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Analysis of Spatial Patterns and Determinants of Poverty in South Sumatra Province

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ABSTRACT
The purpose of this study was to determine the spatial pattern of the poverty rate and to determine the factors that may have a spatial influence on the poverty rate in South Sumatra Province. The factors that are suspected to influence and have a spatial (regional) dependency effect on the poverty rate are economic growth, population, length of roads in good condition, number of households that have access to decent drinking water, number of villages that can receive internet signals and Gross Regional Domestic Product per capita 2021 year in 15 districts/cities. The data used in this study were sourced from the South Sumatra Central Bureau of Statistics and spatial identity data sourced from https://gadm.org/download_country_v3.html. The analysis method used is spatial regression analysis using the Stata 17 application. The results of this study show that based on the map there are groupings or clusters of poverty rates. However, there is no spatial dependency effect on the poverty rate in South Sumatra Province. Economic growth has a negative but insignificant effect on the poverty rate, population has a negative and significant effect on the poverty rate, the length of highways in good condition has a positive but insignificant effect on the poverty rate, the number of households with access to safe drinking water has a negative but insignificant effect on the poverty rate, the number of villages that can receive internet signals has a positive and significant effect on the poverty rate, and GRDP per capita has a positive and significant effect on the poverty rate in South Sumatra Province.

PENDAHULUAN

Over the years, poverty has become one of the biggest problems for humanity. It is a cultural, social, economic and political reality (Peirovedin et al., 2016). Poverty alleviation has become a major concern in economic development policy and management in developing countries (Miranti, 2021). The United Nations (UN) has made the reduction and eradication of global poverty the main goal of

its development agenda because poverty is a global problem that occurs in almost every country (Moatsos & Lazopoulos, 2021).

In the socio-economic field, poverty has become one of the most discussed issues. A large number of poor people in a country will result in a macroeconomic burden. This will reduce the quality of life of the community due to the limited ability of the poor to fulfill their basic daily needs. Therefore, almost all governments in the world are trying to minimize the number of poor people to realize a better quality of life for their people. Since 1990, the World Bank has been assisting countries in their efforts to reduce extreme poverty worldwide (Konkel, 2014). Some countries consider tackling poverty as a top priority. Therefore, research related to poverty alleviation is very important and must be done (Niu et al., 2020). According to Shuhong et al (2019) research on poverty raises awareness of its multidimensional nature. Poverty often hampers economic development in various countries, and Indonesia is no exception. Poverty, as a result of the failure of economic development, must continue to be suppressed and find solutions, so that poverty no longer has a detrimental impact on the country (Feriyanto et al., 2020).

According to Harmes et al (2017) so far, development strategies and poverty reduction efforts have been made in general for all regions. The determination of target households (RTS) for poverty reduction efforts has not considered the spatial effects of poverty. These effects include spatial dependency and spatial heterogeneity.

The handling and alleviation of poverty is also a major development issue in South Sumatra Province. The condition of poverty in South Sumatra Province is still experiencing ups and downs. Poverty in South Sumatra Province is getting worse due to the Covid 19 pandemic in 2020 and 2021. The following is data on the percentage of poor people by province, as a comparison between provinces on the island of Sumatra.

Table 1. Percentage of Poor Population by Province in Sumatera Island

No	Provinsi	Tahun			
		2018	2019	2020	2021
1	Aceh	15.68	15.01	14.99	15.33
2	Sumatera Utara	8.94	8.63	8.75	9.01
3	Sumatera Barat	6.55	6.29	6.28	6.63
4	Riau	7.21	6.90	6.82	7.12
5	Jambi	7.85	7.51	7.58	8.09
6	Sumatera Selatan	12.82	12.56	12.66	12.84
7	Bengkulu	15.41	14.91	15.03	15.22
8	Lampung	13.01	12.30	12.34	12.62
9	Kep. Bangka Belitung	4.77	4.50	4.53	4.90
10	Kep. Riau	5.83	5.80	5.92	6.12

Sumber: Sumatera Selatan Dalam Angka Tahun 2023

Table 1 above shows that before covid 19, in 2018-2019 the percentage of poor people began to decline in each province. However, in 2020 poverty in several provinces on the island of Sumatra has increased but some have also decreased. However, there are still more provinces where the poverty rate has increased, only three provinces have decreased, namely Aceh, West Sumatra and Riau provinces. But in 2021 poverty conditions have increased in all provinces on the island of Sumatra. Based on data from 2018-2021, South Sumatra province is included in the top 4 (four) on the island of Sumatra which has the highest percentage of poor people above 10%.

Research on poverty in South Sumatra has indeed been carried out by many researchers, but there are still very few who conduct research on poverty by including spatial aspects. Therefore, this

study adds spatial aspects in analyzing poverty in South Sumatra Province. This is based on the spatial concept, several opinions explain that neighboring relationships have positive and negative spillover effects, where the economy of a region can be said to have the same or different characteristics (Anselin, 1995) cited from Ciptawaty (2021).

LANDASAN TEORI

Poverty

Poverty is a lack of well-being. In a broad sense, it includes income levels and food security. It is related to quality of life, asset base, human capital, vulnerability and coping, gender inequality, human security, and horizons of initiative. The methods used by the World Bank and the UN describe poverty by measuring income levels, per capita consumption, or calorie intake. These methods reflect the minimum income or consumption required to meet basic needs for low-income countries. The World Bank has a method of calculating a poverty line of between $1 and $2 per day, although the minimum requirements vary from country to country and change over time. Doing this allows policymakers to use a common reference point to compare poverty in different countries. All governments around the world, especially developing countries such as Indonesia, are very concerned about poverty issues (Zewdie et al, 2015).

Poverty can be divided into two, namely absolute and relative. Absolute poverty is defined as the inability to achieve a minimum standard of living. The definition of minimum standard needs differs from country to country. Relative poverty, on the other hand, is defined as the inability to achieve contemporary standards of need, which are linked to the average welfare or average income of the community at that time (Hakim & Zuber, 2008).

According to Sen, capability deprivation is the absolute source of poverty. Meanwhile, the relative aspect of poverty is the amount of income per person. Five general freedoms, according to Amartya Sen, can help increase capabilities, which if reduced will lead to deprivation or poverty, namely (1) political freedom including civil rights; (2) economic facilities which include access to credit; (3) social opportunities which include regulating access to health care, education and other social services; (4) transparency in the relationship between people and the government; and (5) security protection which includes social and economic safety nets such as unemployment and hunger benefits and emergency assistance. Meanwhile, according to Townsend, relative poverty is a person, family or group in the population is called poor when they do not have the resources to obtain food, participate in activities and have normal living conditions and facilities in the community to which they belong (Adon & Jereman, 2023).

Economic Growth

Economic growth is the progress or development of a country's economy. Economic growth is an economic event that takes place in the long term and is the main source of improving economic living standards (Murni, 2016). Economic growth that is not accompanied by increased employment opportunities will result in inequality in the distribution of additional income (ceteris paribus), which in turn will create a condition of economic growth with increased poverty. The theoretical basis for the relationship between economic growth and poverty follows the Kuznets hypothesis. The Kuznets hypothesis states that in the early stages of development, the poverty rate tends to increase and as it approaches the final stages of development the number of poor people gradually decreases (Tambunan, 2015). Poverty will be reduced when there is economic growth, regardless of the current level of inequality. In the same way, the same growth pattern has different impacts on poverty reduction. So it can be concluded that although growth contributes to poverty alleviation, it is not enough. The extent to which growth can reduce poverty depends on how we measure poverty, as well as the capacity of the poor to absorb economic growth, its pace and pattern (Skare & Druzeta, 2016).

The results of Kouadio & Gakpak (2022) show that economic growth is needed to reduce poverty in West Africa. This means that economic growth has a negative effect on poverty. Poverty alleviation can be achieved through economic growth and/or through income redistribution (Son, 2006) cited from Nainggolan (2020). This is based on the trickle-down effect theory which explains that the growth rate of GDP or GRDP will trickle down by itself, so that it will create jobs and various other economic opportunities which will ultimately reduce poverty.

Population

According to Malthus, human development is faster than the production of agricultural products to meet human needs. As a result, there will be food danger for humans (Pujoalwanto, 2014). It can be concluded that population competition to meet the needs of life in maintaining life will result in poverty. This means that the larger the population, the higher the poverty rate.

There is little direct evidence of the effects of population growth. However, there is indirect evidence that suggests several possible relationships. First, rapid population growth tends to lower per capita income growth and welfare, which tends to increase poverty. Second, in poor countries that are densely populated and have pressure on land, rapid population growth will also increase the number of landless people, increasing poverty. Finally, rapid population growth will have a negative impact on child health and may also increase mortality. The direction of impact of these relationships is clear, but it is unclear whether they have a quantitatively significant impact on poverty as conventionally measured. Reducing poverty, however, is clearly most likely to occur through direct interventions. Compared to other poverty alleviation policies, limiting population growth is an indirect policy that may not have a significant independent impact on poverty reduction in the short term (Ahlburg, 1996). Research by Azizah et al (2018) shows that population has a positive and significant effect on poverty in the regencies and cities of East Java Province.

Road Infrastructure

In general, road access affects the daily lives of the poor in rural and urban areas, although its contribution to increasing national income is only small. In contrast, inter-city transportation facilities such as roads, railways, and shipping have strategic value for national economic growth. They are meant to increase and assist national income growth, but their effect on poverty alleviation is usually indirect (Oladipo & Olomola, 2015). Given the critical role of economic infrastructure in improving competitiveness, facilitating domestic and international trade, and integrating countries into the global economy, everyone agrees that economic infrastructure (transportation, energy, information technology, and water) is essential for economic growth and poverty reduction (Anyanwu & Erhijakpor, 2009).

According to Perkins, Fedderke, & Luis (2005) and Seetanah, Ramessur, & Rojid (2009) cited in Purnomo & Istiqomah, 2019) infrastructure development is needed to support businesses, so it is expected to increase economic growth, increase individual income, and reduce poverty. Poor road conditions contribute to decreased economic growth and increased poverty and the results of his research prove that there is a significant relationship between road networks and poverty levels (Edriss & Chiunda, 2017).

Many empirical studies have demonstrated the positive role of rural infrastructure in improving the quality of life of those living in poverty and alleviating poverty. Most of these studies highlight the impact of rural infrastructure on economic growth and thus indirectly on poverty, the so-called trickle-down effect (Hruschka et al., 2017), Caldero'n et al., 2015). Sasmal, R., & Sasmal, J. (2016) and Chotia et al (2017) examined the relationship between economic growth and poverty alleviation and how they are connected to public infrastructure. The results show that economic growth can drive poverty alleviation, and infrastructure plays an important role in economic growth and poverty alleviation.

Access to Adequate Drinking Water

In Indonesia, the constitution states that every Indonesian citizen has the right to work and a livelihood that is worthy of humanity. This is stated in the 1945 Constitution of the Republic of Indonesia (UUD 1945) article 27 paragraph (2). The right to a decent livelihood, one of which is the right to have access to decent drinking water. In general, the definition of poverty can be interpreted as a person's inability to meet basic standard needs in every aspect of life. According to Sen (1999) cited in Mustika (2011) poverty is more related to the inability to achieve this standard of living.

Lack of access to safe and adequate water is also one of the indicators of a decent standard of living and is associated with poverty (Mkondiwa et al., 2013). Lack of access to water and sanitation mostly impacts people living in extreme poverty who are vulnerable to marginalization (Angoua et al., 2018).

Internet Access

Several researchers have used both qualitative and theoretical approaches to investigate the relationship between information technology and poverty (Aker & Blumenstock, 2015; Makoza & Chigona, 2012; Mariscal et al., 2016). Aker and Blumenstock (2015) created a simple framework to understand the main channels that can be used to influence economic development and investigated trends in the use and adoption of Information Communication Technology (ICT) in Sub-Saharan Africa. However, the authors point out that there are still considerable gaps in the understanding of mobile phone-based development opportunities. Policymakers should take this into account when they propose mobile phone-based development policies. Mushtaq & Bruneau (2019) found that ICTs reduce poverty and inequality while accelerating economic growth. Rodriguez & Sanchez-Riofrio (2017) produced similar findings for Latin American countries, they found that productivity gains generated by ICTs can contribute to poverty reduction through technological change and education. According to Mora-Revera & Garcia-Mora (2021) the internet can reduce poverty by providing more efficient access to information and making it easier for poor people to obtain various opportunities that can improve welfare.

GRDP per capita

GRDP per capita can provide an overview of the level of prosperity of a country. Usually, the higher the GRDP per capita, the higher the prosperity of the people of a country, on the contrary, the lower the GRDP per capita, the lower the prosperity of the people of a country (Rahardja & Manurung, 2008). This suggests that low GRDP per capita indirectly reflects the poverty of a country's people. Some studies show that GRDP per capita has a significant negative effect on poverty in districts/cities in Central Sulawesi Province for the period 2010-2013 (Tombolotutu, 2018). Real GRDP has a negative and significant effect on poverty in Indonesia. An increase in real GRDP can reduce poverty in Indonesia (Feriyanto et al, 2020). Low income and expenditure are positively correlated with poverty (Mkondiwa et al, 2014).

Spatial Data and Spatial Analysis

Spatial data is data related to location based on geography consisting of latitude-longitude and region. Spatial analysis consists of three groups, namely visualization, exploration, and modeling. Visualization is informing the results of spatial analysis. Exploration is processing spatial data with statistical methods. While modeling is showing the concept of causal relationships by using methods from spatial and nonspatial data sources to predict spatial patterns. The location of spatial data must be measured in order to determine the spatial effects that occur (Igarta & Handayani, 2020).

Spatial Analysis of Poverty

According to Harmest et al (2017), anti-poverty programs and policies are designed uniformly for all regions in Indonesia, resulting in the socio-cultural peculiarities and geographical

patterns of each region that affect the existence of the poor. This approach is more oriented towards government programs and is not based on the real situation that is the locality of the region. This generalization of programming has led to a decline in the achievement of development goals, which can be seen from the slower rate of decline in the percentage of poor people in Indonesia in the last decade. The effect of space on poverty can be identified by the presence of spatial autocorrelation, which is the relationship between the variable under study and itself spatially or commonly referred to as spatial dependence. Hakim & Zuber (2008) argued that development programming studies, especially poverty reduction efforts, must pay attention to spatial elements, or location so that program failures can be minimized. Poverty modeling in Indonesia using spatial econometrics has been carried out by Zewdie et al (2015), Asrirawan et al (2021).

METODE PENELITIAN

Metode Analisis

The existence of spatial linkages in poverty requires a new approach that integrates spatial influences in poverty research, so that poverty alleviation solutions are not homogeneous, but also pay attention to existing spatial heterogeneity (Harmes et al, 2017). The analysis method used in this research is spatial regression analysis. Spatial regression can be used as a solution in modeling data that has an element of location in it. Spatial regression is an analysis to evaluate the relationship between one variable and several other variables by paying attention to spatial / regional influences (Samadi, et al, 2017).

Location or regional factors are thought to influence and give the effect of spatial/regional dependence on the poverty rate in South Sumatra Province. The spatial influence in this study can be overcome by spatial regression by incorporating the relationship between regions into the model. The characteristic of this spatial model is the existence of a weighting matrix which is a marker of the relationship between a region and other regions. The value of the elements of the spatial weight matrix is determined by the spatial proximity of each observation.

The general form of the spatial regression model is called the General Nesting Spatial (GNS) Model which includes three spatial elements, namely there is spatial interaction in the dependent, independent and disturbance variables (Elhorst & Vega, 2013). The model can be mathematically written as follows:

$$\mathbf{Y = \rho WY + \beta X + WX\theta + u} \quad \mathbf{(1)}$$

Where: $u = \lambda WU + \varepsilon$

Description:

Y = n x 1 dependent variable
ρ = spatial lag coefficient of dependent variable
W = spatial weight matrix with size n x n
WY = endogenous interaction effect between dependent variables
WX = exogenous interaction effect between independent/explanatory variables
λ = spatial lag coefficient of disturbance variable
WU = interaction effect between disturbances from different observations
β = coefficient of regression parameter with size k x 1
θ = spatial lag coefficient of independent/ explanatory variable of size k x 1
u, ε = error of size k x 1
n = number of locations

The spatial regression model in this study is as follows:

$$\mathbf{PR = \rho WY + EG\beta 1 + lnPop\beta 2 + lnGR\beta 3 + lnDW\beta 4 + lnAI\beta 5 + lnGDRP\beta 6 + u} \quad \mathbf{(2)}$$

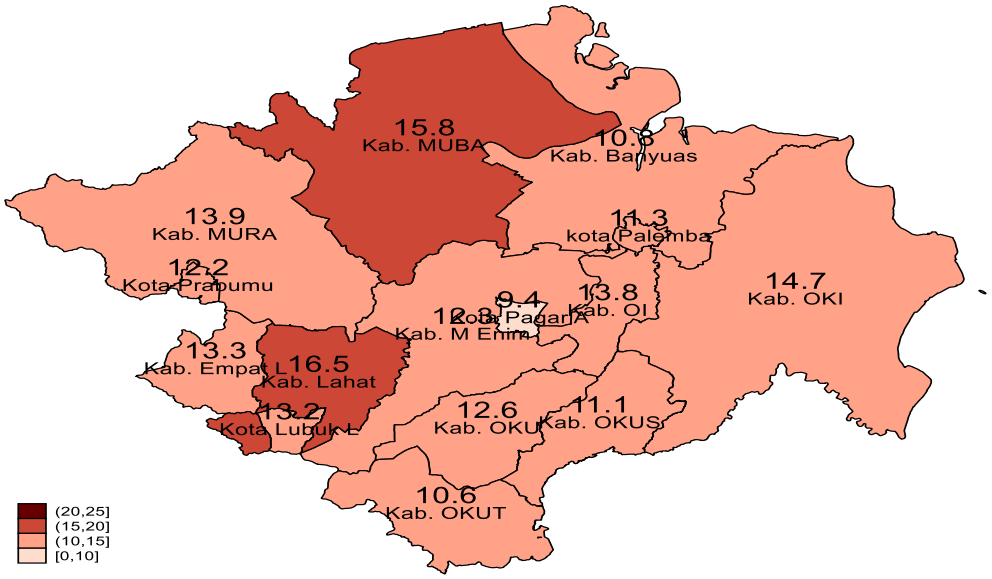
Where: u = λWU + ε
Notes:
PR = Poverty Rate
ρ = Spatial lag coefficient of the dependent variable
WY = endogenous interaction effect between dependent variables
EG = Economic Growth
lnPop = Total Population
lnGR = Road Infrastructure
lnDW = Access to Adequate Drinking Water
lnAI = Internet Access
lnGDRP = Gross Regional Domestic Product per capita
u, ε = error
λ = spatial lag coefficient of disturbance variable
WU = interaction effect between disturbances from different observations
β1-β6 = regression parameter coefficients

HASIL DAN PEMBAHASAN

Pembahasan

Map of Poverty Levels in South Sumatra

Figure 1. Poverty Level Distribution Map in South Sumatra Province in 2021



Based on Figure 1 above, it can be seen that there is a spatial pattern, where there are groupings or clusters of poverty rates in several Kabupaten/Kota in South Sumatra Province. The most numerous cluster is the cluster of poverty rates between 10-15% in 12 districts/cities, namely Kabupaten Musi Rawas, Kota Prabumulih, Kabupten Empat Lawang, Kota Lubuk Linggau, Kabupaten Banyuasin, Kota Palembang, Kabupaten Ogan Ilir, Kabupaten Muara Enim, Kabupaten Ogan Komering Ilir, Kabupaten Ogan Komering Ulu, Kabupaten Ogan Komering Ulu Timur and Kabupaten Ogan Komering Ulu Selatan, the cluster of 15-20% in only 2 districts, namely Kabupaten Musi Banyuasin and Kabupaten Lahat, while 0-10% is only Kota Pagar Alam. There are actually 17 regencies/cities in South Sumatra Province, but since there are only 15 regencies/cities in the gadm

data, two regencies were excluded from this analysis, namely Panukal Abab Lematang Ilir (PALI) and North Musi Rawas (Muratara).

Weighting Matrix

Contiguity Weighting Matrix

Table 2. Results of the Contiguity Weighting Matrix

Weighting matrix **Wcon_perekonomian**

Type	contiguity
Normalization	row
Dimension	15 x 15
Elements	
minimum	0
minimum > 0	.1
mean	.0666667
max	1
Neighbors	
minimum	1
mean	4
maximum	10

The results of the weighting matrix contiguity (Weighting matrix Wcon_economy) in table 2 above show the results of the calculation of the matrix (15 x 15) weighting contiguity that the number of districts / cities that intersect the most have 10 neighbors and the least have 1 neighbor. While the average district / city in South Sumatra that is close together has 4 neighbors.

Distance Weighting Matrix

_ID	(longitude, latitude)
462	(104.7315, -2.973283)
456	(104.6009, -3.409978)
distance	50.706743 kilometers

In the results of currently used longitude, latitude data, the distance between Ogan Ilir district and Palembang City with _ID numbers 456 and 462 respectively is 50.706743 kilometers.

Table 3. Distance Weighting Matrix Results

Weighting matrix **Wdis_perekonomian**

Type	idistance
Normalization	row
Dimension	15 x 15
Elements	
minimum	0
minimum > 0	.4068957
mean	.0355556
max	1

Table 3 above shows that "1/50" is the radius set as a criterion for the area to be said to be close to each other with a distance between 1 kilometer and 50 kilometers. The results of the calculation of the matrix (15 x 15) of distance weights show that the number of districts / cities that are close to each other with a distance between 1 kilometer and 50 kilometers has the most neighbors, while the least and average adjacent ones have no neighbors.

Testing for Spatial Dependence

Testing for spatial effects can be done either in the form of visual scatter plots or Moran's I values. Before proceeding to test spatial dependence, it is necessary to conduct a linear regression test (OLS) first. The results of the linear regression test (OLS) are as follows:

Table 4. Ordinary Least Square (OLS) Linear Regression Results

Source	SS	df	MS	Number of obs	=	15
				F(6, 8)	=	3.61
Model	40.213747	6	6.70229117	Prob > F	=	0.0489
Residual	14.8434263	8	1.85542829	R-squared	=	0.7304
				Adj R-squared	=	0.5282
Total	55.0571733	14	3.93265524	Root MSE	=	1.3621

Tingkat_kem~n	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
pertumbuhan~i	-.894128	.4279336	-2.09	0.070	-1.880945	.0926886
lnjumlah_pe~k	-2.394579	.9862278	-2.43	0.041	-4.668825	-.1203339
lnjalan_baik	1.173298	.9599266	1.22	0.256	-1.040297	3.386893
lnakses_air	-6.428975	3.367413	-1.91	0.093	-14.19424	1.336295
lnakses_int~t	2.648624	.8383361	3.16	0.013	.7154173	4.58183
lnpdrb_perk~a	3.532523	1.129644	3.13	0.014	.9275593	6.137486
_cons	21.271	15.08832	1.41	0.196	-13.52274	56.06474

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After doing regression, we can proceed to descriptive statistical analysis.

Table 5. Results of Descriptive Statistics of Variables

Variable	Obs	Mean	Std. dev.	Min	Max
Tingkat_ke~n	15	12.77467	1.983092	9.4	16.46
pertumbuha~i	15	3.790667	1.021417	2.33	6.4
lnjumlah_p~k	15	13.02649	.6152862	11.88632	14.33791
lnjalan_baik	15	4.692392	.7583078	3.563033	6.302509
lnakses_air	15	4.409427	.1577306	3.94874	4.579134
lnakses_in~t	15	4.880085	.7130932	3.332205	5.697093
lnpdrb_per~a	15	10.19186	.5902314	9.257919	11.2059

Based on the results of the descriptive statistics above, it can be seen that this study has a total of 15 observations and there are 7 variables. The seven variables can be explained as follows:

Dependent Variable: Poverty rate

Poverty rate (PR) : poverty rate (in percent)

Independent Variables:

1. Economic growth (EG) : Economic growth (in percent)
2. Total population (Pop) : Total population (people)
3. Road infrastructure (GR) : Road infrastructure in good condition (in kilometers)
4. Access to safe drinking water (DW): Households that have access to safe drinking water
5. Internet Access (AI): Number of villages/sub-districts that can receive mobile internet signal cellular internet signal 4G/LTE
6. GRDP per capita (GDRP) : GRDP per capita (in thousand rupiah)

Moran's I Test

Moran's I test is used to determine whether there is a spatial influence on each variable. Moran's I test to determine the presence of spatial autocorrelation is basically used to show whether there is a relationship of location (spatial) proximity that is neighboring. The results of the Moran's I test can be seen in the contiguity matrix and distance matrix below

Contiguity matrix results

```
Moran test for spatial dependence
        H0: Error terms are i.i.d.
        Errorlags:  Wcon_perekonomian

        chi2(1)      =     0.02
        Prob > chi2  =   0.8921
```

Distance matrix result

```
Moran test for spatial dependence
        H0: Error terms are i.i.d.
        Errorlags:  Wdis_perekonomian

        chi2(1)      =     0.27
        Prob > chi2  =   0.6046
```

Based on the results of the Moran's I test with the probability of the contiguity side of 0.8921 and the distance side of 0.6046, because the probability value is greater than 0.05. So it can be concluded that there is no spatial autocorrelation between regions. Thus, the model does not need to continue using the spatial regression model.

Interpretation of Linear Regression (OLS) Results

Since the Moran's I test results show that there is no spatial autocorrelation between regions, the regression model used is a linear regression model (OLS).
Based on the results of the OLS regression analysis in Table 4 above, the regression equation can be formulated as follows:

PR = 21.271 - 0.894128lnEG - 2.394579lnPop + 1.173298lnGR - 6.428975lnDW + 2.648624lnAI + 3.532523lnGDRP

From the above equation, it can be seen that the coefficient value of the constant is 21.271 with a positive value. This means that if the variables of economic growth, population, road infrastructure, access to decent drinking water, internet access and GRDP do not increase or decrease (constant) then the poverty rate is 21.271%.

The economic growth variable has a coefficient value of - 0.894128 with a negative value. This means that if the economic growth variable increases by 1%, the poverty rate variable will decrease by 0.894128 points, provided that other variables are considered constant. Then the significance level of the economic growth variable is 0.070, where the value is greater than 0.05. This means that the economic growth variable has a negative and insignificant effect on the poverty rate. The insignificant effect of economic growth on the poverty rate shows that the trickle down effect in South Sumatra Province has not worked properly. Economic growth is not accompanied by an increase in employment opportunities.

The population variable has a coefficient value of - 2.394579 with a negative value. This means that if the population variable increases by 1%, the poverty rate variable will decrease by 2.394579 points, provided that other variables are considered constant. Then the significance level

of the population variable is 0.041, where the value is smaller than 0.05. This means that the population variable has a significant negative effect on the poverty rate. This result is not in line with the theory which explains that the more the population increases, the more the poverty rate increases. This is possible because the increase in population in South Sumatra Province is accompanied by the quality of the population. The increasing quality of this population can be seen from the increasing Human Development Index (HDI) of districts/cities in South Sumatra Province in 2021 with an average of 69.33% (BPS South Sumatra, 2023).

The road infrastructure variable has a coefficient value of 1.173298 with a positive value. This means that if the road infrastructure variable increases by 1%, the poverty rate variable will increase by 1.173298 points, provided that other variables are considered constant. Then the significance level of the road infrastructure variable is 0.256, where the value is greater than 0.05. This means that the road infrastructure variable has a positive and insignificant effect on the poverty rate. This result is not in line with the theory which explains that the better the road conditions, the lower the poverty rate. This is possible because good road conditions in South Sumatra Province have not been followed by a high level of security on the road, such as in certain areas that are still prone to "Begal". This may be due to the fact that the road that connects one district/city to another district/city is still a lot of forest so that it allows crime to occur on the road, therefore the population in South Sumatra Province has not been able to utilize good condition road infrastructure optimally in carrying out productive economic activities.

The decent drinking water access variable has a coefficient value of - 6.428975 with a negative value. This means that if the decent drinking water access variable increases by 1%, the poverty rate variable will decrease by 6.428975 points, provided that other variables are considered constant. Then the significance level of the decent drinking water access variable is 0.093, where the value is greater than 0.05. This means that the access to safe drinking water variable has a negative and insignificant effect on the poverty rate. This shows that there is still a lack of public awareness about healthy lifestyles and the need for public awareness in fulfilling adequate nutrition for family members. As there are still many people who still utilize river water for their daily drinking needs, where utilizing river water is actually not suitable for health. So that the community is still vulnerable to health, if health is disrupted it will interfere with community activities in an effort to increase income, and will ultimately have an impact on poverty.

The internet access variable has a coefficient value of 2.648624 with a positive value. This means that if the internet access variable increases by 1%, the poverty rate variable will increase by 2.648624 points, provided that other variables are considered constant. Then the significance level of the internet access variable is 0.013, where the value is smaller than 0.05. This means that the internet variable has a significant positive effect on the poverty rate. This result is not in line with the theory that internet access negatively affects the poverty rate. The more internet access increases, the lower the poverty rate. This shows that the internet has not been optimally utilized by people in South Sumatra for productive economic activities, such as selling online.

The GRDP per capita variable has a coefficient value of 3.532523 with a positive value. This means that if the GRDP per capita variable increases by 1%, the poverty rate variable will increase by 3.532523 points, provided that other variables are considered constant. Then the significance level of the GRDP per capita variable is 0.014, where the value is smaller than 0.05. This means that the GRDP per capita variable has a significant positive effect on the poverty rate. This result is not in line with the theory that GRDP per capita negatively affects the poverty rate. As GRDP per capita increases, the poverty rate will decrease. This shows that GRDP is still not evenly distributed to the community, there is still inequality in income distribution.

KESIMPULAN DAN SARAN

Kesimpulan

Based on the results of the research conducted, the following conclusions can be drawn:

1. The map shows that there are 3 groupings or clusters of poverty levels in 15 districts/cities in South Sumatra Province in 2021.
2. There is no spatial autocorrelation between regions, so spatial regression analysis is not performed. Therefore, the analysis used is Ordinary Least Square (OLS) linear regression analysis. The OLS regression results show that there are 2 variables whose coefficient values are in line with theory but are not significant, namely economic growth, and access to clean water, while 3 other variables are not in line with theory but are significant, namely population growth, internet access, GRDP per capita. 1 variable whose coefficient value is not in line with theory and insignificant, namely road infrastructure.

Saran

Based on the above conclusions, suggestions can be given to the district / city government in South Sumatra Province as follows:

1. The government is not only trying to increase economic growth, but must increase employment opportunities, so that the trickle down effect really occurs, it can increase people's income and income distribution is more equitable and ultimately can reduce the poverty rate.
2. The government needs to provide counseling to the community to raise awareness about the importance of clean drinking water for health. Because if the community is healthy, it can increase work productivity. If productivity increases, income will increase and will reduce the poverty rate.
3. The government needs to provide training to the community on how to utilize the internet for entrepreneurship, so that the internet can increase economic activities that can increase community income, which in turn will have an impact on reducing poverty levels.
4. The government must further improve road security so that community mobility in carrying out economic activities is smoother and more comfortable.

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