THE EFFECT OF LABOR FORCE PARTICIPATION RATE, NUMBER OF SMOKERS AND GDP GROWTH RATE ON POVERTY IN JAVA ISLAND

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ABSTRACT

This study aims to analyze the effect of TPAK, smoking behaviour, and GRDP growth rate on poverty in the Regency/City of 4 Provinces in Java Island in 2023. This research is quantitative, using secondary data and the cross-section method. The sampling method used is Purposive Sampling. The results of this study indicate that the TPAK variable affects poverty in the Regency/City of 4 Provinces on the island of Java. In comparison, the smoking behaviour variable and the GRDP growth rate do not affect poverty in the Regency/City of 4 Provinces in Java. Simultaneously, the TPAK variable, smoking behaviour, and GRDP growth rate together affect the poverty of the Regency/City of 4 Provinces on the island of Java in 2023
Keywords : Poverty, Smoking Behaviour and Economy

A. INTRODUCTION

Poverty is a multifaceted condition characterized by the lack of adequate access to economic, social, and cultural resources, rendering it challenging for individuals or groups to meet fundamental needs such as food, shelter, education, and healthcare. It exists in both absolute forms, where individuals are unable to satisfy basic needs, and relative forms, where individuals are deemed poor in comparison to the prevailing living standards of their community. The causes of poverty are often intricate, encompassing economic, educational, health, and social policy factors. Developing nations, including Indonesia, frequently grapple with poverty. Indonesia, with its numerous islands, experiences a rise in the number of impoverished individuals, both on larger and smaller islands. Java Island, in particular, is home to a significant population of impoverished individuals.

Table 1. Percentage of Poor People in 4 Provinces in 2023

Provinces	Percentage
Banten	6.17
Jawa Timur	10.35
Jawa Barat	7.62
Jawa Tengah	10.77

Source: Central Bureau of Statistics 2023

It can be seen from Table 1 that the province with the highest percentage of poor people is Central Java, which reached a value of 10.77 percent. In second place is East Java, which reached 10.35 poor people. The third place is West Java which has a percentage of the poor population of 7.62 and the last is the smallest in Banten province with a figure of 6.17 percent. These poverty figures will increase every year because every year inflation always rises which results in the number of poor people going up.

Chambers (2001) distinguishes poverty into four forms, namely: first absolute poverty, a person is included in absolute poverty if the income received is below the poverty line or it can be said that his income is not enough to meet the needs of food, clothing, health, housing, and education needed to live and work. Second, relative poverty, this poverty is influenced by development policies that have not reached all communities, thus causing inequality in one's income. Third, cultural poverty, this poverty refers to the problem of the attitude of a person or community due to cultural factors, such as not wanting to improve the level of life, lazy, wasteful, uncreative even though they have received help from others. Fourth, structural poverty is a poor situation caused by low access to resources that occurs in a socio-cultural and socio-political system that does not support poverty alleviation, but often causes poverty to flourish (Chakraborty et al., 2024)

The poverty rate in the four provinces on the island of Java in 2023 tends to be high, which makes the government plan a poverty reduction program that focuses on development. The government uses two strategies, namely reducing the expenditure burden of the poor and vulnerable groups through social protection programs and subsidies, and empowerment in order to increase economic capacity. This empowerment makes the Labor Force Participation Rate (TPAK) increase, because the increase in TPAK means that the supply of labor available for the production of goods and services will also increase. The increase in the labor force will have an impact on economic growth, which leads to a decrease in poverty (Polydoropoulou et al., 2023)

Java is one of the most densely populated islands, especially in these 4 provinces (East Java, Central Java, West Java and Banten). This dense population will increase the percentage of poor people in the province. This condition is exacerbated by the number of smokers. The Central Bureau of Statistics (BPS) states that the percentage of the Indonesian population aged 15 years and over who smoke in 2023 is 28.62%. Smoking is not good for health. Many diseases are

caused by consuming cigarettes, such as lung cancer, chronic *bronchitis*, heart disease, fetal disorders in the womb and many more. This smoking habit is not only harmful to those who consume but also harmful to people who inhale cigarette smoke. Armstrong Sue (1991) cigarettes are a type of product that contains nicotine compounds. Nicotine produces a substance called an addictive substance that causes people to become dependent and difficult to stop or can be said to cause an addictive effect on its users. Although there are many negative effects caused by smoking, it still does not reduce a person's interest in buying cigarettes. Firdaus, Muhammad (2010) revealed that efforts to control cigarette consumption require an understanding of the relationship between poverty and cigarette consumption and the facts related to smoking in Indonesia.

In addition to TPAK and the number of smokers, there are other factors that can influence poverty, namely Gross Regional Domestic Product (GRDP). BPS states that GRDP is the sum of added value produced by economic units in a region or area. GRDP can be said to be the sum of all final goods and services produced by units in a particular region or area. GRDP at current prices is the value added of goods or services calculated annually or can be said to be calculated using prices in that year. GRDP at constant prices is the value added of goods or services calculated using prices in a particular year. Rapika Kesatriani (2020), the GRDP in a high region indicates that the region has a good economy, while if the GRDP in the region is low, it indicates that the economy is not in good condition. The economy in question is an economy that supports or improves people's lives so that it will reduce poverty. A high GRDP value will reduce the poverty rate, because the high GRDP will be able to optimize the development of the region so that the poverty rate will decrease. This problem in this paper are: how does Smoking behaviour affect poverty in districts/municipalities of four provinces in Java Island in 2023? Does the Gross Regional Growth Rate (GRDP) affect poverty in the four provinces in Java in 2023? Does the effect of Labor Force Participation Rate (TPAK), Smoking behaviour, and Gross Regional Product Growth Rate (GRDP) on poverty in the districts/municipalities of 4 provinces in Java Island in 2023?

B. THEORITICAL

In general, poverty can be defined as a condition in which individuals or groups do not have enough resources to fulfill the basic needs of their lives, such as food, clothing, shelter, education, and health care. Poverty can be absolute, where individuals are unable to meet basic needs at all, or relative, where individuals have fewer resources compared to the standard of living of the surrounding community.

Poverty also includes social and economic dimensions, and can be affected by factors such as education, employment opportunities, health, and access to public services. Poverty is a complex issue that has been defined by various

economists with various perspectives. (Alcock, P., Haux, T., McCall, V., & May (2022) describe poverty as a condition where a person or group of people, men and women who cannot fulfill their basic rights to survive and develop a decent life. The limitations of humans in fulfilling their needs will be able to have a very long after-effect where the after-effects of poverty will be a burden that must be borne both by the government and by the community at large. Chambers (2001)distinguishes poverty into four forms, namely: first absolute poverty, a person is included in absolute poverty if the income received is below the poverty line or it can be said that his income is not enough to meet the needs of food, clothing, health, housing, and education needed to live and work.

Labor Force Participation Rate

The Labor Force Participation Rate is the percentage of the total labour force that is active in an economy compared to the total working-age population. TPAK includes all individuals who are working or looking for work, including those who are employed and those who are looking for work.

The general formula for calculating TPAK is:

TPAK = (Working Age / Population Labor Force) × 100%

Where:
- Labor Force is the sum of people who are employed and those who are looking for work.
- The Working Age Population includes all individuals within the defined age range for employment (usually between 15 to 64 years old).

TPAK is an important indicator to assess the health of the labour market and the level of people's participation in economic activities.

Smoking Behaviour

Smoking behaviour is an individual's habit or action that involves the consumption of tobacco products, especially cigarettes. This behaviour is usually characterized by the process of smoking, exhaling smoke, and sometimes involves the use of other tobacco products, such as cigars or pipes. Smoking behaviour can be influenced by a variety of factors, including:

1. Social Factors: Social environment, cultural norms, and peer influence.
2. Psychological Factors: Stress, anxiety, and the need to socialize.
3. Economic Factors: Accessibility and price of tobacco products.
4. Biological Factors: Physical dependence on nicotine.

Smoking behaviour is often associated with various health risks, such as heart disease, cancer, and respiratory disorders, as well as negative impacts on overall public health.

Surjono and Handayani (2013) explain that smoking behaviour is an activity of smoking tobacco which contains addictive substances that make a person dependent. This smoking behaviour is very dangerous for both active and passive smokers. Smoking behaviour itself arises due to two factors, namely: 1. Internal

factors are factors that come from oneself because of one's motivation, perceptions and attitudes that lead to smoking behaviour. 2. This external factor comes from the environment such as the influence of friend groups, advertisements, local traditions and so on and there is an ease of purchasing cigarettes because the price is not too expensive.

GRDP Growth Rate

The Growth Rate of GRDP (Gross Regional Domestic Product) is an indicator used to measure the rate of economic growth of a region within a certain period. GRDP reflects the total value of all goods and services produced within a region, and GRDP growth indicates how fast the region's economy is growing.

The formula for calculating the growth rate of GRDP is usually:
GRDP Growth Rate = (Current year GRDP-Previous year GRDP / Previous year GRDP) x 100%
Description:
Current Year GRDP: GRDP value for the year being analyzed.
Previous Year's GRDP: The GRDP value for the previous year.
The growth rate of GRDP is often used by governments and economists to assess the economic performance of a region, plan economic policies, and compare growth between regions or countries.

C. METHODOLOGY

The method used in this research is a quantitative research method with cross-section data, and the sampling technique for this research is purposive sampling; the sample used is data from districts/cities from 4 provinces (East Java, Central Java, West Java, and Banten) on the island. Java. Meanwhile, the regression model used in this research is multiple linear regression (Ghozali, 2013). The data used is secondary data obtained from the official website of the Central Statistics Agency (BPS) in 2023. The model that will be used in this study is:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \varepsilon_i \dots\dots\dots\dots\dots\dots\dots (1)$$

Unknown:
Y_i : Poverty
β_0 : Intercept
β_1 : Parameters
X1 : TPAK
X2 : Smoking behaviour
X3 : GRDP Growth Rate
ε : Error

To obtain modeling that meets BLUE assumptions, classical assumptions are used to ensure that the modeling built meets these requirements. The classical assumptions used are: linearity of function, autocorrelation, heteroscedasticity, multicollinearity and normality. After ensuring that there are no violations in these classical assumptions, the next step is to interpret the results of the model that has been built. While the statistical tests used in this study are partial tests, partial tests, and statistical tests.

D. RESULTS AND DISCUSSION

The following are the results of data processing based on modeling :

Table 2. Table of Multiple Linear Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.680993	5.172420	-1.098324	0.2746
X1	0.200190	0.073197	2.734950	0.0073
X2	0.093446	0.059859	1.561095	0.1215
X3	-0.373751	0.330714	-1.130134	0.2610

Source: Data analysis 2023

Based on the regression results in table 2, the modeling used in this study is as follows:

$$Y = -5.68 + 0.2001X_{i1} + 0.093X_{i2} - 0.374X_{i3} + \varepsilon_i \ldots\ldots\ldots\ldots\ldots (2)$$

The results of classical assumption testing used in this study are as follows:

Table 3. Classical Assumption Test Results

Classical Assumption Test	Testing Methods	Results
Linearity Test	Ramsey RESET Test	Linear
Multicollinearity Test	VIF and TOL	Non Multicollinearity
Autocorrelation Test	Breusch-Godfrey Serial Correlation LM Test	Positive autocorrelation
Heteroscedasticity Test	Glejser Test	Heteroscedasticity is met
Normality Test	Jarque Bera Test	Data is normal

Source: Data analysis 2023

From table 3 the results of the classical assumption test confirm that this study has autocorrelation problems. Widarjono (2018) asserts that modeling using pure cross section data can ignore autocorrelation problems. This is because autocorrelation is a relationship or correlation between time or with the previous time. Given that the data used is cross section data, there is no influence of time in this modeling so that autocorrelation problems can be ignored.

Table 4. T test

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Results
C	-5.680993	5.172420	-1.098324	0.2746	Not significant
X1	0.200190	0.073197	2.734950	0.0073	significant
X2	0.093446	0.059859	1.561095	0.1215	Not significant
X3	-0.373751	0.330714	-1.130134	0.2610	Not significant

Source: Data analysis 2023

This study has three independent variables, namely the Labor Force Participation Rate (TPAK), smoking behaviour and the GDP growth rate of districts / cities in 4 provinces on the island of Java in 2023. The TPAK variable has a significant effect on poverty in 4 provinces on the island of Java, while the smoking behaviour variable and the GDP growth rate have no significant effect on poverty in 4 provinces on the island of Java in 2023.

Table 5. F Test Results and Coefficient of Determination

R-squared	0.146597
Adjusted R-squared	0.121980
S.E. of regression	3.473157
Sum squared resid	1254.533
Log likelihood	-285.6743
F-statistic	5.955037
Prob(F-statistic)	0.000869

Source: Data analysis 2023

From the F test results, it can be seen that the Prob (F-statistic) value is $0.000869 < 0.05$, so it can be concluded that the estimated regression model is feasible to explain the effect of TPAK, Smoking Behaviour (Number of smokers) and GRDP on Poverty.

The value of R-squared of 0.15 indicates that the proportion of the influence of the variables X1, X2, X3 is 15% while the remaining 85% is influenced by other variables that are not in the regression of this study.

E. CONCLUSION

In conclusion, from the results of research on the effect of TPAK, Smoking Behaviour and GRDP Growth Rate on Poverty in the Regency / City of 4 Provinces in Java Island in 2023, namely as follows:

1. TPAK has a positive and significant effect on the poverty rate of 4 provinces in Java Island in 2023
2. GRDP growth rate has a positive and insignificant effect on the poverty rate of 4 provinces in Java Island in 2023
3. Community smoking behaviour has a negative and insignificant effect on the poverty rate of 4 provinces in Java Island in 2023.
4. Together, TPAK, smoking behaviour and GRDP growth rate can affect the poverty rate of 4 provinces in Java Island in 2023.

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