The impact of fiscal policy on the underprivileged population in Indonesia

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Abstract

This study examines the impact of government spending across various sectors on poverty in Indonesia, motivated by the need to understand how fiscal policies affect the well-being of people experiencing poverty. Using Ordinary Least Square (OLS) and Least Square Dummy Variable (LSDV) models, the findings reveal that government spending on public services, health, education, and social protection significantly affects the number of poor people. However, spending on public services and education shows a positive coefficient, which may result from mandatory spending regulations not directly aimed at improving welfare. In contrast, government spending in the economic sector has an insignificant impact on poverty, indicating that the effects may require more than one period to manifest. Further analysis is necessary to explore this relationship. The consistency of the results was enhanced by incorporating district/city status as a predictor. These findings highlight the need for a more targeted approach to government spending to reduce poverty in Indonesia effectively.

Keywords: *Fiscal, Government spending, Poverty, Welfare*

JEL Classification: E62, H53, I31, I32

INTRODUCTION

Welfare is a measure used to assess societal well-being, often defined as a condition where the current standard of living has improved, marked by the ability to meet basic and non-basic needs and freedom from economic poverty (Aliyah, 2022). Governments and economists generally measure welfare through economic growth, often using Gross Domestic Product (GDP) as a key indicator (Aprianti et al., 2023; Muliati et al., 2021). GDP represents consumption and productivity, influencing societal welfare (Dalimunthe & Imsar, 2023). Since welfare is assessed through GDP, it can also be represented by an individual's income level (Todaro & Smith, 2015).

Pigou suggested that welfare, as assessed through poverty, represents "objective welfare," measured by a person's expenditure to meet their living needs (Busro, 2018). In this context, objectively assessing welfare is equivalent to observing poverty (Prasetyo, 2023). This approach aligns with assessments by the Central Bureau of Statistics (BPS) and the National Population and Family Planning Coordinating Board (BKKBN), which evaluate welfare based on an individual's ability to meet basic needs, material capacity, knowledge, and health (Cahyat et al., 2007). Based on this, the

population living below the poverty line is often referred to as the "non-welfare population."

As a fiscal authority, the government plays a role in addressing economic gaps that cannot be resolved by households and the private sector, particularly by promoting prosperity. Regions with substantial fiscal budgets and appropriate allocations tend to be more successful in reducing poverty (Risdiyanto et al., 2023). Numerous researchers have explored the impact of government fiscal policy on poverty reduction. For example, Nurias et al. (2023) found that government spending on health and education had a positive impact on reducing poverty in Indonesia, based on provincial data. Similarly, Arham et al. (2024) examined fiscal transfers as a poverty alleviation instrument in Gorontalo, Indonesia.

On a broader scale, a study in Turkey by Celikay and Gumus (2017) found inconsistencies in the relationship between government spending and poverty. While fiscal policy had a negative impact on poverty in the short term, it had the opposite effect in the long term. Another study in 2027 highlighted that high levels of government spending contribute to poverty alleviation in developing countries. In response to these findings, this study focuses on government spending across various sectors and its effect on poverty in Indonesia.

In recent years, Indonesia's income levels have decreased due to the COVID-19 pandemic, which began in early 2020. This economic downturn caused national poverty to rise from 9.22% at the beginning of the year to 10.19% by the end of 2020. The Ministry of Finance confirmed that poverty increased due to declining employment and other economic activities during the pandemic (Kemenkeu, 2021).

Figure 1 shows that poverty in Indonesia decreased from 2015 to 2020 but increased again from 2020 to 2021 due to the COVID-19 pandemic. However, poverty in September 2022 was recorded at 9.57%, a 0.14% decrease from the previous year (BPS Indonesia, 2023a, 2023b). In 2020, the government allocated Rp220.4 trillion for various social protection programs to reduce poverty and improve overall welfare (Kemenkeu, 2021).

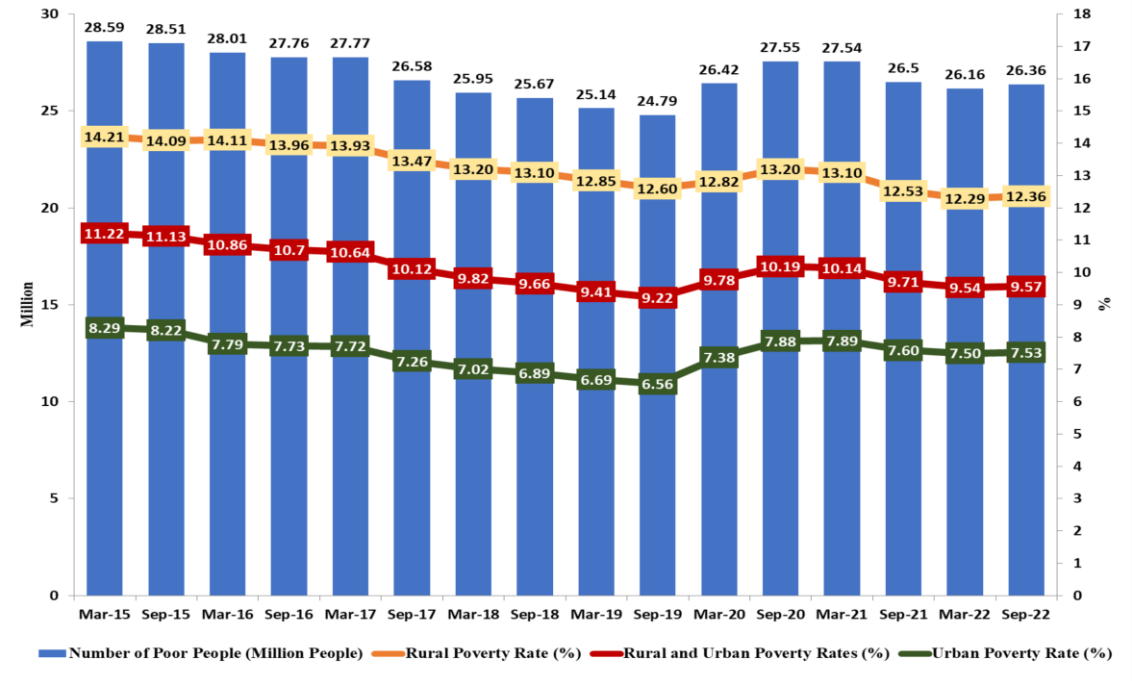

Figure 1. Development of poverty rates in urban and rural areas in Indonesia

Various government programs initiated in 2020 were extended into 2021 despite the economic crisis caused by the COVID-19 pandemic. Through regional budget allocations per function, the government concentrated on initiatives targeting the lower-middle class (Kemenko PMK, 2021). Among the eleven budget functions, at least five directly contributed to improving societal welfare. For example, expenditures on public services were used to finance subsidies, similar to those on the economic function, which provided subsidies and support for small and medium-sized enterprises (SMEs). Health-related expenditures aimed to enhance national healthcare by offering assistance through BPJS and other healthcare support services for the economically disadvantaged.

In the education sector, the government focused on offering scholarships and other assistance to students from low-income families, promoting equitable access to quality education. On the other hand, social protection expenditures continued programs initiated between 2016 and 2020, such as the Family Beneficiary Program (KPM) and the Family Hope Program (PKH). In 2021, direct cash transfers (BLT) and non-cash assistance were extended to those facing economic hardships due to the pandemic. The Ministry of Finance highlighted that all fiscal policies were designed to drive national economic recovery, reduce poverty, and sustain development to create employment opportunities, thereby lowering unemployment rates. This is evidenced by a reduction in the unemployment rate in 2021 compared to the previous year (Kemenkeu, 2021).

Fiscal policy promotes societal welfare and drives national development, particularly government spending. Numerous studies have affirmed this, such as research in Jambi City, which found that government spending positively and significantly impacted economic growth, thereby reflecting improvements in societal welfare (Zahari, 2017). However, government spending alone cannot directly solve poverty, which is a critical welfare indicator. Factors such as the budget size, the timeliness of aid distribution, and the misallocation of resources can undermine the effectiveness of poverty alleviation programs (Ridwan, 2021).

For example, Martha Carolina's research revealed that subsidies and health sector spending are insufficient to reduce poverty (Carolina, 2022). Other studies have echoed these findings, with researchers such as Qarina (2022) and Mukarramah et al. (2019) concluding that capital expenditures had no significant impact on poverty reduction.

Based on these empirical studies, it is clear that government spending alone cannot fully address poverty. Therefore, this research seeks to examine the extent to which fiscal policy, particularly government spending, affects the poor population. This inquiry stems from the observed phenomenon where government expenditures increase annually, yet poverty conditions fluctuate, often worsening during crises such as the COVID-19 pandemic (Kemenkeu, 2021).

METHODS

The data used

This study utilizes data on the number of poor people and government expenditure by function (Public Services, Economic, Health, Education, and Social Protection) from regencies/cities in Indonesia between 2017 and 2022. However, data from districts/cities in DKI Jakarta Province were excluded due to outliers, which were significantly higher than other regions in Indonesia.

Data analysis

A multiple linear regression analysis was performed using a fixed-effect model approach to address the research question. The dependent variable, Y, represents the number of poor people, which was transformed into its natural logarithm form. The independent variables, X1 to X5, represent government expenditures by function (in billion Rupiah), categorized into Public Services, Economic, Health, Education, and Social Protection.

Additionally, regional status category variables were analyzed for differences between regions with city status. In this analysis, regency regions were categorized as "1," while city regions were categorized as "0," using a dummy variable to observe how regional status affects poverty. The rationale for employing dummy variables lies in Indonesia's two regional groupings—regencies and cities—which impact regional autonomy.

The analysis was carried out in two stages: 1) Multiple linear regression analysis without dummy variables (Ordinary Least Squares or OLS) and 2) Multiple linear regression analysis with dummy variables (Least Squares Dummy Variable or LSDV). These two approaches yielded the following analytical models:
Regression Analysis without Dummy Variables:

$$LnY = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon \quad (1)$$

An analysis with dummy variables was conducted to examine the impact of regional status on poverty in Indonesia using the following model:
Regression Analysis with Dummy Variables:

$$LnY = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6D + \varepsilon \quad (2)$$

Where:
LnY = Natural logarithm of the number of poor people
α = Constant
$\beta1, \beta2, ..., \beta6$ = Regression coefficient
X_1 = Government expenditure on Public Services
X_2 = Government expenditure on Economic Functions
X_3 = Government expenditure on Health
X_4 = Government expenditure on Education
X_5 = Government expenditure on Social Protection
D = Dummy variable for regional status (Regency = 1, City = 0)
ε = error term

The dependent variable, LnY, represents the population below a certain threshold, commonly called the poverty line, which was transformed into its logarithmic form. The independent variables (X1 to X5) represent different types of government expenditures by function. For example, public service spending includes general administrative costs, operational expenses, and maintenance for public service functions.

RESULTS AND DISCUSSION

Overview of fiscal policy in Indonesia

Fiscal policy serves as a key instrument for regulating income through taxation and managing expenditure through government spending, with the primary goal of enhancing the economic system to create societal welfare (Madjid, 2012). In Indonesia,

fiscal policy is implemented by the government as part of a comprehensive approach to managing the national economy (Sidik, 2017).

As a fiscal policy component, government expenditure is categorized by function, including public services, defense, public order and safety, economic affairs, environment, housing and public facilities, health, tourism, religion, education, social protection, and justice. These functions are further divided into four main expenditure components: personnel expenditure, goods expenditure, capital expenditure, and other expenditures within each function. This classification system helps the government allocate the budget more effectively and efficiently to improve societal welfare (Zahara et al., 2021).

Since welfare is an abstract concept, Pigou's theory suggests that it can be objectively measured by examining poverty levels (Busro, 2018). To improve welfare, the Indonesian government has consistently increased budget allocations for various programs and forms of assistance. Over time, these budget increases have been accompanied by reductions in poverty rates, although these rates have fluctuated, particularly during the 2020 and 2021 COVID-19 pandemic, when poverty levels rose. Despite this, the poverty rate has remained around ten percent, reflecting an overall improvement compared to previous years, such as 2015. This trend supports the conclusion that fiscal policy has positively impacted societal welfare in Indonesia when assessed from the poverty reduction perspective (Kemenkeu, 2021).

Government expenditure in the public services sector

Based on data released by the Ministry of Finance, government expenditure in the public services sector has consistently been the highest compared to other sectors, such as the economy, health, education, and social protection. The realization of government expenditure in this sector from 2017 to 2022 is shown in Figure 2.

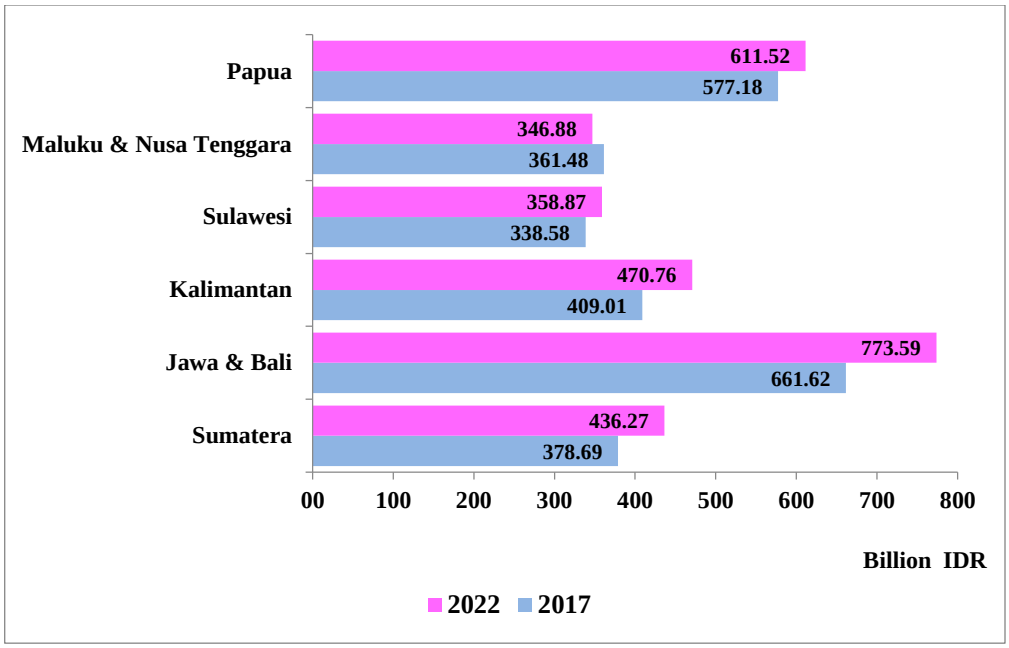

Figure 2. Aggregated realization of regency/city government expenditures in the public services sector by islands in Indonesia, 2017-2022

Over the past five years, there has been a notable increase in government spending on public services. On average, the regions of Java and Bali continue to dominate,

followed by Papua. The realization of public services expenditures in Java ranges from 500 billion to over 1 trillion Indonesian Rupiah. This budget covers a wide array of services, including administrative services, tax subsidies, grants, and payments on government debt interest (Kemenkeu, 2021).

However, much of this spending, such as debt payments and administrative costs, does not benefit the impoverished population directly. Despite the substantial budget allocated to public services, the effectiveness of these expenditures in reducing poverty remains uncertain.

Government expenditure on economic functions

In the economic domain, government expenditure supports several strategic programs, including subsidies for those in poverty, the development of SMEs (Small and Medium Enterprises), food security initiatives, transportation infrastructure, digitization, and energy resilience. From 2016 to 2019, government spending in this area grew by an average of 7.5 percent, with a significant portion allocated to infrastructure development—such as roads, bridges, railways, and airport expansions—mainly in urban areas.

Over the past five years, spending in this sector has notably increased. As shown in Figure 3, government expenditure is highest on the islands of Kalimantan (18%) and Java (26%). This reflects the higher levels of economic activity and larger populations in these regions compared to other parts of Indonesia.

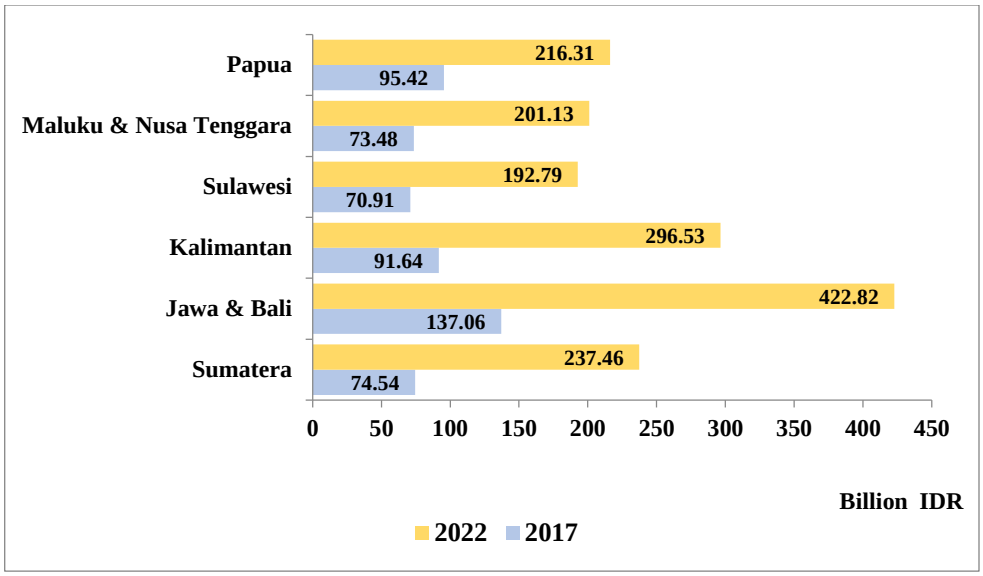

Figure 3. Aggregated realization of regency/city government expenditures on economic functions by islands in Indonesia, 2017-2022

At first glance, spending allocation seems concentrated in central regions, particularly Java and Kalimantan. However, recent efforts have been made to promote more balanced development across all regions of Indonesia. These initiatives aim to ensure that the benefits of infrastructure projects and support for Micro, Small, and Medium Enterprises (MSMEs) are distributed more equitably. The ultimate goal is to strengthen the overall economy and ensure that communities throughout Indonesia experience the positive impacts of development (Kemenkeu, 2021).

Government expenditure on the health sector

According to financial records from the Ministry of Finance of the Republic of

Indonesia, government expenditure on the health sector is primarily directed towards national health recovery (especially during the Covid-19 pandemic), providing assistance for BPJS Health insurance premiums, and expanding the National Health Insurance Premium Assistance (PBI JKN) program for impoverished individuals who cannot afford healthcare (Kemenkeu, 2021). The allocated budget varies by region, as shown in Figure 4.

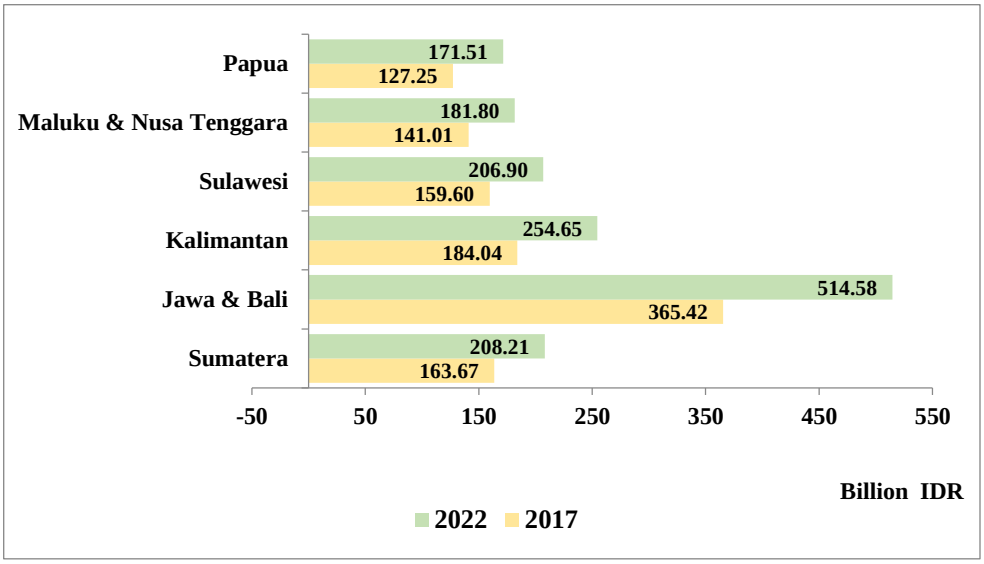

Figure 4. Aggregated realization of regency/city government expenditures on the health sector by islands in Indonesia, 2017-2022

As seen in Figure 4, government spending on health is highest in the Java and Bali regions, which have the largest populations in Indonesia. The distribution of health expenditure tends to correlate with population density, with more densely populated areas such as Java and Bali receiving a larger share of health spending. These regions also have better health infrastructure than the eastern parts of Indonesia.

The government aims to expand access to healthcare services and improve the distribution of health facilities through increased spending on the health sector. Ultimately, greater investment in healthcare is expected to enhance public health, boost population productivity, and help reduce poverty rates.

Government expenditure in the education sector

One notable aspect of Indonesia's fiscal policy is that approximately 20 percent of the national budget (APBN) is allocated to the education sector. This demonstrates the government's strong commitment to improving the quality of human resources nationwide. Government expenditure on education covers various components, including improving access to and quality educational services, reallocating School Operational Assistance (BOS), expanding educational infrastructure, and increasing the number of scholarship recipients (Kemenkeu, 2021). The government allocates more than 500 billion Rupiah annually to the education sector.

As depicted in Figure 5, the largest budget realization is concentrated in the Java and Bali regions, which is expected given their larger population and higher regional income. However, it is noteworthy that education spending is relatively evenly distributed across other regions outside Java, indicating the government's efforts to promote equity in the education sector throughout Indonesia.

Through these efforts, the government aims to enhance human resources by

improving access to education, which is expected to improve the quality of life and, in the long run, help reduce poverty in Indonesia (Kemenkeu, 2021).

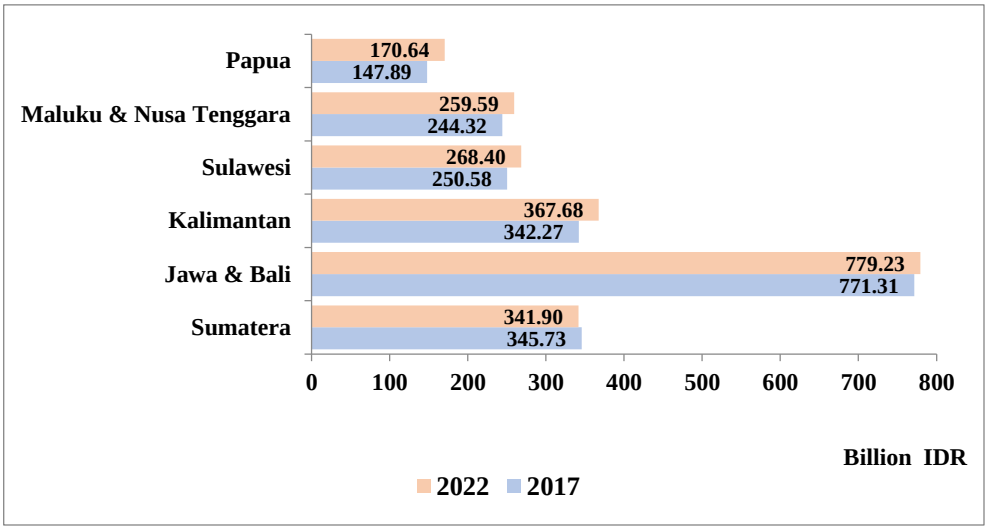

Figure 5. Aggregated realization of regency/city government expenditures on the education sector by islands in Indonesia, 2017-2022

Government expenditure in the social protection sector

According to data from the Ministry of Finance, the budget allocated for the social protection sector is the smallest compared to other sectors, such as public services, the economy, health, and education. Despite this, government expenditure on social protection is crucial in poverty reduction efforts.

Social protection programs include initiatives like the Program Keluarga Harapan (PKH) and Keluarga Penerima Manfaat (KPM), which provide subsidies for basic needs and benefit economically disadvantaged communities (Kemenkeu, 2021). The realization of government expenditure in the social protection sector from 2017 to 2022 is illustrated in Figure 6.

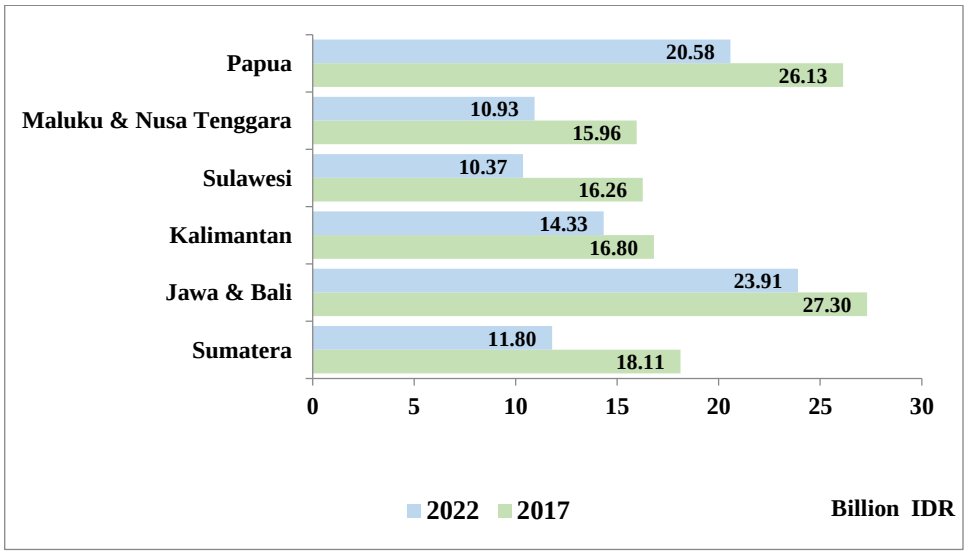

Figure 6. Aggregated realization of regency/city government expenditures on the social protection sector by islands in Indonesia, 2017-2022

Unlike other sectors, the allocation for social protection has decreased over the last five years. As shown in the figure, the distribution of budget realization for social protection is relatively balanced across most regions in Indonesia. This reflects the government's focus on economic and health recovery following the Covid-19 pandemic.

Social protection spending, particularly during the pandemic, was essential in mitigating the economic impact on vulnerable communities. Programs like Direct Cash Assistance (BLT) were critical during this period, aiming to prevent extreme poverty and help stabilize the economy (Kemenkeu, 2021). These interventions helped prevent a sharp increase in poverty and contributed to a quicker economic recovery as the pandemic subsided.

Poverty in Indonesia

According to data from the Indonesian Central Statistics Agency (BPS Indonesia), the poverty rate in Indonesia has been generally declining, from 27,382 thousand people in 2017 to 25,659 thousand people in 2022. This decrease in the number of poor residents is seen across all islands in Indonesia (as shown in Figure 7). However, when analyzed by district/city level, not all areas experienced a decline. Out of 508 districts/cities, 147 (28.94%) experienced an increase in the number of poor residents (detailed in Appendices 1 to 6, highlighted in yellow).

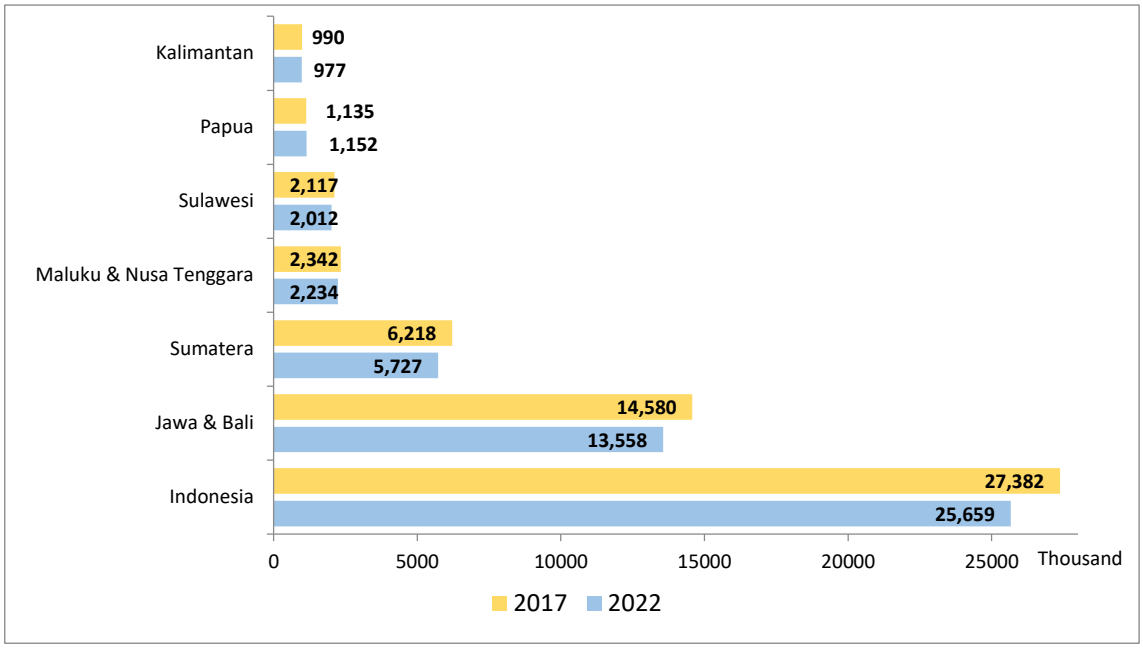

Figure 7. Number of poor population by islands in Indonesia, 2017 and 2022

Most of the poverty is concentrated on Java and Bali Island, which, in 2022, accounted for 13,558 thousand poor residents, or 52.84% of the total poor population in Indonesia. There are variations in the number of poor residents between districts/cities on all islands. For example, on Sumatra Island, Medan City had 187.74 thousand poor residents, while Sawahlunto Regency only had 1.47 thousand. Similarly, on Java and Bali, Bogor Regency had 474.74 thousand, while Mojokerto City had only 7.88 thousand poor residents. These variations are influenced not only by the total population but also by differences in poverty levels across districts/cities in Indonesia. (Detailed information is provided in Appendices 1 to 6).

Although poverty has been reduced, the distribution of poor people across regions has remained relatively constant. This suggests that while poverty rates are decreasing

overall, the geographic concentration of poverty has not shifted dramatically. These observations suggest a potential relationship between the reduction in poverty and increases in government spending, which has risen annually. This hypothesis will be further explored through detailed data analysis.

The influence of government expenditure on the number of poor people in Indonesia

Before conducting further analysis, a feasibility test of the data was performed. Since this research uses panel data, a critical test is required, which is the multicollinearity test. This test examines whether the regression model shows high correlations between the independent variables. If there is a high correlation, the model may exhibit multicollinearity. The model is considered free from multicollinearity symptoms if the Variance Inflation Factor (VIF) value is less than 10. The results of the multicollinearity test are shown in Table 1.

Table 1. Multicollinearity test results

Variable	VIF
Government expenditure on public services	1.11
Government expenditure on economic functions	1.06
Government expenditure on health	1.11
Government expenditure on education	1.14
Government expenditure on social protection	1.09
Mean VIF	1.10

Based on Table 1, all independent variables have VIF values below 10, indicating no symptoms of multicollinearity. Therefore, the data is deemed suitable for regression analysis.

The results of the multicollinearity test indicated that the data is suitable for further analysis. Consequently, Ordinary Least Square (OLS) and Least Square Dummy Variable (LSDV) regression analyses were conducted, as outlined in the planned analysis model. The outcomes from the analyses are presented in Table 2.

Table 2. Multiple regression analysis of Ordinary Least Square (OLS) and Least Square Dummy Variable (LSDV)

Ordinary Least Square				
Number of Poor Population	Coefficient	Std.err	t	P>|t|
Public service	.0009046	.0000682	13.26	0.000
Economy	-.0000783	.0000946	0.83	0.408
Health	-.0006668	.0001357	4.91	0.000
Education	.0022268	.0000797	27.94	0.000
Social Protection	-.0077797	.0009047	8.60	0.000
Constant	2.399966	.0250515	95.80	0.000
Least Square Dummy Variable				
Number of Poor Population	Coefficient	Std.err	t	P>|t|
Public service	.0006944	.0000719	9.65	0.000
Economy	-.0000626	.0000936	0.67	0.503
Health	-.0004671	.0001363	3.43	0.001
Education	.0021958	.0000789	27.83	0.000
Social Protection	-.0056491	.00093	6.07	0.000
Region Status Dummy	.2917678	.0347948	8.39	0.000
Constant	2.180205	.0360614	60.46	0.000

The influence of government expenditure in the public services sector on the poor population

The analysis indicates that government expenditure in the public services sector positively and significantly impacts poor people. This suggests that the number of poor people rises as government spending on public services increases. Thus, these results reject this study's null hypothesis (H_0).

According to the coefficient values from the OLS analysis, every 1 billion increase in government expenditure in public services leads to a 0.0009046 percent rise in poverty. Similarly, the LSDV analysis shows that a 1 billion increase in public services expenditure results in a 0.0006944 percent increase in poverty.

These findings contrast with the theories of Pigou's Welfare and Pro-Poor Budget theories, as the coefficient values are inversely proportional to the predictions of these theories. Administratively, much of the public services spending is allocated to employee salaries, which is not directly connected to poverty reduction. Furthermore, the components of public services spending have not fully, appropriately, and comprehensively reached people experiencing poverty. This could be due to the concentration of public service access in urban areas, making it difficult for poor communities in remote areas to benefit. Additionally, data from the Indonesian Central Statistics Agency (BPS Indonesia) indicates that poverty is more prevalent in rural and remote areas than in urban areas (BPS Indonesia, 2023a, 2023b).

Public services can be divided into sub-sectors: goods, administrative, and general services. Goods services, such as telecommunications networks, electricity, and clean water, are not yet fully accessible to the entire population, particularly people experiencing poverty in Indonesia. As a result, this segment has not significantly contributed to poverty reduction (Rohman et al., 2021). Unclear regulations, high costs, and accessibility issues for rural communities often hinder administrative services involving government administrative affairs. These services are predominantly located in urban areas, far from rural villages. Furthermore, budget allocations in this sector are sometimes directed toward government debt interest payments unrelated to poverty reduction.

Regarding general services, which include sectors such as education, health, and transportation, each has its budget allocations, such as government expenditure on education and health (Kemenkeu, 2021). However, these budgets are also included in public services expenditure, which creates the possibility that positive achievements in public services are recorded as successes in other sectors like education and health. In simple terms, there seems to be a governmental oversight in managing sub-sectors within public services, where poverty-reducing achievements may be attributed to other sectors.

Given the complexity of these issues, it is understandable that government expenditure in the public services sector has not effectively reduced poverty in Indonesia. The government should ideally formulate better policies to provide services to urban communities and ensure maximum efforts to reach rural areas. This is essential because poverty is significantly higher in rural areas. Addressing rural poverty is crucial for overall poverty reduction efforts.

The influence of government expenditure in the economic functions on the poor population

Government expenditure in economic functions has a negative but insignificant effect on the number of poor people. This suggests that when spending in the economic

sector increases, the number of poor people does not significantly decrease.

According to the coefficient values obtained from the OLS analysis, for every increase of 1 billion in government expenditure in the economic sector, poverty decreases by 0.0000783 percent. In the LSDV analysis, a similar 1 billion increase in economic sector expenditure results in a 0.0000626 percent decrease in poverty. However, these values are not statistically significant.

These findings align with previous research conducted in Aceh Province, which also concluded that government spending in the economic sector can reduce poverty (Syamsuri & Bandiyono, 2018). The coefficient values from this analysis are consistent with Pigou's Welfare Theory and the Pro-Poor Budget Theory, which state that government spending in the economic sector leads to economic growth and poverty reduction (Busro, 2018; Padriyansyah, 2015). Similarly, Anderson et al. (2018) argue that higher government spending does not significantly reduce poverty, particularly in developing countries, where fiscal policy tends to have a limited redistributive role.

The data analyzed (Kemenkeu, 2021) shows that government spending on economic functions covers a range of areas, including the use of technology and communication, food security through increased food production and agricultural infrastructure, development of transportation facilities, and renewable energy programs. It also involves increasing access to capital and enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs). Poverty alleviation and infrastructure development are essential for growth, with countries with high infrastructure development typically experiencing lower poverty rates (Sasmal & Sasmal, 2016).

In addition, government expenditure in the economic sector includes investment in social and physical infrastructure such as rural roads, irrigation systems, schools, electricity, sanitation, and clean water facilities. These projects represent physical development, often requiring time to reduce poverty significantly. Collectively, these efforts contribute to poverty alleviation in Indonesia (Syamsuri & Bandiyono, 2018). This context suggests that government expenditure in the form of capital spending can impact government performance, but the effects on poverty reduction may only become evident over time (Akbar et al., 2020; Mubarok et al., 2022).

The influence of government expenditure in the health sector on the poor population

Government Expenditure in the Health Sector has a negative and significant effect on impoverished populations. This indicates that as government expenditure in the health sector increases, impoverished populations decrease.

According to the coefficient values from the OLS analysis, for every increase of 1 billion in government expenditure in the health sector, poverty decreases by 0.0006668 percent. Similarly, the LSDV analysis shows that a 1 billion increase in health expenditure results in a 0.0004671 percent reduction in poverty.

These findings suggest that the health sector budget has been effectively allocated, particularly in areas such as improving health facilities, providing free treatment, enhancing nutrition, expanding access to healthcare, and targeting programs for mothers and children, especially those in need. This gradual improvement in community health has increased productivity and reduced poverty rates (Kemenkeu, 2021).

The results align with Pigou's Welfare Theory and the Pro-Poor Budget Theory. They are consistent with previous research conducted in North Sulawesi Province, which concluded that government spending in the health sector can reduce poverty.

However, some communities still have not fully maximized access to healthcare (Palaneven et al., 2018). These findings also align with research by Hossain (2014) in Bangladesh, which concluded that poverty decreases as government spending in the health sector increases.

The influence of government expenditures in the education sector on the poor population

Government spending in the education sector has a positive and significant effect on the number of poor people, as demonstrated by the results of the Ordinary Least Squares (OLS) and Least Squares Dummy Variable (LSDV) analyses. This suggests that when government spending on education increases, the number of poor people also rises. Statistically, these results support the H1 hypothesis and reject the H_0 hypothesis, given that the significance value is less than 0.05.

According to the coefficient values from the OLS analysis, every 1 billion increase in government spending on education results in a 0.0022268 percent increase in poverty. Similarly, the LSDV analysis shows that a 1 billion increase in education spending leads to a 0.0021958 percent rise in poverty.

These findings contradict Pigou's welfare theory, the Pro-Poor Budget theory, and general theories of government expenditure, and they are inconsistent with previous research conducted by Syamsuri and Bandiyono in Aceh Province. Their study indicated that improvements in government budget policies for education could reduce poverty (Syamsuri & Bandiyono, 2018). However, the results of this study align with Palanevan's research in North Sulawesi, which found that government spending on education had not been able to reduce poverty due to misallocated budgets (Palaneven et al., 2018). Similarly, research by Kholis produced comparable results, suggesting that government spending on education has not yet reduced poverty. A likely explanation is that education spending does not yield immediate outcomes and requires long-term consistency and continuity (Kholis, 2014).

A key factor contributing to these inconsistencies is that education spending is classified as mandatory. This requirement is outlined in Law No. 20 of 2003 on the National Education System, Article 49, which mandates that at least 20% of the Regional Revenue and Expenditure Budget (APBD) must be allocated to education, excluding teacher salaries and official education costs. This regulation produces a strong positive correlation between total government and education spending. Additionally, the relationship between education spending and poverty reduction is likely indirect. For instance, one regional government performance indicator in education is the average length of schooling, but this area requires further study.

Several factors explain why government spending on education has not reduced poverty. First, unemployment remains a major issue, as many university graduates are unemployed. Data from the National Labor Force Survey (Sakernas) shows that 20.4 percent of the unemployed are university graduates, while 79.5 percent are high school graduates. Second, educational inequality remains a problem in Indonesia, particularly in rural areas and the eastern part of the country, where schools often have inadequate facilities and lower-quality teachers. Consequently, even if poorer students have access to education, poverty and inequality persist due to the poor quality of education. Third, as students progress in age and education levels, school enrollment rates tend to decline, especially when comparing urban and rural areas. In villages, school enrollment drops by about 17 to 18 percent compared to cities, a decline attributed to minimal educational

facilities and low-income family economic conditions (BPS Indonesia, 2019).

The influence of government expenditure in the social protection sector on the poor population

Government expenditure in the Social Protection sector has a positive and significant effect on reducing the number of poor people. This means that as government expenditure in the social protection sector increases, the number of poor people decreases.

The OLS coefficient analysis found that for every 1 billion increase in government expenditure in the social protection sector, poverty decreases by 0.0077797 percent. Similarly, the LSDV analysis indicates that a 1 billion increase in social protection expenditure results in a 0.0056491 percent reduction in poverty.

These findings are consistent with the theories applied in this research: government expenditure theory, Pigou's Welfare Theory, and the Pro-Poor Budget Theory. They also align with previous studies conducted by Syamsuri & Bandiyono (2018) in Aceh Province and Putri & Putri (2021), concluding that government expenditure in the social protection sector can effectively reduce societal poverty.

The results indicate that increased government spending in the social protection sector helps to reduce poverty by ensuring the proper implementation of government programs aligned with their objectives. The allocated budget in this sector is directed toward direct cash assistance to individuals, helping them meet their basic needs. Some of the flagship programs under social protection include the Family Hope Program (PKH), Beneficiary Family Program (KPM), and Non-Cash Food Assistance Program (BPNT). Additional programs assist marginalized groups such as people with disabilities, social welfare recipients, older people, and children (Kemenkeu, 2021).

Furthermore, according to Syamsuri & Bandiyono (2018), the success of these government programs and policies in empowering impoverished individuals, supporting remote Indigenous communities, and fostering social welfare rehabilitation has been influenced by increased government expenditure in the social protection sector. This, in turn, has contributed to a decrease in the number of impoverished people.

The influence of regional status on the poor population

Using dummy variables provides statistical testing power to assess the impact of expenditure classification on poverty, with the direction of the relationship remaining consistent towards poverty. The next implication is that the constant value from the Least Square Dummy Variable (LSDV) method being greater than that from the Ordinary Least Square (OLS) method indicates that regional characteristics significantly influence the initial conditions of poverty.

The poverty level in districts is higher than in cities, as demonstrated by the Regional Status Dummy coefficient of 0.2917678 percent, meaning that, on average, poverty in districts is 0.2917678 percent greater than in cities.

Several factors likely contribute to this phenomenon, although they were not explored in depth in this research. Based on regional data, our hypothesis suggests that district areas often suffer from inadequate infrastructure, economic activities tend to be more traditional and less diversified, investment and household expenditure are higher in urban areas, and access to education remains a challenge in many districts (Restuhadi et al., 2021).

CONCLUSION AND RECOMMENDATIONS

Conclusion

Through various forms of government spending, government fiscal policy has an overall effect on poverty in Indonesia, with different sectors impacting the non-prosperous population in distinct ways. Government spending in the economy, health, and social protection sectors has a negative effect on poverty, meaning that increased spending in these areas reduces the number of poor people. Conversely, spending in the public services and education sectors has a positive effect, meaning that spending in these areas significantly increases the number of poor people. This counterintuitive result may be a short-term consequence of mandatory spending regulations. Our analysis revealed that much of the spending in public services is allocated to salary payments and administrative costs, while education spending correlates with total regional government spending.

Recommendations

Based on the findings of this research, the government needs to re-evaluate and improve the efficiency of the budget, particularly in the fields of public services and education, which, according to this research, have not contributed to poverty reduction. There should be a focus on strengthening spending in the economy, health, and social protection sectors, as these areas effectively reduce poverty in Indonesia.

For education, which is subject to the mandatory 20% spending requirement, the government should prioritize enhancing educational infrastructure in rural areas, particularly in the eastern regions of Indonesia. This should include providing more scholarships, improving facilities, and offering specialized training for teaching staff to address educational inequality in infrastructure, student outcomes, and teacher quality.

Future researchers should incorporate moderating variables when analyzing the relationship between education spending and poverty. Possible moderating variables include the average length of schooling, number of schools, and number of teaching staff. Additionally, time lag effects in the relationship between education spending and poverty should be considered, as these factors require further study.

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Appendix 1. Number of poor population in regencies/cities on Sumatra Island in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Aceh Barat	40.72	38.46	Indragiri Hulu	29.42	27.46
Aceh Besar	62.72	58.18	Kampar	66.33	63.55
Aceh Selatan	32.51	30.78	Kuantan Singingi	31.95	26.61
Aceh Singkil	26.27	24.33	Pelalawan	44.40	47.84
Aceh Tengah	34.24	31.50	Rokan Hilir	53.19	49.59
Aceh Tenggara	30.84	28.42	Rokan Hulu	69.24	73.81
Aceh Timur	63.67	62.16	Siak	26.83	25.71
Aceh Utara	118.74	107.02	Dumai	13.53	10.00
Bireuen	71.54	60.29	Pekanbaru	33.09	35.96
Pidie	92.34	85.87	Kepulauan Meranti	53.05	45.25
Simeulue	18.4	17.86	Batanghari	27.49	26.24
Banda Aceh	19.23	19.90	Bungo	20.81	20.69
Sabang	5.98	5.14	Kerinci	17.62	18.20
Langsa	19.20	19.41	Merangin	35.48	34.14
Lhokseumawe	24.40	23.03	Muaro Jambi	18.28	20.64
Gayo Lues	19.91	18.09	Sarolangun	25.61	26.23
Aceh Barat Daya	26.57	24.00	Tanjung Jabung Barat	36.33	33.95
Aceh Jaya	13.23	12.13	Tanjung Jabung Timur	27.22	23.42
Nagan Raya	31.06	29.63	Tebo	23.18	22.81
Aceh Tamiang	42.01	38.25	Jambi	52.08	50.40
Bener Meriah	29.98	27.93	Sungai Penuh	2.46	2.64
Pidie Jaya	33.6	30.41	Lahat	67.33	65.39
Subulussalam	15.44	14.06	Musi Banyuasin	105.08	102.24
Asahan	83.67	64.49	Musi Rawas	55.96	55.80
Dairi	24.98	22.53	Muara Enim	81.30	73.53
Deli Serdang	97.09	85.28	Ogan Komering Ilir	127.06	113.79
Karo	40.02	35.93	Ogan Komering Ulu	46.34	44.20
Labuhanbatu	42.35	43.27	Palembang	184.41	181.65
Langkat	114.41	100.45	Prabumulih	20.72	22.12
Mandailing Natal	48.3	40.98	Pagar Alam	12.12	12.05
Nias	24.88	23.23	Lubuk Linggau	29.54	30.68
Simalungun	91.35	72.47	Banyuasin	95.28	88.55
Tapanuli Selatan	29.48	23.05	Ogan Ilir	56.84	54.55
Tapanuli Tengah	53.05	47.07	OKU Timur	72.81	69.69
Tapanuli Utara	33.75	27.47	OKU Selatan	38.63	39.61
Toba Samosir	18.49	16.48	Empat Lawang	30.29	31.06
Binjai	18.23	14.61	Penukal Abab Lematang Ilir	26.75	23.14
Medan	204.22	187.740	Musi Rawas Utara	36.45	36.65
Pematang Siantar	25.34	20.53	Bengkulu Selatan	32.66	31.83
Sibolga	11.91	10.05	Bengkulu Utara	38.97	35.51
Tanjung Balai	24.68	22.65	Rejang Lebong	43.85	43.18
Tebing Tinggi	19.06	16.34	Bengkulu	70.16	59.43
Padang Sidempuan	17.76	16.03	Kaur	25.47	22.57
Pakpak Bharat	4.95	4.52	Seluma	39.24	36.71
Nias Selatan	57.95	54.16	Mukomuko	22.51	21.81
Humbang Hasundutan	18.35	17.33	Lebong	13.31	14.14
Serdang Bedagai	56.93	48.22	Kepahiang	21.47	20.73
Samosir	18.43	14.97	Bengkulu Tengah	9.32	11.33
Batu Bara	50.91	49.39	Lampung Barat	42.71	36.20
Padang Lawas	24.42	24.45	Lampung Selatan	150.11	136.21
Padang Lawas Utara	27.98	26.09	Lampung Tengah	162.38	143.34
Labuhanbatu Selatan	37.82	29.38	Lampung Utara	131.78	114.67
Labuhanbatu Utara	40.24	33.91	Lampung Timur	167.64	149.12
Nias Utara	39.47	32.87	Tanggamus	77.53	67.43
Nias Barat	23.33	20.42	Tulang Bawang	44.31	39.19
Gunungsitoli	30.08	21.85	Way Kanan	62.00	54.28
Limapuluh Kota	26.93	26,00	Bandar Lampung	100.5	90.51
Agam	36.57	31.33	Metro	16.06	13.68
Kepulauan Mentawai	12.95	13.74	Pesawaran	71.64	63.17
Padang Pariaman	34.70	26.44	Pringsewu	44.41	38.18
Pasaman	20.38	19.94	Mesuji	15.16	13.88
Pesisir Selatan	35.53	33.78	Tulang Bawang Barat	21.77	20.72
Sijunjung	16.83	15.07	Pesisir Barat	23.76	21.85
Solok (Regency)	33.33	27.16	Bangka	16.45	14.5
Tanah Datar	19.27	14.91	Belitung	14.11	12.34
Bukit Tinggi	6.75	6.16	Pangkal Pinang	9.76	9.76
Padang Panjang	3.22	2.89	Bangka Selatan	7.88	6.81
Padang	43.75	42.37	Bangka Tengah	11.39	9.61
Payakumbuh	7.72	8.08	Bangka Barat	6.06	5.30
Sawahlunto	1.23	1.47	Belitung Timur	8.44	8.47
Solok (City)	2.50	2.28	Natuna	3.53	4.32
Pariaman	4.49	3.80	Kepulauan Anambas	2.84	3.29
Pasaman Barat	30.84	32.91	Karimun	16.94	16.44
Dharmasraya	15.63	15.08	Batam	61.16	82.59
Solok Selatan	11.89	11.81	Tanjung Pinang	19.18	21.67
Bengkalis	38.19	36.03	Lingga	12.35	12.70
Indragiri Hilir	55.4	43.22			

Appendix 2. Number of poor population in regencies/cities on Jawa & Bali Islands in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Bandung (Regency)	268.02	258.61	Tegal (City)	20.11	19.78
Bekasi (Regency)	163.95	201.14	Bantul	139.67	130.13
Bogor (Regency)	487.28	474.74	Gunung Kidul	135.74	122.82
Ciamis	96.76	93.96	Kulon Progo	84.17	73.21
Cianjur	257.41	246.81	Sleman	96.75	98.92
Cirebon (Regency)	279.55	266.1	Yogyakarta	32.20	29.68
Garut	291.24	276.67	Bangkalan	206.53	196.11
Indramayu	233.38	225.04	Banyuwangi	138.54	122.01
Karawang	236.84	199.91	Blitar (Regency)	112.93	101.94
Kuningan	141.55	140.25	Bojonegoro	178.25	153.4
Majalengka	150.26	147.12	Bondowoso	111.66	105.69
Purwakarta	85.25	83.44	Gresik	164.08	149.64
Subang	167.79	155.34	Jember	266.9	232.73
Sukabumi (Regency)	197.12	186.28	Jombang	131.16	115.48
Sumedang	120.63	120.12	Kediri (Regency)	191.08	169.46
Tasikmalaya (Regency)	189.35	194.1	Lamongan	171.38	151.08
Bandung (City)	103.98	109.82	Lumajang	112.65	95.04
Bekasi (City)	136.01	137.39	Madiun (Regency)	83.43	74.07
Bogor (City)	76.53	79.15	Magetan	65.87	62.65
Cirebon (City)	30.19	31.47	Malang (Regency)	283.96	252.88
Depok	52.34	64.36	Mojokerto	111.79	111.03
Sukabumi (City)	27.41	26.59	Nganjuk	125.52	113.63
Tasikmalaya (City)	97.85	87.13	Ngawi	123.76	119.02
Cimahi	34.53	31.16	Pacitan	85.26	76.93
Banjar	12.87	12.73	Pamekasan	137.77	126.02
Bandung Barat	190.89	183.67	Pasuruan (Regency)	165.64	148.62
Pangandaran	39.46	37.91	Ponorogo	99.03	81.8
Banjarnegara	156.83	141.25	Probolinggo (Regency)	236.72	203.23
Banyumas	283.25	220.47	Sampang	225.13	217.97
Batang	81.45	69.94	Sidoarjo	135.42	125.69
Blora	111.88	99.83	Situbondo	88.23	81.46
Boyolali	116.39	97.18	Sumenep	211.92	206.2
Brebes	343.46	290.66	Trenggalek	89.77	76.75
Cilacap	238.32	190.96	Tuban	196.1	178.05
Demak	152.62	143.01	Tulungagung	82.8	70.52
Grobogan	180.95	163.2	Blitar (City)	11.22	10.65
Jepara	98.98	89.08	Kediri (City)	24.07	21.15
Karanganyar	106.78	88.56	Madiun (City)	8.70	8.49
Kebumen	233.45	196.16	Malang (City)	35.88	38.56
Kendal	106.07	93.03	Mojokerto	7.28	7.88
Klaten	164.99	144.87	Pasuruan (City)	14.85	13.02
Kudus	64.45	66.06	Probolinggo (city)	18.23	16.16
Magelang (Regency)	157.15	145.33	Surabaya	154.71	138.21
Pati	141.73	118.04	Batu	8.77	8.05
Pekalongan (Regency)	111.58	87.53	Badung	13.16	18.28
Pemalang	225.00	195.84	Bangli	11.76	12.17
Purbalingga	171.88	145.33	Buleleng	37.48	41.68
Purworejo	98.65	82.64	Gianyar	22.42	24.74
Rembang	115.19	94.56	Jembrana	14.78	15.00
Semarang (Regency)	79.66	78.60	Karangasem	27.02	29.45
Sragen	124.01	115.14	Klungkung	11.15	10.89
Sukoharjo	76.69	68.72	Tabanan	21.66	23.46
Tegal (Regency)	141.8	113.62	Denpasar	20.70	30.02
Temanggung	86.77	73.04	Lebak	111.08	117.22
Wonogiri	123.04	105.19	Pandeglang	117.31	114.65
Wonosobo	159.16	128.11	Serang (Regency)	69.11	75.45
Magelang (City)	10.63	8.65	Tangerang (Regency)	191.62	270.52
Pekalongan (City)	22.51	21.81	Cilegon	14.89	16.46
Salatiga	9.55	9.45	Tangerang (City)	105.34	132.88
Semarang (City)	80.86	79.87	Serang (City)	36.97	42.56
Surakarta	54.89	45.94	Tangerang Selatan	28.73	44.29

Appendix 3. Number of poor population in regencies/cities on Kalimantan Island in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Bengkayang	18.48	15.97	Banjar	16.85	16.71
Landak	44.82	38.65	Barito Kuala	15.64	15.06
Kapuas Hulu	23.96	23.43	Hulu Sungai Selatan	13.45	10.8
Ketapang	54.28	49.92	Hulu Sungai Tengah	16.17	16.14
Mempawah	15.3	14.3	Hulu Sungai Utara	15.35	15.5
Sambas	45.41	37.65	Kotabaru	14.44	15.07
Sanggau	20.62	21.74	Tabalong	15	15.24
Sintang	41.46	36.76	Tanah Laut	15.31	13.54
Pontianak	33.18	29.61	Tapin	7.01	6.98
Singkawang	11.61	10.82	Banjarbaru	11.54	11.61
Sekadau	12.74	11.91	Banjarmasin	28.93	34.01
Melawi	25.28	24.57	Balangan	7.21	7.83
Kayong Utara	10.75	10.52	Tanah Bumbu	17.02	17.22
Kubu Raya	29.52	24.39	Berau	11.86	13.31
Barito Selatan	5.95	6.83	Kutai Kartanegara	56.57	62.87
Barito Utara	6.72	7.7	Kutai Barat	12.8	15.38
Kapuas	18.8	20.18	Kutai Timur	31.95	36.84
Kotawaringin Barat	13.27	12.44	Paser	25.3	27.02
Kotawaringin Timur	27.7	27.56	Balikpapan	17.86	15.83
Palangkaraya	9.91	10.62	Bontang	8.75	8.39
Katingan	9.51	9.71	Samarinda	40.01	41.95
Seruyan	14.04	15.96	Penajam Paser Utara	12	11.59
Sukamara	1.99	2.48	Mahakam Ulu	3.07	3.1
Lamandau	2.74	2.78	Bulungan	13.4	12.58
Gunung Mas	6.67	6.7	Malinau	6.69	5.93
Pulang Pisau	6.54	6.04	Nunukan	11.91	12.86
Murung Raya	6.75	7.69	Tarakan	15.84	16.75
Barito Timur	8.56	8.42	Tana Tidung	1.64	1.35

Appendix 4. Number of poor population in regencies/cities on Sulawesi Island in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Bolaang Mongondow	19.05	17.96	Pinrang	31.43	33.64
Minahasa	26.34	24.34	Sinjai	22.25	21.67
Sangihe	15.38	13.89	Kepulauan Selayar	17.61	16.74
Bitung	14	14	Sidenreng Rappang	15.72	15.56
Manado	23.39	25.38	Soppeng	18.76	17.21
Kepulauan Talaud	8.84	7.72	Takalar	26.99	24.75
Minahasa Selatan	20.26	19.07	Tana Toraja	29.18	29.31
Tomohon	6.68	5.79	Wajo	29.19	26.75
Minahasa Utara	14.93	13.5	Pare-pare	8.07	8.01
Kep. Siau Tagulandang Biaro	6.81	5.53	Makassar	68.19	71.83
Kotamobagu	7.28	6.94	Toraja Utara	32.85	27.79
Bolaang Mongondow Utara	6.95	6.01	Buton	13.41	13.61
Minahasa Tenggara	15.56	12.61	Konawe	37.99	32.09
Bolaang Mongondow Timur	4.37	4.32	Kolaka	26.64	31.56
Bolaang Mongondow Selatan	9.05	8.1	Muna	32.35	30.48
Banggai	33.5	28.55	Kendari	18.44	18.72
Banggai Kepulauan	18.56	16.07	Bau-bau	13.55	12.69
Buol	25.76	21.84	Konawe Selatan	33.73	35.79
Toli-Toli	30.64	30.61	Bombana	21.52	19.21
Donggala	54.44	50.22	Wakatobi	15.48	15.01
Morowali	16.99	15.86	Kolaka Utara	23.42	20.63
Poso	41.88	40.78	Konawe Utara	8.44	9.02
Palu	25.49	26.75	Buton Utara	9.63	9.13
Parigi Moutong	82.88	74.6	Konawe Kepulauan	5.97	5.47
Tojo Una Una	27.3	25.33	Kolaka Timur	28.86	19.33
Sigi	29.55	29.94	Muna Barat	12.89	11.56
Banggai Laut	11.63	10.32	Buton Tengah	16.73	13.92
Morowali Utara	19.25	17.49	Buton Selatan	12.66	11.57
Bantaeng	17.91	17.22	Boalemo	34.35	31.97
Barru	16.76	14.73	Gorontalo (Regency)	76.93	66.64
Bone	77.13	80.34	Gorontalo (City)	11.95	12.67
Bulukumba	33.1	31.29	Pohuwato	32.55	29.32
Enrekang	26.71	26.15	Bone Bolango	27.91	25.47
Gowa	62.77	57.96	Gorontalo Utara	21.67	19.38
Jeneponto	55.34	50.59	Majene	23.48	26.62
Luwu	49.8	46.5	Mamuju	19.11	23.26
Luwu Utara	44.04	42.29	Polewali Mandar	69.25	72.87
Maros	38.5	33.9	Mamasa	21.14	23.7
Pangkajene Kepulauan	53.38	47.53	Pasangkayu	7.95	9.3
Palopo	15.44	14.78	Mamuju Tengah	8.82	9.98
Luwu Timur	21.94	20.89			

Appendix 5. Number of poor population in regencies/cities on Maluku and Nusa Tenggara Islands in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Bima (Regency)	72.14	74.46	Sumba Barat Daya	99.55	98.5
Dompu	32.85	33.27	Sumba Tengah	25.37	24.49
Lombok Barat	110.69	99.01	Manggarai Timur	74.85	74.55
Lombok Tengah	142.14	128.00	Sabu Raijua	28.22	30.00
Lombok Timur	215.81	189.64	Malaka	30.91	30.48
Sumbawa	68.69	64.73	Kepulauan Tanimbar	30.67	26.94
Mataram	44.53	45.30	Maluku Tengah	78.72	65.73
Bima (City)	15.36	16.44	Maluku Tenggara	23.69	21.38
Sumbawa Barat	22.33	21.28	Buru	23.44	23.60
Lombok Utara	69.24	59.82	Ambon	19.64	22.58
Alor	43.90	42.30	Seram Bagian Barat	43.44	38.57
Belu	33.95	33.98	Seram Bagian Timur	26.23	23.71
Ende	65.11	63.4	Kepulauan Aru	25.36	22.36
Flores Timur	26.97	28.08	Tual	17.09	16.01
Kupang (Regency)	84.35	88.02	Maluku Barat Daya	21.94	20.36
Lembata	36.26	37.88	Buru Selatan	10.28	9.35
Manggarai	71.86	69.68	Halmahera Tengah	7.42	6.93
Ngada	20.21	20.14	Ternate	6.04	7.54
Sikka	45.01	40.87	Halmahera Barat	9.90	10.06
Sumba Barat	36.69	37.06	Halmahera Timur	13.62	13.00
Sumba Timur	78.18	75.28	Halmahera Selatan	9.25	11.89
Timor Tengah Selatan	136.45	120.45	Halmahera Utara	7.84	9.01
Timor Tengah Utara	58.59	55.88	Kepulauan Sula	8.79	7.84
Kupang (City)	40.22	40.20	Tidore Kepulauan	5.39	6.08
Rote Ndao	45.57	52.43	Pulau Morotai	4.50	3.77
Manggarai Barat	49.39	49.95	Pulau Taliabu	3.71	3.76
Nagekeo	19.20	18.01			

Appendix 6. Number of poor population in regencies/cities on Papua Island in 2017 and 2022.

Regencies/Cities	2017	2022	Regencies/Cities	2017	2022
Biak Numfor	36.63	36.80	Yalimo	21.18	21.72
Jayapura (Regency)	16.31	15.43	Lanny Jaya	69.78	76.46
Jayawijaya	81.94	75.59	Nduga	36.07	41.76
Merauke	24.06	23.96	Dogiyai	28.75	29.32
Mimika	31.15	31.58	Puncak	40.17	41.28
Nabire	36.68	35.43	Intan Jaya	20.29	21.86
Paniai	63.38	62.97	Deiyai	31.33	31.04
Puncak Jaya	44.16	47.61	Bintan	9.37	10.67
Kepulauan Yapen	25.35	26.01	Fak Fak	19.67	18.13
Jayapura (City)	33.51	34.36	Manokwari	40.31	34.96
Sarmi	5.23	5.60	Sorong (Regency)	27.72	26.34
Keerom	9.14	9.27	Sorong (City)	42.20	41.93
Yahukimo	73.27	71.61	Raja Ampat	9.43	8.69
Pegunungan Bintang	22.41	23.5	Sorong Selatan	8.79	9.33
Tolikara	44.47	47.13	Teluk Bintuni	21.09	20.45
Boven Digoel	13.01	14.20	Teluk Wondama	11.25	10.44
Mappi	24.31	26.76	Kaimana	9.74	10.11
Asmat	25.05	25.60	Maybrat	13.87	13.66
Waropen	9.03	10.02	Tambrauw	4.95	5.20
Supiori	7.09	7.94	Manokwari Selatan	7.78	7.68
Mamberamo Raya	6.63	7.68	Pegunungan Arfak	11.58	11.87
Mamberamo Tengah	17.2	19.66			