



Analysis Of Factors Determining Poverty In Five Provinces On The Island Of Java

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ABSTRACT

Poverty is a prevalent issue across various countries and is recognized as a macroeconomic problem, inherently multidimensional in nature. It is influenced by factors such as inflation, unemployment, the Human Development Index (HDI), labor productivity, and the COVID-19 pandemic. This study employs a dynamic panel approach, specifically the System Generalized Method of Moments (System GMM). The findings indicate that inflation contributes to an increase in poverty. A positive effect suggests that higher inflation rates are associated with elevated poverty levels. Unemployment also exacerbates poverty. The positive relationship implies that joblessness or job loss reduces individual income, leading to decreased purchasing power and lower household consumption expenditure. Conversely, the Human Development Index (HDI) has the potential to alleviate poverty. Improvements in HDI directly reduce poverty by equipping individuals with sufficient human capital to escape the trap of low income and limited economic access. Similarly, labor productivity negatively impacts poverty, indicating that higher labor productivity corresponds with lower poverty rates. The COVID-19 pandemic has intensified poverty levels. Supply and demand shocks during the pandemic caused a decline in household consumption expenditure, which in turn increased poverty rates.

INTRODUCTION

Poverty is a problem that occurs in various countries and one of the macroeconomic diseases so that poverty is multidimensional. Poverty is multidimensional meaning that poverty includes low individual income, declining consumption levels, malnutrition, poor health, low education, limited access to basic services. Therefore, poverty means the inability of an individual to meet the basic needs of his life. The basic needs of an individual's life include food, clothing, health, education, employment, income, housing, and transportation, which ultimately determine the level of household welfare (Kakwani & Son, 2025; Wagle, 2002).

Inability to meet the consumption of food and nutrition, which is reflected in the low intake of nutrients such as protein, calories, and minerals. These conditions can have a direct impact on health and education, especially on vulnerable groups such as pregnant women, children, and the younger generation, causing short-to long-term effects in the form of a

decrease in the quality of human resources. The continued impact of low quality of Health and education is low work productivity, which leads to low fixed income and reinforces the vicious cycle of poverty.

Based on macro aggregates, poverty is viewed from the expenditure side. According to the World Bank, poverty is measured through the ability of people's purchasing power or known as Purchasing Power Parity (PPP). PPP shows the nominal exchange rate adjusts to changes in price levels so that when there is a continuous increase in prices in one period (inflation), then the currency will depreciate (the value of the currency decreases) so that PPP can be used to measure the price level and exchange rate of two countries. In other words, Purchasing Power Parity (PPP) is a measurement method used to determine how much money is worth in purchasing goods or services in international measurements. This is because each country has different prices for goods and services so it uses PPP in adjusting the prices of different goods and services between countries. US\$ 1 PPP in 2024 is equivalent to Rp5,993.03 BPS, (2025). Conceptually, according to the Central Statistics Agency (BPS), poverty in Indonesia is measured through the expenditure or consumption of basic necessities of life, both the consumption of food categories is based on a minimum consumption standard of 2,100 kilocalories per person per day according to Indonesian household consumption patterns, such as rice, tofu, tempeh, eggs, vegetables. Consumption of non-food categories, namely housing, education, transportation, health, clothing. The basic needs of individuals can be measured through expenditure in the form of per capita expenditure per household month or commonly called the BPS poverty line, (2018). People who have an average monthly per capita expenditure below the poverty line are called poor. The high or low poverty of a region can be shown through the number of poor people and the percentage of poor people BPS, (2025).

High levels of poverty in a region occur due to the inability of individuals to meet their basic needs. The highest number of poor people in Indonesia is located on the island of Java which includes East Java province of 3982.69 thousand people, West Java province of 3848.67 thousand people, Central Java province of 3704.33 thousand people, Yogyakarta province of 445.55 thousand people, Banten province of 791.61 thousand people. Meanwhile, the province of DKI Jakarta has a low number of poor people because DKI Jakarta is the capital of Indonesia which is the center of the Indonesian economy so that the number of poor people is low. Java is the center of the economy, but the number of poor people is still relatively high so that the island of Java is very interesting to study as the object of this study.

Poverty can be caused by inflation, unemployment, Human Development Index (HDI), labor productivity and the Covid 19 pandemic. Poverty caused by inflation. It starts from the low level of public consumption. The low level of public consumption is caused by a high price increase continuously in a certain period of time or commonly known as inflation. According to Keynes, inflation is caused because the level of aggregate demand exceeds the level of aggregate supply. Aggregate demand is the total expenditure in the economy which includes consumption (C) is household consumption. Household consumption is the largest component of aggregate demand in an economy. When consumer demand increases in conditions of limited supply, then directly the prices will rise so that this can cause inflation. This phenomenon is known as demand pull inflation (demand pull inflation) Al-Mutairi et al., (2020).

Demand pull inflation from the consumer side is measured using the Consumer Price Index (CPI). The Consumer Price Index (CPI) is an index that measures the development of prices for goods and services purchased by consumers (Feyisa, 2024; Sheferaw & Sitotaw, 2023). Calculation of CPI is used to determine changes in the level of prices for goods and services. Changes in the CPI value indicate price increases (inflation) and price decreases (deflation) so that it reflects the value of money used by consumers to meet their basic needs (Chen & Hu, 2018; Khan et al., 2018). The higher the inflation rate, the lower the value of money, causing people's purchasing power to decline. The decrease in purchasing power leads to a deterioration in the value of money for goods. The deterioration of the value of money to goods can increase

poverty, because the same value of money can only buy fewer goods than before so that the poor will become poorer.

Theoretically, the phenomenon of inflation corresponds to the growth rate of the money supply as explained by Irving Fisher in the quantity theory of money. This theory posits that expenditures are determined by the movement of the value of money, and thus, in the long term, it can be used to support the assertion that inflation can increase poverty. Consequently, inflation may lead to a rise in poverty levels due to its impact on the purchasing power of the population (Feyisa, 2024; Mishkin F, 2022). Poverty is also caused by a high unemployment rate, as individuals without employment and income are unable to meet their basic living needs, resulting in decreased purchasing power and increased poverty levels .Batrancea, (2021)

Unemployment can be measured by the number of unemployed individuals. Beyond economic factors, unemployment also affects the psychological condition of individuals. Those experiencing long-term unemployment tend to face emotional pressures such as stress, low self-esteem, and anxiety about the future (Hult et al., 2025; Revankar et al., 2025; Wu et al., 2025). These psychological conditions can reduce motivation, hinder productivity, and affect social interactions within the community (de Araujo, 2023; Kim, 2025).

Therefore, unemployment can exacerbate poverty, as job loss leads to reduced income and diminished capacity to fulfill basic needs. Both theoretical and empirical evidence indicate that unemployment significantly influences the rise in poverty levels.

Furthermore, the high unemployment rate in a region is attributed to the low quality of human resources (Ahmad et al., 2018; Akinbobola & Saibu, 2004; Heimberger, 2021). The quality of human resources can be assessed through the Human Development Index (HDI), which encompasses education level, health status, and human development. A higher HDI value in a population indicates a higher level of welfare. Consequently, the welfare level of a region can be reflected by increased life expectancy, good health conditions, and high educational attainment, enabling the majority of the population to achieve a better quality of life. This will lead to an increase in the community's purchasing power, thereby promoting economic growth and reducing poverty levels in the region (Moyo et al., 2022; Santos, 2011; Villar, 2023). A low Human Development Index (HDI) results in reduced individual labor productivity (Congna & Saad, 2025; Leoni, 2025; Marginson, 2019). Lower labor productivity leads to decreased individual income levels, which in turn contributes to an increase in poverty rates within a region (Davis, 2017; Villar, 2023).

Low labor productivity can exacerbate poverty because low productivity results in lower community income levels. Reduced income leads to an increase in the number of impoverished individuals. Labor productivity is defined as the quantity of goods and services produced per hour of work, utilizing skills, time, and available resources. Productivity is a key factor influencing a country's long-term living standards, as labor productivity reflects income levels. Higher productivity in a region indicates the ability to produce greater output per worker, thereby generating higher income. The high level of labor productivity in a region can be influenced by the quality of human capital, which can be measured through the Human Development Index (HDI). The higher the quality of human capital in a region, the greater the improvement in community welfare. As community welfare improves, poverty levels tend to decline.

The poverty rate in Indonesia in March 2020 increased by 0.36 percent compared to the poverty rate in 2019. This rise was primarily attributed to the economic impact of the Covid-19 pandemic. The transmission mechanism of Covid-19 led to a significant economic downturn, which in turn affected poverty levels. This situation originated from the implementation of lockdowns and Large-Scale Social Restrictions (PSBB) as mandated by Government Regulation Number 21 of 2020. These measures restricted the majority of the population from leaving their homes and halted economic activities outside the household. Consequently, in 2020, mass layoffs (PHK) occurred, resulting in widespread unemployment and a reduction in labor income by approximately 50 percent compared to pre-pandemic earnings. The extensive job losses and

income declines in both formal and informal sectors directly caused supply and demand shocks, altering household consumption behavior. The decrease in household consumption expenditure per capita led many firms to conduct further layoffs, thereby increasing unemployment and poverty rates through 2021.

Therefore, it is crucial to analyze the key factors that significantly influence poverty levels, particularly in strategic regions such as the five provinces on Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten. These areas exhibit relatively high poverty rates, making poverty a persistent and serious challenge shaped by various socioeconomic dynamics. These include inflation, which suppresses purchasing power; unemployment, which results in the absence of income and consequently diminishes household consumption capacity; a high Human Development Index (HDI), reflecting superior human capital quality that can contribute to poverty reduction; elevated labor productivity, which enhances welfare and thereby mitigates poverty; and the adverse impacts of the Covid-19 pandemic, which have exacerbated economic conditions and restricted access to basic necessities. During the Covid-19 pandemic in 2021, Indonesia experienced extreme poverty, with the poverty headcount reaching 4 percent and the number of individuals living in extreme poverty totaling 10.86 million. The pandemic period provided a critical opportunity to evaluate social protection policies aimed at safeguarding the poor, implemented through social assistance programs. It also allowed for the assessment of the effectiveness of such policies in reducing extreme poverty during the crisis. Extreme poverty in Indonesia was measured using an absolute poverty threshold aligned with the World Bank's standard, defined by the 2017 Purchasing Power Parity (PPP) of US\$1.90 per day. When converted to Indonesian Rupiah, this threshold equated to IDR 11,941 per capita per day in 2017.

LITERATURE REVIEW

Meo et al. (2018) investigated the asymmetric impact of inflation and unemployment on poverty in Pakistan. This study utilized inflation, unemployment, and poverty as variables. Inflation was measured using the Consumer Price Index, unemployment was measured as the percentage of the total labor force, and poverty was measured using per capita consumption, population index, and per capita income. The study employed an asymmetric Autoregressive Distributed Lag (ARDL) model and analyzed annual data from 1970 to 2016. The results indicated a significant and positive asymmetric relationship between inflation and poverty in the long run. An increase in inflation tends to raise poverty levels because higher inflation rates lead to greater relative price fluctuations, increasing investment risks in the economy, and inflation also raises commodity market prices, which erodes the purchasing power of money. Conversely, a decrease in inflation also causes an increase in poverty in the long term. Deflation not accompanied by economic growth and job creation can exacerbate poverty over time. Additionally, a decline in inflation driven by weakened demand and economic activity results in higher unemployment, reduced household income, and diminished purchasing power. Consequently, the capacity of low-income populations to meet their basic needs declines, reducing their overall welfare. Therefore, inflation control policies must be accompanied by inclusive economic growth strategies to prevent worsening poverty levels. Villar (2023) examined human development and poverty using a Cobb–Douglas utility function. The study employed human development variables measured by education, health, and living standards, represented by the Human Development Index (HDI), and poverty measured by the percentage of the poor population. The findings revealed that higher HDI values are associated with reductions in poverty levels. Moyo et al. (2022) explored the effects of human capital formation on poverty and income inequality in Eastern Cape, South Africa. The study included variables for human capital, poverty, and income inequality. Human capital was measured through education and health indicators, poverty was assessed by the percentage of the poor population, and income inequality was measured using

the Gini index. The study applied the Pooled Mean Group (PMG) method. The results demonstrated that human capital negatively influences poverty, indicating that higher levels of human capital contribute to poverty reduction.

Bukari et al. (2021) investigated the impact of COVID-19 on poverty and living standards in Ghana from a micro-level perspective over a five-month period, from March 12 to May 12, 2020. This study employed the Ordinary Least Squares (OLS) method. The findings indicate that the impact of COVID-19 on poverty and living standards at the household level in Ghana includes job losses due to the pandemic, resulting in a 54.3% increase in poverty rates and a 61.4% decline in living standards.

METHODS

This study employs a quantitative research design. The quantitative approach involves the use of hypotheses subjected to various tests and utilizes secondary data. The objective of this research is to test theories, demonstrate the influence relationships among research variables, interpret statistics descriptively, and estimate as well as predict the outcomes.

This study employs descriptive and inferential analyses. The descriptive analysis explains the phenomena of poverty, inflation, unemployment, the Human Development Index (HDI), and labor productivity across five provinces on Java Island, namely East Java, Central Java, West Java, Yogyakarta Special Region, and Banten. Subsequently, the inferential analysis examines the relationship and influence of inflation, unemployment, HDI, labor productivity, and Covid-19 on poverty in these five provinces. This influence can be either positive or negative, and the significance of the relationships among the research variables is assessed. The study utilizes a dynamic panel regression method aimed at determining the effects of inflation, unemployment, HDI, labor productivity, and Covid-19 in the five provinces on Java Island (East Java, Central Java, West Java, Yogyakarta Special Region, and Banten) over the period 2010–2024. The empirical model is analyzed using the Generalized Method of Moments (GMM) estimation technique, with data processing conducted through STATA 17 software. Panel data is a combined dataset consisting of both cross-sectional and time-series data. In this research, the cross-sectional data encompass five provinces in Indonesia, namely East Java, Central Java, West Java, Yogyakarta Special Region, and Banten. The time-series data cover the period from 2010 to 2024. Secondary data are used, including the percentage of the poor population, Consumer Price Index (CPI), unemployment figures, Human Development Index (HDI), Gross Regional Domestic Product (GRDP) at constant prices, and labor force data, all obtained from the official website of the Central Statistics Agency (Badan Pusat Statistik). Additionally, a dummy variable for the Covid-19 pandemic is incorporated, coded as one for the post-pandemic years (2020–2024) and zero for the pre-pandemic years (2010–2019).

The following are the dynamic panel model equations used in this study:

$$POV_{it} = \beta_0 + \beta_1 PVR_{i,t-1} + \beta_2 IFL_{i,t} + \beta_3 \ln UNP_{i,t} + \beta_4 HDI_{i,t} + \beta_5 \ln PDT_{i,t} + \beta_6 CVD19_{i,t} + \varepsilon_{i,t} \quad (1.1)$$

Description:

PVR_{it}	= poverty rate in province i at year t
PVR_{it-1}	= lagged value of the poverty rate
IFL	= inflation rate
UNP	= unemployment rate
HDI	= Human Development Index
PDT	= labor productivity
$CVD19$	= dummy variable (value 0 for pre-pandemic years and 1 for post-pandemic years)
$\ln$	= natural logarithm

RESULTS

The effect of inflation on poverty

The estimation results of the System GMM presented the variable inflation has a coefficient of 0,00927 with a p-value of 0,050, which is less than the 0,05 significance, indicating that inflation has a statistically significant positive effect on the variable poverty. The variable inflation indicate that inflation has a significant positive effect on poverty across five major provinces in Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten. This finding confirms that an increase in inflation corresponds with a rise in the poverty rate.

The effect of unemployment on poverty

Based on the Sys GMM estimation results presented the variable UNEMP has a coefficient of 0,18925 with a p-value of 0,014, which is less than the 0,05 significance, indicating that unemployment has a statistically significant positive effect on the variable poverty. The unemployment variable has a positive and significant effect on poverty across five major provinces in Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten.

The effect of Human Development Index on poverty

Based on the Sys GMM estimation results presented the variable Human Development Index (HDI) has a coefficient of -0.23641 with a p-value of 0,014, which is less than the 0,05 significance, indicating that Human Development Index (HDI) has a statistically significant positive effect on the variable poverty. The Human Development Index (HDI) variable has a negative and significant effect on poverty across five major provinces in Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten.

The Effect of Labor Productivity on Poverty

Based on the Sys GMM estimation results presented the variable Labor Productivity has a coefficient of -0,84623 with a p-value of 0,000, which is less than the 0,05 significance, indicating that Labor Productivity has a statistically significant positive effect on the variable poverty. Labor Productivity variable has a negative and significant effect on poverty across five major provinces in Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten.

The Effect of Covid 19 on Poverty

Based on the Sys GMM estimation results presented the variable Covid-19 has a coefficient of 0,38034 with a p-value of 0,002, which is less than the 0,05 significance, indicating that Covid-19 has a statistically significant positive effect on the variable poverty. Covid 19 variable has a positive and significant effect on poverty across five major provinces in Java Island, namely East Java, Central Java, West Java, the Special Region of Yogyakarta, and Banten.

DISCUSSION

The effect of inflation on poverty

In many ways, it is the most important section in an article (Feldman, 2004:4). Because it is the last thing a reader sees, it can have a major impact on the reader's perceptions of the article and the research conducted (Summers 2001:411).

East Java province, inflation during the period from March 2010 to 2024 influences poverty through the mechanism of reduced household purchasing power, particularly among poor households in rural areas and the informal sector. Seasonal factors and distribution issues

frequently cause food price increases in March, leading to higher basic consumption expenditures. Given relatively stagnant incomes, inflation reduces real consumption and heightens poverty vulnerability. The inflation impact in East Java tends to be moderate but long-term, as the economy is dominated by manufacturing and agriculture sectors, making poor households highly sensitive to fluctuations in essential commodity prices.

Central Java province, the effect of inflation on poverty is relatively stronger compared to other provinces in Java. This is attributed to the lower income levels and a relatively high proportion of poor households. During the March 2010–2024 period, inflation increases, as reflected by the Consumer Price Index (CPI), directly suppress household consumption among the poor, since a large share of their income is allocated to food needs. Demand-pull inflation driven by seasonal consumption increases or rising food prices significantly reduces the purchasing power of poor households in Central Java, thereby contributing to the slowdown in poverty reduction and potentially increasing poverty.

West Java province, the impact of inflation on poverty is influenced by the large population and economic disparities across regions. Inflation from March 2010 to 2024, as indicated by CPI growth, diminishes the purchasing power of low-income groups in urban and industrial areas. Despite high economic activity, demand-pull inflation caused by substantial household consumption is often not matched by real income growth among the poor. Consequently, rising prices of goods and services increase consumption expenditures, making it more difficult for the poor to meet basic needs and potentially exacerbating poverty.

Province of Yogyakarta (DIY), the nature of inflation's impact on poverty differs from other provinces in Java. Between March 2010 and 2024, inflation reflected by the CPI primarily affects household economic resilience. The economy of DIY is dominated by the services, education, and tourism sectors, where many households have relatively low but stable incomes. When inflation occurs and the value of money declines, poor and near-poor households experience a significant reduction in purchasing power. This situation results in inflation playing a role in maintaining a relatively high poverty level, despite the province's low unemployment rate.

Banten province, inflation affects poverty through the reduction of purchasing power among poor households in urban and industrial areas. From March 2010 to 2024, inflation measured by the CPI increases the cost of living, especially prices of food, housing, and transportation. Given the persistent income inequality, inflation intensifies pressure on poor communities as nominal incomes fail to keep pace with rising prices. Consequently, the erosion of money's value against goods increases poverty vulnerability, particularly for informal sector workers and low-wage laborers.

Inflation as reflected by changes in the CPI during the March 2010–2024 period in the five provinces of Java Island has a positive effect on poverty. Higher inflation leads to a decline in the real value of money and reduces household purchasing power. This decline results in lower household consumption, especially for basic needs. Such conditions cause the erosion of money's purchasing capacity, limiting the poor's ability to acquire goods and services compared to before. Thus, inflation emerges as a critical factor that can worsen poverty and hinder poverty reduction efforts in Java Island.

The effect of unemployment on poverty

West Java is the province with the highest number of unemployed individuals among the provinces in Java. The high unemployment rate tends to be associated with an increase in poverty levels. This is because the reduction in available job opportunities leads to a decline in household income. The decrease in income causes households to be unable to meet their basic living needs, thereby contributing to a higher poverty rate.

East Java provinces ranks third in terms of the highest unemployment among the provinces in Java. The high unemployment rate in East Java is due to the limited availability of job opportunities, which is disproportionate to the population size in the province.

Central Java provinces is predominantly an agricultural region, resulting in a relatively high unemployment rate. Additionally, a significant portion of the workforce is employed in the informal sector, particularly agriculture, which offers low income. Consequently, workers in the informal sector are unable to fulfill their basic needs, leading to a high poverty rate in Central Java.

Banten provinces ranks second among the provinces in Java for the highest unemployment rate. This is attributed to limited access to education and a scarcity of job opportunities, which contribute to rising unemployment. The high unemployment rate causes individuals to lack income or experience reduced household income, leading to decreased purchasing power, lower consumption levels, and reduced investment in education and health. These factors collectively contribute to increased poverty levels.

Province of Yogyakarta (DIY) has a low unemployment rate but a high poverty rate. This is because much of the province consists of agricultural land, and many workers are employed in the informal sector with low incomes. This situation results in an elevated poverty rate, as workers with low earnings are still unable to meet their basic needs.

Thus, it can be concluded that when an individual loses a job or does not receive sufficient working hours, household income decreases. This condition weakens purchasing power, leading to reduced consumption expenditures for both basic and non-basic needs. If this decline in consumption persists over a prolonged period, the household is at risk of falling below the poverty line or exacerbating pre-existing poverty conditions.

The effect of Human Development Index on poverty

First, the dimension of a decent standard of living reflects the welfare of the community. This dimension is measured using per capita expenditure. The standard of living dimension within the HDI indicates the community's purchasing power in meeting basic needs, improving quality of life, and reducing vulnerability to poverty. Second, the health dimension is measured by Umur Harapan Hidup saat lahir (UHH). UHH reflects the population's health level as an indicator of lifespan, which may result from adequate nutrition, good health, and a favorable environment. Third, the education dimension represents the level of education, measured by Harapan Lama Sekolah (HLS) dan Rata-Rata Lama Sekolah (RLS). Higher education levels increase labor productivity, thereby raising income, which enables individuals to fulfill their basic living needs. Therefore, improvements in HDI can directly reduce poverty levels as the population possesses sufficient human capital to escape poverty.

The Special Region of Yogyakarta has the highest HDI value among the provinces on Java Island. This is attributed to Yogyakarta's reputation as a national education center, resulting in the highest HDI score. Additionally, Yogyakarta's UHH is 74.75 years. The high UHH is due to easy access to healthcare services, leading to relatively good public health conditions and a higher awareness of healthy lifestyles compared to other provinces on Java Island. Consequently, the high UHH significantly contributes to the HDI component, resulting in Yogyakarta's HDI value of 78.57%, the highest among the provinces on Java Island. Yogyakarta's RLS and HLS values within the HDI are also relatively high compared to other provinces on Java Island. This is because Yogyakarta is a national education hub, hosting many quality schools and universities such as Gadjah Mada University (UGM), which is recognized nationally and internationally. The standard of living component of Yogyakarta's HDI is the highest among the provinces on Java Island, measured by per capita expenditure. The high standard of living indicates that Yogyakarta's per capita expenditure is also high, reflecting relatively strong purchasing power as residents can meet their basic needs, education, health, and better lifestyle demands. Therefore, Yogyakarta's high HDI can reduce poverty levels, although disparities remain.

Banten Province ranks second highest in HDI on Java Island, with a value of 72.96%. Geographically, Banten's proximity to DKI Jakarta facilitates easier access to education and healthcare, contributing to its high HDI ranking. However, Banten's UHH in the HDI component is

70.15 years, which is affected by less healthy environmental conditions due to its closeness to industrial areas in DKI Jakarta, resulting in air pollution, dense settlements, and inadequate sanitation. Banten's HLS dan RLS values are also relatively high compared to other provinces on Java Island. It ranks second lowest in average HLS at 12.49 years and average RLS at 8.54 years. This is due to a lower interest in pursuing higher education, as employment opportunities are relatively abundant even without advanced education. The standard of living in Banten's HDI is measured by per capita expenditure, which in West Java is IDR 11,699. The high per capita expenditure in Banten reflects the high cost of living, requiring households to spend more to meet basic needs. Thus, Banten's high HDI can contribute to poverty reduction.

West Java Province ranks third highest in HDI among the provinces on Java Island, influenced by its geographical proximity to DKI Jakarta, which facilitates easier access to education and healthcare. West Java's HDI includes an LEB of 73.29 years, RLS of 15.36 years, and HLS of 10.91 years. The per capita expenditure in West Java is IDR 9,764. The high UHH in West Java reflects successful health development, including improved access to healthcare facilities and enhanced basic health services. Higher LEB indicates that residents live longer and in better health. The HLS and RLS values are the highest among the provinces on Java Island, supported by extensive educational access and comprehensive educational infrastructure, encouraging school participation. West Java's standard of living, measured by per capita expenditure, is high due to its large population. However, the population size exceeds available employment opportunities, resulting in some residents having no or low income, which reduces purchasing power and per capita expenditure. Therefore, West Java's high HDI can reduce poverty levels.

Central Java Province ranks second lowest in HDI among the provinces on Java Island. This is because much of Central Java's area remains agricultural land, with many residents working in the informal sector, particularly agriculture. Despite low education levels, employment in the informal sector provides income, which directly reduces poverty in Central Java. Central Java's average UHH is the second highest among the provinces on Java Island, reflecting easy healthcare access and improved nutritional status, indicating better quality of life and health. The average HLS is 12.29 years, and average RLS is 7.31 years. The lower education levels are linked to the predominance of informal agricultural employment.

The standard of living in Central Java is measured by per capita expenditure, which is IDR 10,456. The low per capita expenditure is due to the prevalence of low-income informal sector employment, resulting in weak purchasing power. East Java has the lowest HDI among the provinces on Java Island, averaging 69.94. This low HDI is attributed to the predominance of agricultural land and informal sector employment. The large informal labor force helps reduce poverty levels in East Java. The average UHH is 71.30 years, relatively low due to the large population causing regional disparities, limited healthcare access, nutritional problems, and inadequate sanitation, resulting in relatively poorer health conditions compared to other provinces. The average HLS is 12.75 years, and RLS is 7.41 years, influenced by the predominance of informal agricultural employment and a large population causing uneven economic development. These factors affect the education dimension of East Java's HDI. The standard of living is measured by per capita expenditure, which is IDR 10,930. This value is supported by economic growth centers in East Java that increase residents' income and consumption, thus raising per capita expenditure and contributing to poverty reduction in East Java.

The Effect of Labor Productivity on Poverty

High productivity enhances economic competitiveness and drives the growth of quality employment opportunities, thereby providing job prospects for impoverished groups. Conversely, low productivity contributes to poverty due to insufficient skills, education, and technological mastery, which trap the workforce in low-income jobs and economic vulnerability. This condition increases the risk of households falling into poverty. Therefore, improving labor

productivity is a crucial strategy for reducing poverty through increased income, job creation, and the enhancement of human resource quality.

According to Mankiw, a higher output of goods or services reflects higher labor productivity. The greater the labor productivity, the higher the income received, which leads to an improved standard of living. Conversely, lower labor productivity results in lower income, negatively impacting living standards and becoming a contributing factor to poverty. Poverty arises when individuals have low income, which reflects low labor productivity; thus, labor productivity is highly relevant in influencing poverty levels.

East Java is the province with the largest Gross Regional Domestic Product (GRDP) contribution in Indonesia, resulting in the highest labor productivity value among provinces in Java. The increase in labor productivity in East Java tends to reduce poverty through the expansion of formal employment opportunities and wage growth. However, the dominance of the informal sector and the low quality of labor skills hinder the optimal reduction of poverty.

West Java serves as the center of large-scale national industry, utilizing modern technology, which results in relatively high labor productivity. Additionally, West Java's proximity to the Special Capital Region of Jakarta, known as a business hub, strengthens market access, enhancing production efficiency. Consequently, West Java ranks second in labor productivity value on Java Island.

Central Java Province ranks third in labor productivity among provinces on Java Island. This is primarily because a large portion of its territory consists of agricultural land. However, labor productivity in Central Java is influenced by the level of education; thus, improving Human Resources (HR) quality through education, skills development, and health can enhance productivity. Increased labor productivity reflects higher community income, which in turn can reduce poverty levels in Central Java Province.

The Special Region of Yogyakarta has an economic structure dominated by agriculture, indicating that most of its area remains agricultural land and is therefore dominated by the informal sector, particularly agriculture. This factor contributes to Yogyakarta's relatively low labor productivity compared to other provinces on Java Island. Nevertheless, Yogyakarta is also recognized as a national education center, resulting in the highest Human Development Index (HDI) among provinces on Java Island. The coexistence of low labor productivity and high HDI can contribute to poverty reduction in the Special Region of Yogyakarta.

Banten Province, having undergone administrative division, still experiences uneven economic activities. This situation leads to the lowest labor productivity among provinces on Java Island. Geographically, however, Banten is adjacent to the Special Capital Region of Jakarta (DKI Jakarta), which contributes to a relatively high HDI compared to other provinces on Java Island. The combination of low labor productivity and high HDI can help reduce poverty levels in Banten Province.

The Effect of Covid 19 on Poverty

Poverty is influenced by the Covid-19 phenomenon, which refers to the outbreak of the contagious Covid-19 disease. The outbreak prompted the government to implement lockdown regulations and Large-Scale Social Restrictions (PSBB), during which the entire Indonesian population was advised to stay indoors and refrain from outdoor activities temporarily. This situation triggered macroeconomic shocks, specifically supply and demand shocks. These shocks originated from a decline in economic activity, *Pemutusan Hubungan Kerja* (PHK), causing a substantial portion of the population to lose their jobs and income. The reduction in income diminished purchasing power, resulting in decreased consumption levels. Lower consumption subsequently led to reduced production, thereby causing supply and demand shocks that contributed to increased poverty. Java Island recorded the highest poverty rate among all islands in 2020, primarily because Covid-19 first appeared in Indonesia in West Java Province, specifically in Depok City. The presence of Covid-19 significantly increased the poverty rate in this region.

CONCLUSION

Poverty is multidimensional, meaning it is influenced by various factors including low individual income, decreased consumption levels, malnutrition, poor health, low education, and limited access to basic services such as education, healthcare, and public services. Poverty caused by reduced consumption levels is often driven by inflation. Inflation affects poverty as it reflects the purchasing power of the community, which can be measured using the Consumer Price Index (CPI). When inflation is high but not accompanied by an increase in community income, purchasing power declines, meaning individuals can only afford fewer goods and services with the same income. This decline in purchasing power leads to an increase in poverty.

High unemployment rates also affect poverty. Unemployment is measured by the number of unemployed individuals. The more people who lose their jobs or are actively seeking employment, the greater the number of individuals without income, which results in decreased consumption levels. The reduction in consumption or purchasing power can consequently lead to increased poverty.

Furthermore, the Human Development Index (HDI) influences poverty. The HDI measures the quality of human capital. A low HDI value can increase poverty levels, whereas a high HDI value can reduce poverty. Labor productivity also impacts poverty. It is measured by the ratio of Gross Regional Domestic Product (GRDP) at constant prices to the number of laborers. Labor productivity reflects the income earned by workers. The higher the labor productivity, the greater the income received, thereby reducing poverty levels.

The Covid-19 pandemic also has an impact on poverty. The effect of COVID-19 can be measured using a dummy variable with values 0 and 1. The pandemic caused economic decline, which increased poverty. This began when the government implemented Large-Scale Social Restrictions (PSBB), limiting economic activities. Restricted economic activities led to decreased production and subsequent layoffs or termination of employment. Job terminations caused a decline in community income, leading to increased unemployment (Devlin et al., 2025). The reduction in income caused a decrease in purchasing power and consumption, as people were unable to meet their basic needs. Consequently, poverty levels rose sharply during the COVID-19 pandemic.

LIMITATION

This study has limitations in that it only examines five provinces on the island of Java, Indonesia, and therefore cannot be generalized to all provinces in Indonesia, which have diverse economic and structural characteristics.

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1. Author Contributions:

FAS: Conceptualization, Methodology, Data Collection, Data Analysis,

BEA: Writing – Original Draft, Visualization, Review and Editing

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3. Conflict of Interest:

No conflict of interest: The authors declare that they have no conflict of interest related to the research and publication of this article.

4. Research Ethics:

The study did not involve any intervention, biological specimens, vulnerable groups, or sensitive personal data. Participation was voluntary, and the confidentiality of the respondents was maintained.

5. Use of Artificial Intelligence (AI):

No use of ai. The authors declare that generative ai was not used in the preparation of this article.

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