through employment creation and economic expansion. Large-scale infrastructure projects stimulate local economic activity and improve interregional connectivity. Better transportation infrastructure, for example, reduces distribution costs and expands market access for rural communities.

Among all the independent variables examined in this study, the labor market demonstrated the strongest influence on poverty reduction. This finding indicates that employment opportunities, wage levels, and labor market inclusiveness are highly significant determinants of household welfare. The labor market is the primary mechanism through which economic growth affects public welfare. A well-functioning labor market provides employment opportunities, stable income, and economic security to households (Andrian et al., 2021). Conversely, weak labor market conditions increase unemployment, underemployment, and income inequality, which may intensify poverty in the region. This study uses several indicators to measure labor market conditions, including active labor market policies, worker wages, labor absorption, and wage equality. The findings indicate that labor market improvement contributes significantly to poverty reduction because it directly affects households' earning capacity. Active labor market policies, such as vocational training programs, employment facilitation, and workforce skill development, play a strategic role in improving labor productivity and employability. These programs help workers adapt to changing economic structures and improve their competitiveness in the labor market.

The study also found that wage improvement contributes positively to poverty alleviation. Adequate wages enable households to fulfil essential needs such as food, healthcare, education, and housing. Stable income also increases household resilience to economic shocks and financial uncertainty. Furthermore, inclusive labor market policies encourage broader participation among vulnerable groups, including women and low-income communities. Increased labor force participation among women has been shown to contribute significantly to household income growth and overall welfare. Overall, the findings suggest that labor market development is one of the most effective instruments for reducing poverty, as it directly improves household income, increases economic participation, and enhances social welfare.

4.2 Discussion of Institutional Effects on Poverty

The empirical findings confirm that institutional quality significantly affects poverty reduction in Indonesia. Strong institutions contribute to more efficient public administration, improved policy implementation, and greater accountability in government programs. These factors are essential for ensuring that poverty alleviation programs effectively reach vulnerable populations. Institutional reforms in Indonesia have gradually improved governance performance through digitalization, decentralization, and anti-corruption measures. Public financial transparency allows citizens to monitor government expenditure and encourages accountability among public officials. Such reforms reduce opportunities for corruption and improve the efficiency of social welfare spending.

Furthermore, institutional quality influences investor confidence and economic stability. Regions with stronger governance systems tend to attract greater investment because businesses perceive lower risk and more predictable regulations. Increased investment contributes to employment creation, economic expansion and poverty reduction. These findings are consistent with those of previous studies that emphasize the role of institutions in economic development. Acemoglu and Robinson (2013) argue that inclusive institutions create equal opportunities for economic participation and support sustainable economic growth. In contrast, extractive institutions tend to concentrate wealth among elites and limit broader welfare improvement.

4.3 Discussion of Infrastructure Effects on Poverty

Infrastructure development has both direct and indirect effects on poverty reduction. Infrastructure directly improves household access to basic services such as transportation, electricity, healthcare, education, and clean water. Infrastructure indirectly stimulates economic activities, reduces production costs, and increases labor productivity. Transportation infrastructure is particularly important for agricultural communities because it facilitates market access and reduces the distribution costs. Improved roads allow farmers to transport goods more efficiently and access broader markets (Nurdina, 2021). Consequently, rural incomes may increase, contributing to lower poverty rates in rural areas.

Electricity infrastructure also contributes significantly to productivity. Households with electricity access can operate home-based businesses, access information technology, and improve their educational activities. Electrification programs in Indonesia have expanded rapidly in recent years and have positively contributed to rural development. The findings also demonstrate that access to clean water and sanitation improves public health. Better health outcomes reduce healthcare expenditure and increase workforce productivity. These benefits are especially important for low-income households because health-related financial shocks frequently push vulnerable families into poverty.

4.4 Discussion of Labor Market Effect on Poverty

Among all the independent variables examined in this study, the labor market had the strongest impact on poverty reduction. Employment opportunities directly determine household income and economic security. Stable employment allows households to fulfill their basic needs, invest in education, and improve their overall living standards. The findings indicate that active labor market policies contribute significantly to welfare improvement in the short run. Vocational training and workforce development programs enhance labor productivity and employability. Workers with higher skills are more likely to obtain stable employment and earn higher wages.

Informal employment remains a major labor market challenge in Indonesia. Informal workers often lack social protection, job security and adequate wages. Therefore, labor market policies should prioritize formal employment creation and workforce protection mechanisms. Gender equality in labor market participation is also important for reducing poverty. Increased female labor participation contributes to household income growth and enhances the economic resilience. Policies that support women's access to education, training, and employment opportunities are essential components of inclusive development strategies.

4.5 Policy Implications

The findings of this study have several important policy implications for poverty reduction in Indonesia. First, strengthening institutional quality should remain a national priority. Government reforms should focus on improving transparency, reducing corruption, and enhancing the effectiveness of public services. Second, infrastructure development should prioritize disadvantaged rural regions. Expanding transportation networks, electrification, digital connectivity, and water infrastructure can improve economic opportunities and reduce regional disparities. Infrastructure investment should also be integrated into local economic development strategies.

Third, labor market policies should emphasize workforce skill development and employment creation. Vocational education, entrepreneurship programs, and industrial training initiatives are important for improving labor productivity and economic competitiveness in the region. Policies that support the expansion of formal employment are also necessary to improve worker welfare. Fourth, poverty reduction strategies should adopt a multidimensional approach that integrates institutional reform, infrastructure investment and labor market development. Coordinated policies across sectors are more likely to generate sustainable welfare improvements than isolated interventions.

5. Conclusion

5.1 Conclusion

Based on the research findings, it can be concluded that institutions, infrastructure, and labor market variables have negative and significant effects on poverty in Indonesia. Among these variables, the labor market variable has the most dominant effect on reducing poverty. This indicates that increasing employment opportunities, improving workforce skills, and enhancing wage levels are essential to improve public welfare. Furthermore, strong institutional quality plays an important role in supporting effective development policies and poverty alleviation. Basic infrastructure, such as electricity and safe drinking water, also contributes significantly to improving living standards.

5.2 Research Limitation

This study only uses three main variables to explain poverty. Other important variables, such as education, healthcare, and economic growth, may also influence poverty levels. This study only uses three main variables to explain poverty. Other important variables such as education, healthcare, and economic growth may also influence poverty levels.

5.3 Suggestion and Directions for Future Research

The government should strengthen institutional quality through greater transparency, stronger budget supervision, and improved anti-corruption policies. Infrastructure development should continue to be expanded, particularly in underdeveloped regions that still have limited access to public services. Furthermore, the government should broaden employment opportunities, improve workforce training programs, and strengthen labor market policies to support sustainable welfare improvement. Future studies should incorporate additional variables, such as education quality, healthcare access, digital inclusion, environmental sustainability, and social protection programs. These variables may provide a more comprehensive understanding of the poverty dynamics in Indonesia. Researchers may also apply comparative regional analyses to examine differences in poverty determinants across provinces. Longitudinal studies using panel data can provide deeper insights into long-term development trends and policy effectiveness. Future research should explore the interaction effects between institutions, infrastructure, and labor market conditions. Understanding how these variables reinforce each other could contribute to more effective poverty alleviation strategies.

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