



Research Article

The Impact of Population and Unemployment Rates on Economic Growth and Poverty in East Kalimantan from 2011 to 2023

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Abstract.

Economic growth serves as a fundamental gauge for assessing the progress of a region's economic development within a specific time frame, primarily driven by production activities. In the context of Indonesia, the economic growth of East Kalimantan Province stands as a positive indicator. It ranks among the top 10 provinces in the country, boasting a growth rate of 3.18%. Nevertheless, this positive growth is juxtaposed with a concerning poverty rate of 6.31%, signifying areas within East Kalimantan Province that require focused attention. One of the prominent contributing factors to this high poverty rate in East Kalimantan Province is the combined influence of the total population and the open unemployment rate (TPT). This composition plays a pivotal role in the region's poverty scenario. This narrative aims to examine the direct correlation between population size, unemployment rates, and economic growth in East Kalimantan Province. Additionally, it endeavors to analyze how population numbers and unemployment rates, either directly or indirectly, impact poverty levels through their influence on economic growth in the same province. The dataset utilized in this study comprises secondary time series data spanning from 2011 to 2022, sourced from the BPS of East Kalimantan Province. Employing the path analysis method through SPSS 25 analysis tools, this research concludes that population size and the unemployment rate exert a direct influence on economic growth in East Kalimantan Province. However, their direct effects on poverty levels, along with economic growth, do not show significant correlations. Interestingly, the indirect effect of population size and unemployment rates on poverty levels, mediated through economic growth, is discernible. This suggests that while these factors may not directly impact poverty rates, their influence is manifest when channeled through the conduit of economic growth. The practical implications and theoretical contributions of this study will be further developed in subsequent research endeavors.

Keywords: population, unemployment rates, economics growth, poverty

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Published 31 July 2024

Publishing services provided by Knowledge E

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Selection and Peer-review under the responsibility of the BESS 2023 Conference Committee.

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1. Introduction

Economic growth serves as a key indicator encompassing various facets that reflect the prosperity of a region's economy. Assessing the extent of economic growth is intrinsically tied to the productive activities within a specific locale, as quantified in the Gross Domestic Product (GDP), encompassing seventeen distinct economic sectors. Indonesia, being comprised of 38 provinces, assigns each province the responsibility of fostering economic growth within its respective geographical bounds. Consequently, every region maintains its own record of GDP, referred to as the Gross Domestic Regional Gross Product (GDRP).

East Kalimantan stands prominently among Indonesia's top ten provinces, boasting the highest GDRP level in the nation. An in-depth examination of East Kalimantan's economic growth reveals an impressive figure of 3.18% in 2022. According to data sourced from the Central Statistics Agency (BPS) for East Kalimantan Province, the GDRP value stands at IDR 506.16 trillion at constant prices (ADHK). However, it is noteworthy that economic growth is influenced by several variables, including poverty, which indirectly impacts economic growth. According to the neo-liberal theory (Cheyne, O'Brien, and Belgrave, 1998: 176), poverty is regarded as a factor affecting economic growth, suggesting that there exists a correlation between poverty and economic growth.

In the year 2022, the number of individuals living below the poverty line in East Kalimantan Province is projected to reach 6.31%, a relatively high figure when considering the absolute number of affected individuals. This raises the pertinent question of why regions ranking within the top 10 in terms of GDRP in Indonesia still exhibit a substantial poverty percentage. Even when assessing GDRP based on annual per capita income, East Kalimantan Province secures the second position with an income of 238.7 million per annum.

Several factors contribute to the relatively high poverty rate in East Kalimantan Province, including the open unemployment rate (TPT) and the consistent population growth in the region. Over the past three years, the population of East Kalimantan Province has expanded by approximately 100,000 individuals per annum, influenced by both immigration and child births. The continuous growth of the population raises the question of whether this trend represents a potential threat or an asset in the context of enhancing East Kalimantan, particularly with regard to increasing economic growth and reducing poverty. The objective of this study is to uncover and comprehend the interplay among population size, unemployment rates, and the extent of poverty in a



specific country or region. It aims to shed light on the impact of population growth and unemployment rates on poverty levels and economic growth. Moreover, the research outcomes have the potential to make significant contributions to economic knowledge and enhance our grasp of the factors that influence poverty and economic growth.

2. Literature Review

2.1. Economic Growth

Population growth occurs when the residents of a specific region or nation experience an increase in their earnings due to the enhanced production of goods and services. It is crucial to annually calculate this economic growth as it can serve as an indicator of the success of a society's economic development. Economists have dedicated significant efforts to grasp the concept of economic growth within a society in a particular country. From their discussions, various economic growth theories have emerged, providing valuable insights. These economic growth theories can be categorized into several schools of thought, including classical theory, neoclassical theory, neo-Keynesian theory, W.W. Rostow's theory, and Karl Bucher's theory.

Adam Smith articulated his economic growth theory in his influential work, "An Inquiry into the Nature and Causes of the Wealth of Nations." According to Adam Smith, population growth has consequences for economic growth and development, believed to expand markets and diversify and specialize roles.

One fundamental assumption is that robust economic growth will create new job opportunities and reduce unemployment rates. Nevertheless, in practice, high economic growth does not consistently lead to a significant decrease in unemployment rates. Factors such as technological advancements replacing human jobs, skill mismatches, and shifts in the economic structure can impede the direct link between economic growth and employment.

Neoliberal theory traces its origins to classical political writings by Thomas Hobbes, John Locke, and John Stuart Mill, advocating a fundamental aspect of societal freedom. In the field of economics, the monumental works of Adam Smith, "The Wealth of Nations" (1776), and Frederick Hayek, "The Road to Serfdom" (1944), are considered foundational texts for neoliberals who champion the laissez-faire principle. As Cheyne, O'Brien, and Belgrave (1998) assert, neoliberalism promotes "free market mechanisms" and advocates "minimal state intervention in the economy." Proponents of neoliberalism argue that poverty arises from individual shortcomings and choices. They argue that



poverty will diminish if market forces are maximally expanded, and economic growth is pursued vigorously. According to their perspective, poverty alleviation strategies should be "residual," temporary, and primarily involve families, self-help groups, or religious institutions. The role of the state is limited to that of a "night watchman," intervening only when the aforementioned institutions can no longer fulfill their functions (Shannon, 1991; Spicker, 1995; Cheyne, O'Brien, and Belgrave, 1998). This approach encompasses the implementation of structural adjustment programs, such as the Social Safety Net Program or JPS.

The level of economic growth achieved by a country or region is determined based on real national income, specifically real gross national product (GNP) or real gross domestic product (GDP). Calculating national income in this manner allows for the direct computation of the economic growth rate using the available real income.

In simpler terms, economic growth is defined as an increase in GDP/GNP, regardless of whether this increase surpasses or falls short of the population growth rate or whether there are changes in the economic structure. A developing economy can be identified when per capita income consistently exhibits an upward trend.

According to Karl Marx, human population does not exert pressure on food supplies but influences employment opportunities. Poverty or destitution does not stem from rapid population growth but from capitalists depriving laborers of certain rights.

High economic growth is expected to create job opportunities and boost income, which, in turn, is anticipated to alleviate poverty. However, this theory often disregards disparities in income distribution. Nonetheless, it continues to serve as a fundamental measure for evaluating the relationship between poverty and economic growth.

2.2. Poverty

Poverty can be seen as an indicator of the prevailing living standards within a society. However, when examined more broadly, poverty emerges as a challenge encountered by both developed and developing nations. Nevertheless, it tends to be more prevalent in developing countries due to their volatile and unsustainable development conditions. Typically, poverty is assessed by evaluating the income level and the minimum essential requirements of a country. According to the definition provided by BPS, poverty is defined as "the state of an individual who can satisfy their nutritional needs with fewer than 2100 calories per capita per day" (Tibyan, 2010). Sumitro Djojohadikusumo identifies four distinct patterns of poverty. The first pattern is persistent poverty, signifying enduring or inherited poverty. The second pattern is cyclical poverty, which corresponds



to the overall economic cycle. The third pattern is seasonal poverty, as observed among fishermen and food crop farmers during specific seasons. The fourth pattern is accidental poverty, arising from natural disasters or the consequences of specific policies that lead to a decline in community well-being.

Unemployment issues contribute to and exacerbate poverty, as individuals experiencing unemployment typically lose their primary sources of income. This can result in difficulties in fulfilling basic needs such as food, clothing, housing, and healthcare. Unemployed individuals often grapple with financial uncertainty and anxiety. They may face challenges in meeting routine expenses like rent, electricity, or loan payments, which can lead to financial hardships and mounting debt.

The causes of poverty can be attributed to natural and economic factors, structural and social conditions, as well as cultural influences. Natural and economic poverty emerges due to constraints in natural resources, human resources, and other factors, resulting in limited opportunities for productive activities that do not significantly contribute to development (Yulianto, 2005). Disparities in development outcomes, institutional arrangements, and development policies contribute to structural and social poverty. Conversely, cultural poverty is influenced by attitudes or lifestyle choices that perpetuate a sense of contentment, ultimately trapping individuals in poverty (Nugroho and Dahuri, 2004; Soegijoko, 1997).

Various concepts exist for measuring the extent of poverty. The concept that refers to the poverty line is known as relative poverty. In contrast, absolute poverty is a concept that does not rely on the poverty line for measurement. According to Lincoln Arsyad, three strategies/policies can be employed to address poverty:

- Human Resource Development
- Agricultural and Rural Development
- Involvement of Non-Governmental Organizations (NGOs)

Population growth plays a role in shaping poverty dynamics, as population growth often occurs at a faster rate than agricultural production. This imbalance can lead to challenges in meeting basic needs and an increase in poverty levels. Malthus' theory of the population trap emphasizes how poverty can result from the disparity between food supply and population growth, leading to a decline in per capita income.



2.3. population

In his seminal work "Wealth of Nations," Adam Smith articulated the notion that "the annual labor of every nation is the fund which originally supplies it with all the necessaries and conveniences of life." In contrast to Smith's viewpoint, Malthus and Ricardo contended that population growth could have detrimental effects on a country's economy. However, the concerns raised by these two thinkers were countered by the experience of population growth in Western Europe, which successfully catalyzed industrialization. This growth bolstered the Western European economy due to the region's existing prosperity, a relatively small workforce, and an abundance of capital.

According to the BPS Institute for Statistics Indonesia, "Residents" encompass individuals who have established their domicile within the geographical bounds of the Republic of Indonesia for a period of six months or more, as well as those who have done so for less than six months but with the intention of permanent settlement. Meanwhile, Said defines "population" as "the total number of people residing in a specific area at a particular point in time, influenced by demographic processes like birth rates, death rates, and migration. Population refers to both individuals and groups inhabiting a particular region or country for a minimum of one year during the period of data collection or population census. The significance of population lies in its role as a cornerstone in the establishment of a nation and state, forming a collective that generates contributions and shapes a history that imparts lessons for future generations. The standards associated with human existence serve as the framework for executing vital functions like consumption, production, and distribution, processes that continue to propel society forward.

Conducting a census is a method employed by countries to ascertain their population size. Furthermore, through a census, a country can ascertain whether it falls within the category of having a dense or sparse population. There are two main types of censuses utilized by countries to gauge their population:

- Fact-based census
- Rights-based census

2.4. Unemployment Rates

Adam Smith and David Ricardo contend that a surge in population can lead to an increase in unemployment within a region. This is because the population essentially



serves as the labor force, and an abundant population without sufficient job opportunities can result in higher levels of unemployment. Unemployment arises due to a disparity between the number of job seekers and the available job openings. In simpler terms, there are more people seeking employment than there are job opportunities available. Unemployed individuals are those actively seeking work but unable to secure employment at the prevailing wage rate. The state of full employment is attained when all job seekers have successfully found work at the prevailing wage rate.

Various types of unemployment exist, each categorized based on its underlying causes, including:

- Frictional Unemployment: This type of unemployment occurs when individuals are temporarily without a job not because they cannot find work but because they are in the process of searching for another, preferably better, job.
- Cyclical Unemployment: Cyclical unemployment is the consequence of a decrease in aggregate demand, often stemming from a decline in commodity prices. In response, companies reduce their workforce, leading to increased unemployment rates.
- **Structural Unemployment:** Structural unemployment arises due to the emergence of superior new goods, technological advancements that reduce the demand for certain products, and the high costs associated with retraining or reassigning workers. As a result, production activities decline, and some workers may be laid off.
- **Technological Unemployment:** This form of unemployment is driven by rapid technological advances that lead to automation and the displacement of human workers in various industries.

3. Methodology

In the context of this study, theoretical insights into the connection between exogenous variables (population size and unemployment rate) and endogenous variables (poverty rates and economic growth) will be applied to examine the ways in which alterations in population size and poverty rates can impact poverty rates and economic growth within a particular nation or region. This analysis aims to enhance comprehension of the intricate interplay among these factors within an economic framework

This study uses a quantitative approach. The data used is secondary data obtained from the East Kalimantan Central Bureau of Statistics and the Indonesian Financial Services Authority. The data used is time series from 2011 to 2021. The independent variable of this study is credit value and Dana Pihak Ketiga and the dependent value is Gross Regional Domestic Product (GRDP) and poverty. The method used in this study



to determine the relation between credit and DPK to GRDP and poverty is using Path Analysis.

Employing path analysis in research presents several merits that render it a valuable approach for comprehending intricate connections among diverse variables. In instances where research entails a sophisticated conceptual model encompassing numerous variables, path analysis empowers researchers to evaluate multiple associations within a unified analytical structure. This aids in elucidating the degree to which these variables are interlinked and their mutual influence. Furthermore, path analysis facilitates the discernment of causal links between variables. Consequently, it enables us to ascertain whether one variable instigates alterations in another, or if there exists a causal relationship between them.

The Conceptual Framework from Figure 1 can be formulated as follows:

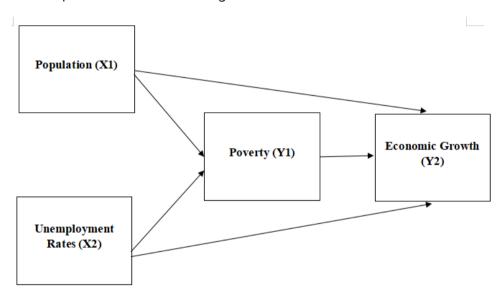


Figure 1: Conceptual Framework.

$$Y1 = \rho y1X1 + \rho y1X2 + \epsilon 1$$

1.
$$Y2 = \rho y2X1 + \rho y2X2 + \rho y$$

Equation 1 -- Structure Model

Defined:

X1 = Population

X2 = Unemployment

Y1 = Poverty

Y2 = Economic Growth



4. Result and Discussion

Calculation of Correlation Coefficient (R) and Coefficient of Determination (R2)

TABLE 1: Correlation Coefficient (R) and Coefficient of Determination (R2).

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.848 ^a	.719	.648	6808.674				
	a. Predictors: (Constant), Unemployment, Population							

The model summary table provides insights into the correlation (R) between population (X1) and unemployment (X2) concerning poverty (Y1), resulting in a value of 0.848. This signifies a robust correlation between the population (X1) and unemployment (X2) variables and poverty (Y1).

The coefficient of determination (R2) in this computation equals 0.719, corresponding to 71.9%. This indicates that 71.9% of the variation observed in the dependent variable (Y1) can be ascribed to the two independent variables, while the remaining 28.1% is influenced by unexamined variables in this study.

TABLE 2: Correlation Coefficient (R) and Coefficient of Determination (R2).

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.874 ^a	.764	.663	39193.675		
a. Predictors: (Constant), Poverty, Unemployment, Population						

The model summary table discloses that the correlation (R) among population (X1), unemployment (X2), poverty (Y1), and their relationship with economic growth (Y2) has yielded a value of 0.874. This signifies a robust level of association between the variables of population (X1), unemployment (X2), poverty (Y1), and economic growth (Y2).

The coefficient of determination (R2) in this calculation is 0.764, equivalent to 76.4%. This indicates that 76.4% of the variability observed in the dependent variable (Y2) can be explained by population, unemployment, and poverty, while the remaining 23.6% is influenced by unexamined variables in this study.

4.1. Direct relation between population and poverty

Based on the Path Analysis results, it is evident that between 2011 and 2012, the significance value (0.002) is less than (0.005), and the t-value (4.521) exceeds the t-table

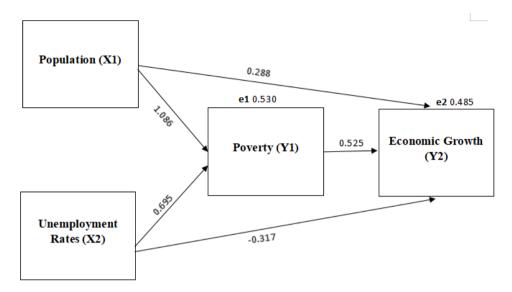


Figure 2: Conceptual Framework.

threshold (2.306), indicating a partial but significant impact. Hence, there is a statistically significant partial relationship between population and poverty. The population of a country or region affects poverty because a higher population density leads to increased competition for finite resources like land, air, employment opportunities, and essential services. This heightened competition can pose challenges in fulfilling fundamental needs, particularly among marginalized population segments.

4.2. Direct relation between unemployment and poverty

Based on the results of the Path Analysis for the period from 2011 to 2022, it is evident that the significance value (0.020) is lower than the threshold (0.005), and the t-value (2.894) surpasses the critical t-table value (2.306), signifying a partial but significant impact on H1. Thus, there exists a noteworthy partial association between unemployment and poverty. Unemployment exerts an influence on poverty because prolonged joblessness can set in motion a cycle of poverty that is challenging to escape. Individuals or households enduring extended unemployment may accumulate debts, lose their job-related skills, and experience a decline in self-assurance, all of which can impede their successful reintegration into the job market. In the absence of a robust social safety net, the unemployed are at risk of rapidly slipping into poverty. Without sufficient financial support or skill enhancement opportunities to assist them in securing employment, they may find themselves ensnared in poverty.



4.3. Direct relation between population and economic growth

According to the Path Analysis results spanning from 2011 to 2022, it is evident that the significance value (0.649) exceeds the threshold (0.005), and the t-value (0.537) falls below the critical t-table value (2.306), indicating a partial lack of impact and statistical insignificance. Therefore, there is no observable effect, and it is not partially significant in the relationship between population and economic growth. While population size can potentially influence economic growth, the influence is intricate and not consistently present. Thus, the direct impact results may demonstrate an absence of influence. This may be attributed to the fact that East Kalimantan is not densely populated, and the dominant economic sectors influencing growth are specific sectors like coal and gas, which are not directly implemented and do not directly benefit the residents of East Kalimantan.

4.4. Direct relation between unemployment and economic growth

Based on the findings of the Path Analysis conducted from 2011 to 2022, it is evident that the significance value (-0.942) exceeds the threshold (0.005), and the t-value (0.378) falls below the critical t-table value (2.306). Consequently, there is a partial absence of a negative and insignificant impact. Hence, there is neither a negative nor an insignificant partial effect between unemployment and economic growth. It's important to bear in mind that the influence of unemployment on economic growth can vary depending on several factors, such as the underlying causes of unemployment, the educational and skill levels of the workforce, government policies, and the global economic landscape. Some degree of unemployment may be considered healthy within an economy to prevent excessive inflation. However, an excessively high unemployment rate can pose detrimental challenges to economic growth and overall societal well-being.

4.5. Direct relation between poverty and economic

According to the results obtained from the Path Analysis spanning from 2011 to 2022, it is evident that the significance value (1.516) surpasses the established threshold (0.005), and the t-value (0.173) falls below the critical t-table value (2.306). Consequently, there exists a partial absence of an effect, and it is not statistically significant. Hence, there is neither an influence nor a partially significant relationship between poverty and economic growth. The relationship between poverty and economic growth can be



intricate, and in certain instances, poverty may not always directly impact economic growth. There are situations where economic growth can occur without simultaneous poverty reduction, though this outcome is not desirable from both a social and economic perspective. The primary objective of economic policies in many countries is to attain inclusive economic growth, where the benefits of such growth extend to the entire society, including those in impoverished conditions. Therefore, it is crucial to formulate policies that facilitate a more equitable distribution of income and generate economic opportunities.

4.6. Indirect relation between population and economic growth through poverty

Based on the outcomes of the Path Analysis conducted from 2011 to 2022, it becomes evident that the magnitude of the indirect effect (0.570) surpasses that of the direct effect (0.288). Consequently, the indirect influence of population on economic growth through the intermediary of poverty holds considerable significance. Population size can shape economic growth via the conduit of poverty, owing to the intricate interplay among population dynamics, employment patterns, and income distribution. The indirect impact of population size on economic growth is multifaceted, contingent on an array of economic, societal, and policy variables. As a result, effective management of population growth, the formulation of education strategies, provision of skills development, and implementation of income distribution policies all emerge as pivotal elements in endeavors aimed at poverty alleviation and the attainment of sustainable economic growth.

4.7. Indirect relation between unemployment and economic growth through poverty

According to the findings from the Path Analysis spanning from 2011 to 2022, it is evident that the magnitude of the indirect effect (0.364) surpasses that of the direct effect (-0.942). As a result, the indirect impact of unemployment on economic growth through the intermediary of poverty demonstrates a noteworthy significance. Unemployment can exert a significant adverse impact on economic growth by way of poverty because it contributes to a reduction in both individual and household incomes, subsequently leading to an increase in poverty levels.



5. Conclusions

In this study, the findings indicate that both population and unemployment have a significant and direct impact on poverty, both individually and collectively. This suggests that the population and unemployment rates play a role in determining the poverty level within a given region. However, unlike their direct impact on poverty, population and unemployment do not directly affect economic growth. It has been demonstrated that even in countries with small populations, high unemployment rates, and elevated poverty levels, economic growth remains unaffected. This is because economic growth primarily relies on Gross Domestic Product (GDP), which is driven by production activities during a specific timeframe. The indirect influence of population on economic growth through its effect on poverty suggests that the population can indirectly either burden or benefit a region, subsequently influencing economic growth. Similarly, the indirect impact of unemployment on economic growth through poverty implies that unemployment places an additional burden on the productive workforce, affecting people's purchasing power and their overall quality of life, which indirectly impacts economic growth. Implementing appropriate policies for population management, job creation, and the promotion of sustainable economic growth can contribute to reducing poverty levels and fostering a robust economic environment. Beyond population and unemployment, other factors such as government policies, investments, and income distribution also hold significant sway over poverty levels and economic growth.

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