Government Spending, Population, and Poverty

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ABSTRACT: This study aims to determine the effect of government spending on social assistance, subsidies, and population on poverty for the 2010-2020 period in West Sumatra. Test data analysis using descriptive statistical analysis, classical assumption test, multiple linear regression analysis, and hypothesis testing using partial tests, simultaneous tests, and Adjusted R Square. Data processing method using SPSS Version 16 and Microsoft Excel 2010. The results showed that there was no effect of social assistance on poverty in West Sumatra Province with a probability value of $0.486 > 0.05$, the subsidy variable on poverty in West Sumatra Province with a significant probability of $0.610 > 0.05$, and the population variable on poverty in West Sumatra Province has a significant and negative effect with a significant probability of $0.000 < 0.05$. Simultaneously there is the influence of social assistance, subsidies, and the population on poverty with a probability value of $0.000 < 0.05$. The magnitude of the influence of the independent variable on the dependent variable is shown by the adjusted r-square value of 89.9% and the remaining 10.1% is explained by other factors. The results of the study stated that social assistance and subsidies did not affect poverty, while the government stated that the program was aimed at alleviating poverty. So it is hoped that the programs created by policymakers at the provincial level are truly on target.

KEYWORDS: Social Assistance, Subsidies, Total Population, and Poverty.

I.   INTRODUCTION

Indonesia is a country that has abundant natural resources, various tribes, and various cultures. However, all of this can only make Indonesia classified as a developing country, due to the high population growth rate, high unemployment rate, uneven infrastructure development, high poverty rate, uneven quality education, and others.

Poverty is one of the problems faced by a country/region, until now many countries/governments have not been able to solve the problem. Many government policies and programs as a form of poverty reduction efforts undertaken by the central and regional governments are still inadequate and not on target. Indonesian Central Bureau of Statistics data shows the number of poor people in West Sumatra as follows:

Table 1. Number of Population and Poor Population in Indonesia and West Sumatra (2010-2020)

No	Year	West Sumatera		Indonesia	
		Poor (thousands)	Poor Population (%)	Poor (Thousands)	Poor Population (%)
1	2016	376,51	7,14	27 764,32	10,70
2	2017	359,99	6,75	26 582,99	10,12
3	2018	353,24	6,55	25 674,58	9,66
4	2019	343,09	6,29	24 785,87	9,22
5	2020	364,79	6,56	27 549,69	10,19
6	2021	339,93	6,04	26 503,65	9,71
7	2022	343,82	6,04	26 363,27	9,57

Source: Indonesian Central Bureau of Statistics

Table 1 above illustrates the number of poor people and the percentage of poor people compared to the total population. The trend of the poor tends to decrease, except for 2020 due to the Covid-19 pandemic, and post-covid after 2020 the trend of the number of poor people has returned to decline. The poor population in West Sumatra is much lower than the Indonesian average.

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The value of the percentage of poor people is still large even though it is still below single digits. The most important problem of poverty is the low quality of existing resources, due to the inability to meet the needs for a decent, healthy life and a qualified level of education. The quality of human resources results in many workers who do not match the company's qualifications and are ultimately unemployed.

To overcome the problems caused by poverty, the government carried out many programs, one of which was social assistance. Social Assistance is expenditure in the form of money, goods, or services provided by the Central/Regional Government to the community to protect the community from the possibility of poverty and increase economic capacity and community welfare. Allocation of government spending is intended for the public interest, especially for the people. Appropriate government budget policies can reduce the problem of poverty (Khamilah, 2017).

Regulation Of the Minister of Home Affairs Number 32 In 2011 about "Grant Guidelines and Social Assistance Sourced from The Income and Regional Shopping Budget". The criteria for recipients of social assistance are those who live in the administrative area of the district government (Pemkab) concerned and have a clear identity. The aim of Social Assistance is poverty alleviation, social rehabilitation, social protection, social empowerment, social security, and disaster management. Assistance must be given selectively, and the use of the budget is clear.

Another form of government program is the provision of subsidies to private companies and state-owned companies. Subsidies are given in the form of production cost assistance to certain companies/institutions so that the selling price of the goods/services produced can be affordable by the general public. Of course, these companies/institutions produce products or services for the general public. Providing subsidies can encourage a greater increase in production and an increase in company income and keep the wheels of the economy running.

Besides that, to control poverty that is no less important is population control. In 2020 Indonesia's population will reach 270.20 million people and in 2021 with 277,858,332 people, where Indonesia occupies the fourth position with the largest population in the world among China, India, and the United States. As the population increases, there will be challenges or problems that must be considered, including the economy, education, job opportunities, and population density. To overcome these problems, the government needs special attention to various strategies in overcoming them in the hope of helping the economy run better.

Based on the description above, researchers want to know the relationship between social assistance, subsidies, and population can affect poverty in West Sumatra, which is applied in the formulation of the problem as follows:

a. How does social assistance affect poverty in West Sumatra Province in 2010-2020?
b. What are the subsidies for poverty in West Sumatra Province in 2010-2020?
c. What is the influence of the population on poverty in West Sumatra Province in 2010-2020?
d. How does the influence of social assistance, subsidies, and population simultaneously have a significant effect on poverty in West Sumatra Province in 2010-2020?

II.   LITERATURE STUDY

Poverty according to (Lisna, Sinaga, Firdaus, & Sutomo, 2013) a situation where there is an inability to meet basic needs, such as food, clothing, shelter, education, and health. According to (Foster, Greer, & Thorbecke, 1984), the measurement of poverty uses The Head Count Index (HCI-P0). The headcount index (P0) measures the proportion of the population that is poor (Haughton & Shahidur, 2009). According to (Nurwati, 2008), Poverty is a social life that continues to exist in society. Besides that, poverty is a very crucial problem, because its consequences not only cover economic problems but also have an impact on social problems and domestic political instability. It can be said, poverty is a global life problem that has become a concern in all countries even though the impact of poverty is very different. The problem of poverty is so phenomenal, that many researchers have studied the problem of poverty and the factors that influence it, including (Balvociute, 2020), (Mulazid & Mufliha, 2019), (Pokrzywa, 2020), (Zhou & Che, 2021).

Social assistance, according to Law Number 11 of 2009 is defined as social protection which aims to enable a person, family, and/or community to live a normal life. Barrientos (2010) Social protection is divided into three types: the first is social insurance, the second is social assistance, and the third is labor market regulation. In research (Firmansyah & Solikin, 2019), social assistance including temporary assistance as part of social security in several countries is part of services in the form of goods or cash. Social assistance can be given directly to community members and social institutions including assistance to non-governmental organizations in the field of education and religion which are not continuous and selective in nature. In 2017 the forms of social assistance in Indonesia were the Family Hope Program, the Smart Indonesia Program, Education Scholarships for Poor and Smart Students, and Beras Sejahtera. Integrated and targeted social assistance can reduce poverty (World Bank, 2017). Research discussing social assistance with poverty includes (Barrientos, 2019) in Asia and The Pacific and (Fuseini, 2018) in Ghana.

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Subsidies are assistance from the government to support people's lives in order to improve the economy. Meanwhile, according to the Central Bureau of Statistics, subsidies cover all assistance in the form of money or goods provided by the government to private companies and government companies. Government subsidy assistance includes fuel subsidies, fertilizers, LPG gas, groceries, and others. Researchers discussing subsidies for poverty alleviation include (Li et al., 2022) in China, (Labeaga, Labandeira, & López-Otero, 2021), (Mulazid & Mufliha, 2019) in Indonesia, and (Solaymani, 2016) in Malaysia.

The total population, according to Said (2012) is the total population that inhabits an area and is the result of demographic processes, namely fertility, mortality, and migration. While Indonesian Central Bureau of Statistics states that residents are everyone who lives in the territory of the Republic of Indonesia for 6 months or more and/or who lives less than 6 months but intends to stay. Population is one of the important elements in economic activity, because the population is a factor of production, and the population provides labor to create economic activity. The availability of the population that is not balanced with the needs of economic activities will cause the population to be unemployed and have no income and ultimately be poor. This condition is a problem in a country. The relationship between population growth and poverty has been widely studied by researchers including (Azizah, Sudarti, & Kusuma, 2018), (Runtunuwu & Tanjung, 2020), (Loka & Purwanti, 2022) and (Mardiyana, 2020) all of which state that population growth has a significant impact against poverty. Besides that, there are research results that state that there is no significant relationship between the population and poverty, such as the results of research from (Sinuraya, Linda Sari, & Lubis, 2021).

III.   RESEARCH METHODOLOGY

This study uses a quantitative descriptive method, which aims to describe systematically, factually, and accurately the factors and characteristics of certain populations or tries to describe phenomena in detail. The object of this research is in West Sumatra Province in the period 2010-2020. The data used in this study are secondary in the form of time-series data with 11 years of observation.

Based on the theoretical basis and the results of previous research, Figure 1 is the conceptual framework of this study.
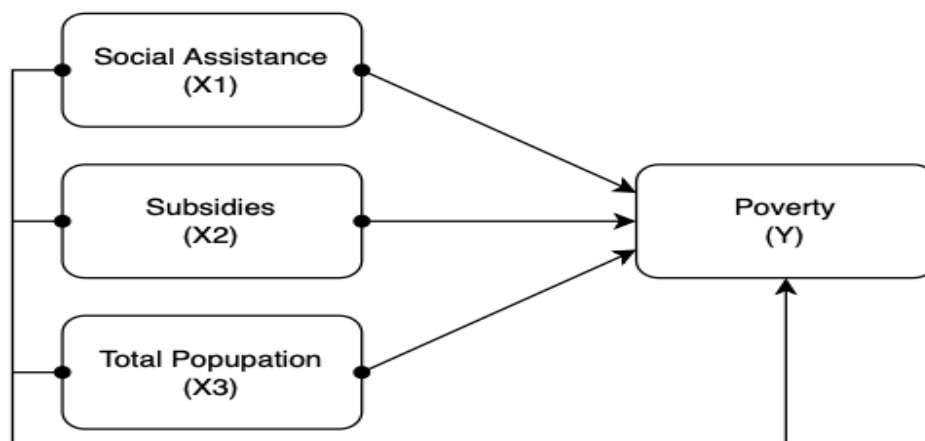

Figure 1. Conceptual framework

The conceptual framework above can explain the analytical techniques to be used. Data analysis techniques used in obtaining the best analysis between the independent and dependent variables are:

1. Descriptive statistics are statistics that are used to analyze data by describing or describing the data that has been collected as it is without intending to make general conclusions or generalizations. And according to Ghozali (2011), descriptive statistics provide an overview of data that can be seen from the average value (mean), standard deviation, variance, maximum, minimum, and others.

2. The classical assumption test aims to provide certainty that the regression equation obtained has accuracy in estimating, is not biased, and is consistent. Testing this classic assumption uses several tests, namely the normality test, multicollinearity test, heteroscedasticity test and autocorrelation test.

3. The coefficient of determination, according to Sugiyono (2017) the coefficient of determination (R^2) is used to find out how much the ability of the independent variable can explain the dependent variable. Manually the coefficient of determination formula is:

$$Kd = r^2 \times 100\%$$

Kd = coefficient of determination
r^2 = correlation coefficient

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4. Multiple Linear Regression Analysis is a statistic that is used to determine how much influence some independent variables have on the dependent variable (Sugiyono, 2014), the multiple linear regression formula is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Y : Poverty
α : Constanta
$\beta_1, \beta_2, \beta_3$: Regression coeffisien
X_1 : Sosial Asisstence
X_2 : Subsidies
X_3 : Total Population

5. Hypothesis testing

   a. A partial test was carried out to compare the calculated t-value with the t-table. If t-count > t-table with a significant value below 0.05 (5%), then partially or individually the independent variable has a significant effect on the dependent variable, and vice versa.

   b. Simultaneous testing is carried out to test whether the variables used are significant or not so that it can be ascertained that these variables can predict the effect of all independent variables on the dependent variable. (Ghozali 2011).

IV. RESULTS AND DISCUSSION

Descriptive data from variable values in this study consist of the dependent variable, namely poverty, and the independent variables, namely subsidized social assistance and population. Based on the results of data processing that has been done, a summary of the results is obtained which can be seen in Table 2 below:

Table 2 Variable Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Sosial Asisstence	11	9.90E9	2.63E11	7.5370E10	7.34769E10
Subsiies	11	.00	8.00E9	2.5495E9	2.16963E9
Total Population	11	4.87E6	5.53E6	5.1938E6	2.16038E5
Poor	11	6.35	9.50	7.4455	1.04917
Valid N (Listwise)	11				

Source: processed data

Based on Table 2 above, it is obtained that the mean value is above the standard deviation value with not much distance. This indicates a slight variation in the data. The standard deviation value between -2 and 2 is said to represent the data used.
To obtain the Multiple Linear Regression equation, it can be seen in the following table:

Table 3. Results of Multiple Linear Regression Analysis

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	43.570	6.304		7.429	.000
Ln_X1	.014	.020	.109	.736	.486
Ln_X2	.001	.003	.069	.534	.610
Ln_X3	-2.718	.389	.903	-7.510	.000

a. Dependent Variable: Ln_Y

Source: processed data

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Table 3 formulates multiple linear regression as follows:

$$LnY = 43{,}570 + 0.014LnX_1 + 0.001LnX_2 - 2{,}718LnX_3$$

The results of the multiple linear regression equation above can be analyzed as follows:

1. The constant value shows 43.570 which is positive, this can mean that if social assistance, subsidies, and the population do not change or have a zero value, then the poverty rate that occurs is 43.570.

2. The social assistance regression coefficient is 0.014. This value explains that poverty will increase from each increase in one unit of social assistance, assuming other variables are constant/no change, the magnitude of the increase in poverty due to the increase in social assistance is 0.014. The form of the relationship that occurs between social assistance and poverty is indicated by the value of the regression coefficient of social assistance and the form of the relationship that occurs is inelastic.

3. The subsidy regression coefficient is 0.001. This value explains that poverty will increase for every unit of social assistance spending, assuming that other variables are constant/no change, the magnitude of the increase in poverty due to the increase in subsidies is 0.001, and the form of the relationship that occurs between subsidies and poverty is shown by the value of the regression coefficient of the subsidy and the value of the regression coefficient explains the inelastic relationship.

4. The population variable has a regression coefficient of -2.718 for poverty. This means that if there is an increase in the population by 1 unit, then the poverty rate will also decrease by 2.718 assuming other variables are constant. The form of the relationship that occurs between social assistance and poverty is indicated by the value of the social assistance regression coefficient. The value of the regression coefficient explains the inelastic relationship

Based on Table 1 above, the partial relationship is as follows:

1. Social assistance has a calculated t-value of 0.736 which is smaller than the t-table value of 2.364 and a significant value of the social assistance variable is 0.486 where the greater the significant value α = 0.05, the conclusion is that social assistance does not have a significant effect on poverty in West Sumatra Province in the 2010-2010 period. This is in line with research (Agustin, 2022), (Melati, Sudrajat, & Burhany, 2021), and (Hasan & Mufliha, 2020).

2. Subsidies, the calculated t-value of 0.534 is smaller than the t-table value of 2.364 and the significance value of the subsidy spending variable is 0.610 where the significance value α = 0.05, it can be concluded that subsidies have no significant effect on poverty in West Sumatra Province in the 2010-2020 period. The results of this study are in line with research (Ramadhan & Mariyanti, 2013) and (Misdawita & Sari, 2018).

3. Total population, the calculated t-value of 7.510 is greater than the t-table value of 2.364 and the significance value of the total population variable is 0.000 less than the significant value α = 0.05, it can be concluded that the total population has a significant and negative effect on poverty in Sumatra Province West period 2010 -2020. This research is in line with the results of research (Lismana & Sumarsono, 2022) and (Fahjarini & Fahraty, 2020).

Simultaneously, the relationship between the variables of social assistance spending, subsidized aid spending, and the number of people in poverty can be seen in the following table:

Table 3. F-Test

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.170	3	.057	34.583	.000^a
	Residual	.011	7	.002		
	Total	.182	10			

a. Predictors: (Constant), Ln_X3, Ln_X2, Ln_X1
b. Dependent Variable: Ln_Y

Source: processed data

Based on table 3 above, shows that the F-value for the regression model is 34.583 which is greater than the F-table value of 4.76, and a significance value of 0.000 which is smaller than the probability value α = 0.05. It can be concluded that simultaneously the variables of social assistance spending, subsidy spending, and population have a significant and positive effect on poverty in West Sumatra Province for the 2010-2020 period.

The Determinant Coefficient Test (R^2) is used to see how much the variation in the influence of social assistance spending, subsidized aid spending, and population to poverty variables can be seen in Table 4 below:

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Table 4. Coefficient of Determination

Model Summary^b

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937	.899	.04052

a. Predictors: (Constant), Ln_X3, Ln_X2, Ln_X1
b. Dependent Variable: Ln_Y

Source: processed data

From the results of Table 4 above, it is obtained that the adjusted R^2 value is 0.899 or 89.9%. This figure states that the dependent variable, namely poverty, can be explained by the independent variables, namely social assistance spending, subsidy spending, and a population of 89.9%. While the remaining 10.1% is explained by other factors.

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the description and results of the analysis presented above, it can be concluded that: (1) Social assistance has no significant effect on poverty in West Sumatra Province for the 2010-2020 period. (2) Subsidies have no significant effect on poverty in West Sumatra Province for the 2010-2020 period. (3) Total population has a significant effect on poverty in West Sumatra Province for the 2010-2020 period. (4) Simultaneously social assistance, subsidies, and total population have had a significant and positive effect on poverty in West Sumatra Province for the 2010-2020 period. (5) Social assistance, subsidies, and population can affect poverty by 89.9% while the remaining 10.1% is explained by other factors. Based on the above conclusions, the suggestions in this study are as follows :

1. Social assistance must be right on target, namely to people who are truly economically unable to meet their basic needs, so that the benefits of social assistance will have an impact on social life, many studies state that social assistance can alleviate poverty.
2. So that the government provides suggestions for providing subsidies with accurate research and strict supervision so that the budgeted subsidies are right on target for users of subsidies in the field.
3. Population growth must be strictly controlled and population growth must be in harmony with employment growth.

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