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Revisiting Regional Poverty in Indonesia: Geographic Location as a Key Discriminating Factor

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Abstract

The purpose of this study is to analyze whether location and unemployment are factors that distinguish provinces with low poverty and provinces with high poverty in Indonesia. The data used is secondary data. The study applied the discriminant analysis method to identify the difference between groups (low poverty provinces (as group 1) versus high poverty provinces (as group 2)) with three years of observation, namely 2016, 2020, and 2024. The independent variables consist of six: location, unemployment, government spending, economic growth, population, and Gini ratio. The results show that group 1 differs significantly from group 2. This result is supported by the classification results from 2020, which show that the accuracy of cross-validated sample classification was 60.6% in 2016, 67.6% in 2020, and 67.6% in 2024. Based on these three discriminant models, discriminant loadings are considered appropriate to measure the discriminant power of each independent variable. For the 2016 discriminant model, location (Eastern Region of Indonesia) is the most discriminating variable, whereas unemployment (with the smallest coefficient) is the least discriminating variable. The most discriminating variable after 2016 is unemployment. The least discriminating variable in 2020 and 2024 is the Location dummy. Therefore, the recommendations to reduce the poverty rate in the eastern region of Indonesia are that the government implement a poverty alleviation program and create a conducive business climate to foster business development, thereby growing the economy.

Keywords: poverty, location, unemployment, discriminant

1. Introduction

1.1. Background

The general goal of development is to improve the welfare of the community. One indicator of increasing people's welfare is a decrease in poverty rates. Therefore, reducing poverty levels is an important indicator of development achievements. Poverty alleviation is also one of the goals of regional development in Indonesia. However, development in Indonesia has not been evenly

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distributed, as evidenced by the varying levels of poverty across regions. Some provinces have always experienced severe poverty, but there are others with low poverty rates. Provinces in eastern Indonesia (Sulawesi, Bali-NT, Maluku, and Papua) tend to have higher poverty rates than provinces in western Indonesia (Sumatra, Java, and Kalimantan), shown in Figure 1.

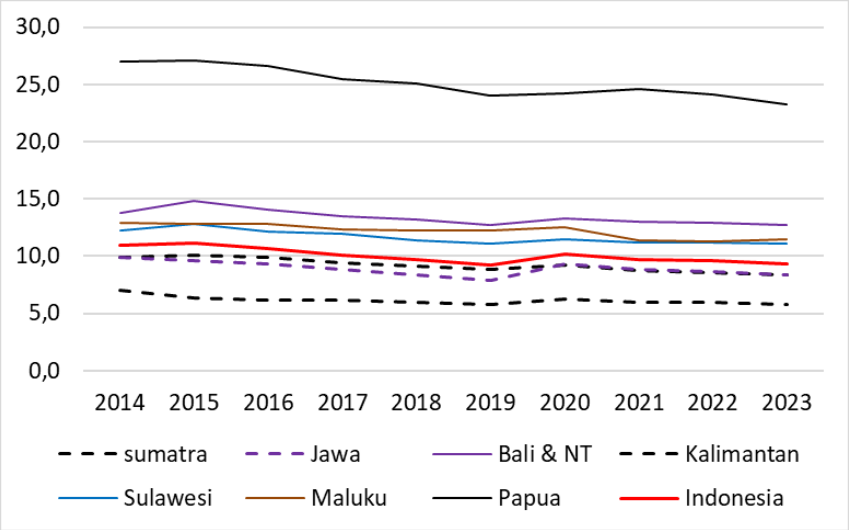

Figure 1. Poverty Rates between Regions in Indonesia in 2014-2023
Source: BPS-Statistics Indonesia, several years. Data Processed

From Graph 1, it can be seen that provinces with poverty levels below Indonesia's average poverty rate (hereinafter referred to as low-poverty provinces) are located in Java, Sumatra, and Kalimantan, all of which are part of Indonesia's Western Region. This information indicates that location (western or eastern regions) can differentiate poverty levels. In other words, location is the cause of a region's poverty. This supports the study conducted by Albalate et al. (2021). In addition, the region's geographical position far from the capital's center is also a cause of its being poorer than others. BAPPENAS (2018) explained that isolation (topographic conditions) is one of the causes of poverty in several regions of Indonesia, especially in Papua, West Papua, NTT, Maluku, and Gorontalo.

Although the average provincial poverty rate in Sumatra and Java (the western region) is lower than Indonesia's, there are provinces in the region that experience higher poverty rates than Indonesia's poverty level (hereinafter referred to as high poverty levels), such as Aceh and Bengkulu (located in the Sumatra region). This strengthens Yang's explanation that seven provinces in Indonesia have high poverty rates (above 15%), namely Papua, West Papua, NTT, Maluku, Gorontalo, Aceh, and Bengkulu (Ministry of PPN/BAPPENAS, 2018).

Meanwhile, the provinces of Central Java and East Java, which are in the Java region, although not included in the high-poverty category, had poverty rates above Indonesia's poverty level during 2014-2023. In contrast, the poverty rate is low in Bali and North Sulawesi Provinces, even though both are in eastern Indonesia.

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Such a condition is interesting to examine: why does high poverty persist in one region, but not in another? Are there any factors that cause the difference in poverty rates between provinces with high poverty rates and provinces with low poverty rates? Does the geographical location differentiate the poverty levels of the provinces? Of the four provinces, some are located near the capital city (Western Region), while others are far from Indonesia's capital (Eastern Region).
Another determinant of poverty is unemployment. Increasing unemployment can lead to higher poverty rates. If a person is unemployed, he has no income, which reduces his ability to meet his family's needs. The more unemployed people there are, the more unable they are to meet their basic needs, so more people become poor (Amri et al., 2024; Febriani et al., 2026; Ngubane et al., 2023).

Based on this explanation, the purpose of this study is to analyze whether location and unemployment distinguish provinces with low poverty from those with high poverty in Indonesia.

The rest of the article is divided into sections. This study explains the articles in the literature review in Section 2. The study elaborates on the research methods in Section 3. In Section 4, this study presents its results and discussion. Lastly, the study presents the conclusion and research implications in Section 5.

2. Literature Review

Poverty is a complex problem and is a major issue in almost all countries in the world. Such as poverty in America, which is characterized by low income, addiction, mental illness, violence, life on the move, poor health, and an unsafe environment (Desmond & Western, 2018). Poverty in South Africa, caused by unemployment, school-age, and disability (Fransman & Yu, 2019), and poverty in El Salvador, where poverty is fuelled by low education, lack of access to water and sanitation, and violence and crime (Bissonette, 2019). The concept of poverty can be described with various dimensions. Lucci et al. (2018) emphasize that people experiencing poverty are a group of people who live within slums, lacking access to clean water, sanitation, housing, and safe neighborhood services.

According to Martin & Petersen (2019), poverty occurs when an individual's or a household's income is below a conventionally accepted level of need. According to them, poverty is a lack of resources that, if possessed, will allow a person to meet his basic needs, namely food, clothing, and shelter. So, poverty is not just a lack of objectively identifiable resources, but a socially embedded phenomenon with multidimensional aspects.

In addition to the economic aspect as an indicator of poverty, Fernandez described another aspect of the poor. The characteristics of people experiencing poverty include 4 aspects, namely: (1) the political aspect (not having access to the decision-making process related to their lives), (2) the social aspect (being excluded from the main institutions of the surrounding community), (3) the economic aspect (low quality of resources (reflected in low health, education, and skills, resulting in low income) and low ownership of physical assets such as clean water and lighting),

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(4) cultural or value aspects (trapped in a culture of low resource quality such as low work ethic, not thinking long and very easy to give up when facing problems).(Arsyad, 2010)

Under varying conditions of poverty, explanations of its causes are categorized into three groups: behavioral, structural, and political. Meanwhile, Brady (2019) and Anggraini (2020) propose causes of poverty through the neoliberal paradigm, social democracy, and the poverty trap circle. The neoliberal paradigm explains that poverty results from individual choice. In addressing poverty, this theory relies on market power because expanding it will lead to economic growth, thereby eliminating poverty. Meanwhile, the social democracy paradigm posits that poverty is a structural problem, with inequality and injustice in society as its causes.

Poverty has a devastating impact on various aspects of life. Many studies reveal the impact of poverty. Poverty has an impact on poor health and low education. Poverty (Bukari et al., 2021; Ngoma & Mayinbo, 2017; Silva-Laya et al., 2020) also results in loss of access to development and a lack of basic facilities (Chaturvedi, 2019a). In addition, other causes of poverty are poor handling of youth, as well as high rates of crime and violence. Therefore, to reduce the adverse impact of poverty, it is necessary to identify the factors that distinguish poverty across regions. With knowledge of these differentiating factors, solutions can be found to eliminate these variables, thereby decreasing the poverty rate in high-poverty areas (Amina & Ibrahim, 2020; Faqiri et al., 2020; Parks, 2014).

One of the variables that causes a region to be poorer than other regions is location. The location of a situation affects the region's ability to develop its economy. This was revealed by Albalate et al. (2022) and Rambe (2022). The geographical location, far from the center of the capital, the market, and the workplace, makes the area poorer than others. This condition is reinforced by the view that geographical characteristics cause regional poverty. Geographical location is also one of the reasons for the slow economic development of an area. Likewise, those who study poverty in Papua also cite regional topography as a cause of poverty (Tian et al., 2018a; Wahyuni & Damayanti, 2014).

Furthermore, BAPPENAS (2018) explained in greater detail some of the causes of high poverty in five provinces in Indonesia: Papua, West Papua, NTT, Maluku, and Gorontalo. The first cause is the location's isolation (topographic conditions). Accessibility in this region is difficult due to its topography, characterized by mountains, valleys, and scattered small islands. This condition causes the population's mobility, the distribution of goods and services, and the provision of basic services to the community to be suboptimal. In addition, natural disasters such as landslides, droughts, and floods in these provinces exacerbate poverty in communities. The natural disaster resulted in the loss of community assets and damage to public facilities in affected areas.

Rickard (2020) also strengthens the argument that economic geography influences the government's response to globalization and economic shocks. Governments in remote and isolated regions have been slower to adapt to globalization and economic shocks. Such

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conditions result in lagging behind the rest of the economy, making the people in this region vulnerable to increased poverty.

The same point was made by researchers on poverty in Papua (Indonesia), namely that open unemployment has a positive effect on poverty. According to OLS regression results, open unemployment also positively affects poverty in Nigeria. Another study conducted using the ARDL method also found that unemployment has a positive effect on poverty in Indonesia in the long term. (Aiyedogbon & Ohwofasa, 2012; Amalia et al., 2018; Muthalib et al., 2018).

Economic progress is also an indicator of development success, as shown by economic growth. Previous studies have shown that economic growth can reduce poverty levels. (Chaturvedi, 2019b; Cruz & Ahmed, 2018; Nguyen-van et al., 2019; Santos et al., 2019). Economic growth negatively influences poverty reduction. In other words, higher economic growth can reduce poverty. Škare & Družeta (2016) supported that study. However, they added that economic growth alone is not enough to reduce poverty. This condition still depends on the speed and growth pattern.

Other studies show different results. Dauda (2017) argues that Nigeria's substantial economic growth cannot stem poverty. These findings are supported by Lee & Sissons (2016), who found that economic growth has not reduced poverty in British cities. According to him, this paradox stems from growth that does not favor people with low incomes. This contradiction raises the question of what role economic growth actually plays in poverty. This is based on the phenomenon of countries' success and failure in overcoming poverty, as measured by economic growth variables.
The government also plays a significant role in poverty alleviation (Abubakar, 2015; Anderson et al., 2018). Through spending, the government implements policies and programs and carries out various activities aimed at improving the welfare of people in their areas. The government's role in reducing poverty is evident in the allocation of local government spending, especially through pro-poor programs. These factors have proven to be determinants of poverty. For example, government spending has a negative effect on the poverty rate. Thus, high government spending in a region can reduce poverty there. In other words, a province with a low poverty rate means its government spending is high.

Boldeanu & Ian (2016) explained that government spending on poverty-alleviation programs (pro-poor programs) can reduce poverty levels. However, Abubakar (2015) and Anderson et al. (2018) found that government spending on pro-poor activities remains low.

Another determinant of poverty is population growth. The growing population increases poverty. An increase in population, without a corresponding increase in income, leads to more poor people (Chu, 2020; Dang et al., 2025; Zhang et al., 2021a).

Inequality also has a role in driving poverty to rise. Inequality widens the poverty gap (Zhang et al., 2021b). In addition, inequality leads to greater poverty severity (Dang et al., 2025).

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2. Method

The data used in this study are secondary data obtained from BPS Statistics Indonesia and the Indonesian Ministry of Finance. To answer the research proposal, a discriminatory analysis method was used. In discriminant analysis, differences between groups will be identified, and the likelihood that sample members belong to the same group will be predicted from several independent variables (Hair et al., 2014). This method is used to identify the difference (predictor) between 2 sample groups (Alande & Adekunle, 2015).

In this study, the dependent variable is the grouping of provinces by poverty level. The grouping limit is the national poverty rate in the year studied. Group 1 comprises provinces with high poverty levels, namely, provincial poverty ≥ national poverty. Group 0 is the provincial group with a low poverty rate, namely, provincial poverty < national poverty level.

The determinants of poverty (independent) used as group differentiators (*predictors*) consist of six variables, namely location, unemployment, government spending, economic growth, population, and Gini ratio. Using discriminant analysis, it can be determined whether there is a difference in the determinants of poverty between groups 1 and 2 over three years of observation, namely 2016, 2020, and 2024.

Nevertheless, the use of independent variables is determined by the resulting discriminant model. If the 6 variables in the discriminant model do not pass the test, then this study will use several variables (of the 6 variables) that produce the right discriminant model.

The discriminatory models in this study are:

$Zjk = \beta + W_1\ L1 + W2\ EU_2 + W_3\ EG_3 + W_4\ GS_4 + W_5\ P5 + W6\ GR6$

Description: Z is a discriminant Z score; β is an intercept; L is the location. The EU has the highest unemployment rate. EG is economic growth. GS is government spending. P is the population, and GR is the Gini ratio.

In forming a discriminant function, there are several tests applied, namely the test of the assumption of covariance homogeneity (Box's M), the overall model (Wilks' Lambda and chi-square), the tests of Equality of Group Means, *and the accuracy of the* classification of the discriminant function. From the discriminant function that has passed the test, the analysis continues with discriminant loadings to determine the differentiating variables of the provincial group.

3. Results

3.1. Provincial Classification of Poverty Level

The first classification presented is the provincial classification based on Indonesia's average poverty level. Of Indonesia's 34 provinces, more have lower poverty rates than the national poverty rate (Table 1).

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Table 1. Classification of Provinces Based on Indonesia's Poverty Level

Provincial classification	Quantity	Percentage	Provinces
Low poverty (provincia poverty < nationa poverty)	18	52,9	6 provinces in the Sumatra Region (North Sumatra, West Sumatra, Riau, Jambi, Bangka Belitung, Riau Islands) 3 provinces in Java Region (Jakarta, West Java, Banten), All provinces in the Kalimantan Region (West Kalimantan, East Kalimantan, South Kalimantan, Central Kalimantan, North Kalimantan), 2 provinces in the Sulawesi Region (North Sulawesi, South Sulawesi), Bali and North Maluku
High poverty (provincial poverty > national poverty)	16	47,1	4 provinces in the Sumatra Region (Aceh, South Sumatra, Bengkulu, Lampung), 3 provinces in Java Region (Central Java, Yogyakarta, East Java), 4 provinces in the Sulawesi Region (Central Sulawesi, Southeast Sulawesi, Gorontalo, West Sulawesi), Maluku, Papua, West Papua, NTB, and NTT

Source: research results

From Table 1, it is evident that all provinces in Kalimantan (West Kalimantan, East Kalimantan, South Kalimantan, Central Kalimantan, North Kalimantan) have poverty rates lower than the national poverty rate. Meanwhile, in other regions, some provinces have poverty rates above the national level, while others experience high levels of poverty.

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Table 2. Regional Government Expenditure of Each Province in 2014-2023 (in IDR trillions)

Provinces	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Aceh	32.42	31.05	42.18	42.18	38.77	47.42	49.07	46.58	44.76	38.91
North Sumatra	37.81	38.64	49.82	49.82	54.15	62.58	62.13	59.14	59.50	64.01
West Sumatra	18.44	19.74	23.98	23.98	26.02	30.03	2.99	28.50	27.64	28.60
Riau	28.70	28.16	29.73	29.73	28.82	32.82	35.03	31.18	32.35	36.20
Jambi	13.92	13.21	15.42	15.42	17.33	20.00	21.70	19.07	18.76	20.08
South Sumatra	28.41	24.76	29.54	29.54	35.41	41.43	42.97	41.99	39.70	41.49
Bengkulu	8.47	9.31	11.07	11.07	11.76	13.94	14.14	12.59	11.96	12.70
Lampung	19.00	19.84	25.21	25.21	29.04	31.55	32.91	30.99	30.48	30.32
Boat Belitung	6.51	6.76	8.50	8.50	8.66	9.93	9.65	10.00	9.12	10.53
Riau Island	11.35	8.80	10.52	10.52	11.65	13.69	14.45	13.66	13.42	14.43
Jakarta	37.80	43.03	47.13	47.13	61.41	80.90	79.61	72.97	76.84	74.61
West Java	82.85	79.86	107.33	107.33	119.96	128.53	141.54	136.16	125.58	132.34
Central Java	68.52	55.52	71.38	71.38	75.89	82.11	85.21	81.53	83.81	84.67
Yogyakarta	10.24	10.84	13.04	13.04	14.95	16.99	17.92	16.69	16.09	17.05
East Java	85.50	84.82	107.39	107.39	116.72	131.98	141.09	134.42	132.92	139.88
Banten	25.94	23.61	29.98	29.98	34.15	38.48	40.72	41.14	38.01	40.78
Bali	17.22	15.67	22.05	22.05	24.93	30.00	29.15	26.70	23.17	28.21
NTB	12.51	13.81	17.38	17.38	20.39	21.77	22.39	21.23	22.30	22.50
NTT	15.51	18.03	24.10	24.10	26.05	29.33	31.44	30.87	29.93	28.94
West Kalimantan	17.27	17.74	22.54	22.54	24.18	26.05	27.29	27.05	25.40	26.91
Central Kalimantan	15.08	16.08	19.04	20.43	20.43	22.74	24.06	22.18	22.43	27.18

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South Kalimantan	18.71	19.16	23.24	23.24	22.96	26.21	28.04	25.04	25.51	31.65
East Kalimantan	44.61	32.81	28.18	28.18	30.83	36.60	40.36	34.49	35.94	54.65
North Kalimantan	0.64	7.76	8.40	8.40	7.53	8.84	9.02	8.15	8.06	19.13
North Sulawesi	11.59	12.77	16.12	16.12	16.79	18.61	18.95	17.54	17.28	16.62
Central Sulawesi	11.92	13.46	17.41	17.41	18.25	20.86	23.33	20.59	20.96	22.53
South Sulawesi	28.08	30.43	38.85	38.85	41.66	45.13	46.61	48.64	44.92	45.76
Southeast Sulawesi	11.59	13.06	16.97	16.97	18.16	21.70	23.65	23.11	22.47	23.34
Gorontalo	4.96	5.58	6.83	6.83	7.64	8.21	8.64	8.82	8.11	7.73
West Sulawesi	4.85	5.94	7.45	7.45	7.59	8.41	8.68	8.02	8.01	8.50
Maluku	8.19	10.27	12.86	12.86	13.95	15.18	15.38	15.59	14.39	13.89
North Maluku	7.04	8.23	10.08	10.08	11.05	13.03	13.82	13.34	14.11	15.99
West Papua	15.95	16.76	20.63	20.63	21.25	25.01	26.01	22.15	22.17	15.77
Papua	37.95	38.30	49.35	49.35	51.09	55.44	56.06	52.77	50.14	14.03

Source: Indonesian Finance Ministry. Data is processed.

Furthermore, government spending was explained. Table 2 presents the largest government expenditure owned by local governments in the Java-Bali region. Furthermore, the largest share of government expenditure is borne by local governments in East Java Province (in the Java-Bali region). This is because East Java Province has the most districts and cities of any province in Indonesia. Meanwhile, the average local government expenditure in the Sumatra region is lower than in the Java-Bali region. In contrast, the smallest government spending is owned by local governments in the Sulawesi region. The lowest level of local government spending in the region is in Gorontalo province.

Economic growth in 34 provinces during 2014-2023 is presented in Figure 2. Provincial economic growth in Indonesia fluctuates. The largest fluctuations occurred in the Papua region (purple) and the Sulawesi region (yellow). However, economic growth in the Sulawesi region has always been higher than Indonesia's. On the other hand, economic growth in most provinces of the Sumatra region (blue) is lower than Indonesia's economic growth.

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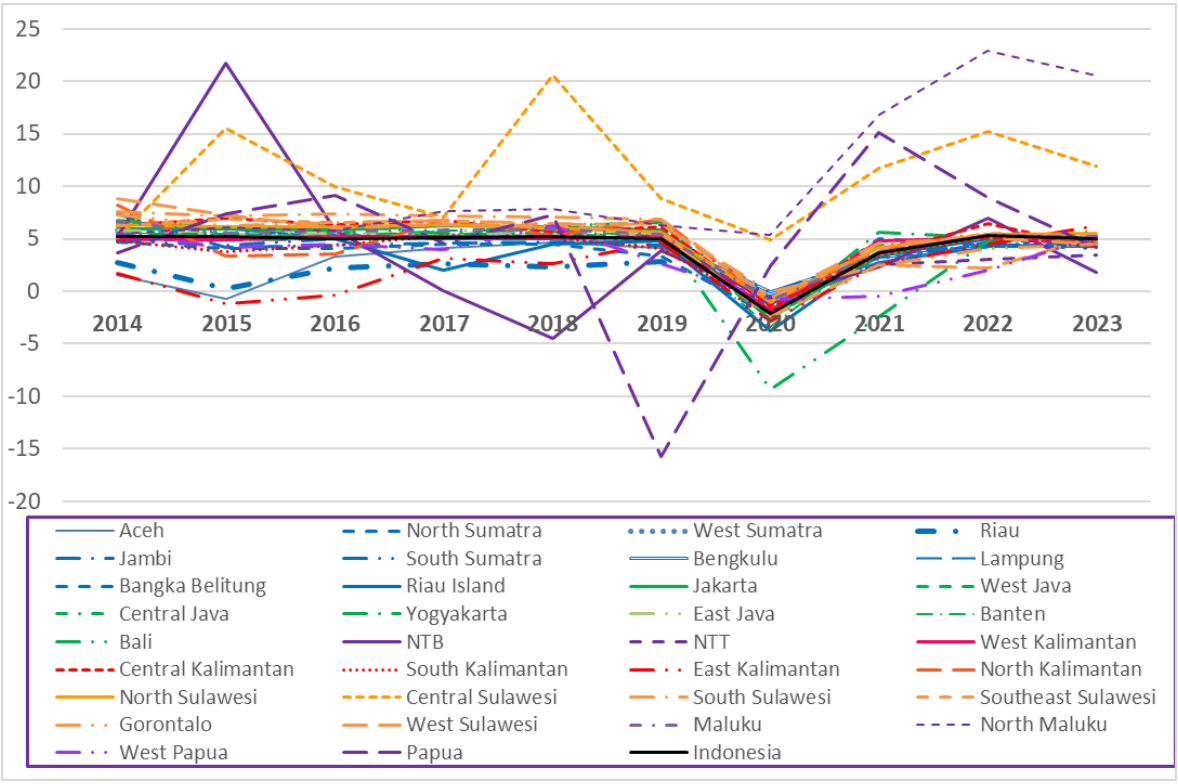

Figure 2. Economic Growth of 34 Provinces in Indonesia during 2014-2023 (in percentages)
Source: BPS-Statistics Indonesia. Data processed

3.2. Description of Poverty Differentiators

Furthermore, descriptive statistics will be presented on the factors that distinguish provincial poverty, as shown in Table 3.

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Table 3. Descriptive Statistics of Research Variables

Discriminating Variables		Minimum	Maximum	Red	Std. Deviation
Indonesia	Location dummy	0	1	0,382	0,486
	Government Spending	1	142	31,41	27,59
	Economic Growth	-1.5	23	4,63	3,56
	Gini Ratio	0,236	0,459	0,354	0,041
	Unemployment	1,4	10,9	5,21	1,84
Low poverty (Provincial poverty < Indonesian poverty)	Location dummy	0,00	1,00	0,22	0,416
	Government Spending	1,0	142	31,45	26,285
	Economic Growth	-9,0	23	4,51	3,325
	Gini Ratio	0,236	0,448	0,344	0.043
	Unemployment	1,4	10,9	5,83	1,83
High poverty (Provincial poverty > Indonesian poverty)	Location dummy	0,00	1,00	0,56	0,497
	Government Spending	5	141	31,37	29,07
	Economic Growth	-15	22	4,78	3,819
	Gini Ratio	0,288	0,459	0,366	0,36
	Unemployment	2,08	10,5	4,51	1,58

Source: data processing results

From Table 3, it can be seen that average government spending and unemployment are higher in provinces with low poverty rates (below the national poverty level). In contrast, economic growth and development inequality are, on average, greater in provinces with high poverty rates (above the national poverty level). In other words, provinces with high poverty rates (higher than Indonesia's poverty rate) have higher economic growth and greater regional inequality, and are located in the Eastern Region of Indonesia.

3. 3. Results of Discriminant Analysis

Using the discriminatory analysis method, this study classifies provinces into 2 groups based on comparisons of provincial poverty levels with the national poverty rate each year. Group 1 is a province with a poverty rate higher than the national poverty rate. Conversely, with group 0.
Furthermore, in discriminant analysis, several stages are carried out to determine whether group 1 is different from group 0 through several tests, namely the covariance homogeneity assumption test (Box's M), the overall model (Wilks' Lambda and chi-square), the tests of Equality of Group Means, *and* the accuracy of the classification of the discriminant function.

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Table 4. Testing Homogeneity Assumptions in Discriminant Functions

Covariance homogeneity assumption test	2016	2020	2024
Box's M	5.764	26.647	6.138
F approx	0.858	1.008	0.918
df1	6	21	6
Qf2	6318.516	3646.517	7119.187
sig	0.525	0.449	0.481

Source: research results.

The first test assessed the homogeneity assumption of the discriminant function using Box's M at $\alpha = 5\%$ (Table 4). If the p-value > 0.05, then the homogeneity assumption is met. Table 4 indicates that the p-value is> 0.05 for all years of the study, namely 2016, 2020, and 2024. This means that there is no significant difference in the covariance matrix between groups. Thus, the discriminant model based on 3 years of observations warrants further analysis.

In the second stage, the overall model and classification results were tested in the three years of observation presented in Table 5. The table shows that the discriminant model is significant for 2016, 2020, and 2024, as indicated by Wilks' significant Lambda at $\alpha = 5\%$. Nevertheless, the model yielded a fairly low canonical correlation, suggesting a relationship between the discriminant functions and non-strong group membership. Only in 2020 was there a fairly strong relationship, as indicated by a canonical correlation of 0.654. Thus, the model correctly classified 42,7% of the provinces in 2020 (R^2). This result is supported by the 2020 classification results, which show that accuracy is 82.4% in the original sample and only 67.6% in the cross-validated sample. The cross-validated value indicates that the discriminant function has less stable predictive performance. The same will happen to the discriminatory function in 2016 and 2024.

Table 5. Testing of discriminant functions (Overall model) and classification results in 2016, 2020, and 2024.

	Year		
	2016	2020	2024
Wilks' Lambda	0.764	0.572	0.756
Chi-square	7.930	16.178	8.546
sig	0.047	0.013	0.036
Eigenvalue	0.308	0.747	0.323
Canonical Correlation	0.486	0.654	0.494
R2	0.236	0.427	0.244
Classification result			
Original sample	69.7%	82.4%	76.5%
Cross-validated sample	60.6%	67.6%	67.6%

Source: research results.

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Tables 4 and 5 show that the discriminant model is feasible. However, the independent variables that form the discriminant model differ for each year of observation. If all independent variables were included in the discriminant model, they did not meet the homogeneity assumption test or the overall test. Therefore, the discriminant model is formed based on the results of the homogeneity assumption test and the overall test.

The last stage of testing is the test of equality of group means, based on Tables 4 and 5 from three years of research. The determinants of the difference between the two groups in 2016, presented in Table 6, are location, unemployment, and population. The variables that distinguish the two groups in 2020 are location, unemployment, population, Gini ratio, economic growth, and government spending (Table 7). Meanwhile, the variables that determine the difference between the two groups in 2024 are location, unemployment, and Gini ratios. Across the three tables, it was shown that two independent variables significantly differentiated the two groups over the three years of observation: location and unemployment. Especially in 2020, government spending also differentiates the two groups with $\alpha = 10\%$.

Table 6. Test of Equality of Group Means in 2016

Independent variables		*Test of Equality of Group Means*			Canonical loadings
		Wilks' Lambda	F value	Significance	
D_Loc	Location	0.869	4.685	0.038	0.700
EU	Unemployment	0.878	4.322	0.046	-0.672
Pop	Population	0.998	0.066	0.798	0.083

Source: Data processing results

Table 7. Test of Equality of Group Means in 2020

Independent variables		*Test of Equality of Group Means*			Canonical loadings
		Wilks' Lambda	F value	Significance	
D_Loc	Location	0.878	4.453	0.043	0.432
EU	Unemployment	0.782	8.908	0.005	-0.610
Pop	Population	0.999	0.019	0.891	0.028
G	Gini Ratio	0.896	3.732	0.062	0.395
EC	Economic growth	0.925	2.591	0.117	0.329
GS	Government Spending	0.999	0.019	0.890	0.028

Source: Data processing results

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Table 8. Test of Equality of Group Means in 2024

Independent variables		*Test of Equality of Group Means*			Canonical loadings
		Wilks' Lambda	F value	Significance	
D_Loc	Location	0.878	4.453	0.043	0.656
EU	Unemployment	0.875	4.566	0.040	-0.664
G	Gini Ratio	0.930	2.408	0.131	0.482

Source: Data processing results

Next, discriminant loadings are described. The interpretation of the discriminant function is based on the discriminant loadings. Discriminant loadings are considered appropriate to measure the discriminant power of each independent variable. The requirements for independent variables to be considered to have discriminant power are (1) the variable is included in the discriminant function, and (2) it has discriminant loadings greater than 0.40. Thus, for the 2016 discriminant model, the significant determinant with the largest coefficient was the Location dummy (0.700). Thus, location (Eastern Region of Indonesia) is the most discriminating variable. On the other hand, unemployment (significance with the smallest coefficient) becomes the least discriminating variable. A positive sign on the location dummy indicates that the eastern region belongs to group 1 (the provincial poverty rate exceeds the national poverty level). On the other hand, the negative sign (-0.672) for unemployment indicates that the province with the lowest unemployment rate belongs to group 0 (its poverty rate is lower than the national poverty rate).

The most discriminating variable in 2020 and 2024 differs from that in 2016. The most discriminating variable after 2016 is unemployment. The least discriminating variable in 2024 is the Location dummy. Meanwhile, in 2020, the most discriminating variable was government spending ($\alpha = 10\%$).

4. Discussion

The most discriminating group between provinces with high poverty rates (above average) and low poverty rates (below average) is location, where provinces in the Eastern Region of Indonesia experience more severe poverty than provinces in the Western Region of Indonesia. This is in accordance with previous research conducted in Papua. The results of this study also support the study conducted (Albalate et al., 2022; Wahyuni & Damayanti, 2014), which states that the geographical location of the capital city, far from the center of the capital, far from the market, and far from the workplace, is the cause of a region being poorer than other areas. This study finds that the Eastern region of Indonesia, which is far from the capital, is poorer than the Western region.

The results of this study are consistent with BAPPENAS (2018), which attributes the high poverty in five provinces in Indonesia (namely Papua, West Papua, NTT, Maluku, and Gorontalo) to location isolation (topographic conditions). Isolated locations hamper population

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mobility, the distribution of goods and services, and the optimal provision of basic services to the community.

Likewise, the unemployment rate is a key differentiator between provincial groups with high and low poverty rates, with provinces with higher poverty rates having lower unemployment rates. Even in 2020 and 2024, unemployment will be the most discriminating variable. This condition illustrates that the province's high unemployment rate leads to high poverty, and vice versa. The same thing was expressed, namely, that open unemployment has a positive effect on poverty. In his study in Papua (Indonesia), it was explained that high unemployment in the region led to a high level of poverty. The presence of unemployment in the family lowers income, reducing the family's ability to meet basic needs and making it poor. Thus, the increasing number of unemployed people reduces incomes, leaving them unable to meet their basic needs (Amalia et al., 2018).

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