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IMPACT OF GREEN INVESTMENT AND JOBS ON POVERTY VIA SUSTAINABLE DEVELOPMENT

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ABSTRACT

Purpose: This study evaluates the influence of green investment and green jobs on poverty reduction with sustainable development as a mediating variable. **Methodology:** Using a descriptive-quantitative method, secondary data from the Central Bureau of Statistics of South Sumatra from 2016-2020 were analyzed using a panel regression model. **Results:** The results indicate that green investment and green jobs affect poverty reduction through sustainable development in South Sumatra Province. **Findings:** Challenges include green infrastructure development and policies supporting green investment and job creation. **Novelty:** This research provides insights into the impact of green investment and green jobs on poverty reduction within the context of sustainable development. **Originality:** The study offers a detailed analysis of how green investment and green jobs contribute to poverty reduction and sustainable development. **Conclusions:** Green investment and green jobs have the potential to reduce poverty and achieve sustainable development but require collaboration among the government, private sector, and society. **Type of Paper:** Empirical Research Article

Keywords: Green investment; Green jobs; Green economy; Sustainable development; Poverty

INTRODUCTIONS

Green investment and green jobs are two vital components of the green economy, a developmental concept aimed at enhancing societal welfare and social equality while considering its environmental impacts. Referring to the concept proposed by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), green investment aims to mobilize green capital from both the government and society ((UNESCAP) 2013) . This capital is then invested in environmentally friendly projects capable of mitigating the negative impacts of climate change. On the other hand, green investment, as part of the sustainable financial system (Tran, et al. 2020) , is expected to increase job opportunities, especially for novice workers (Sulich., Rutkowska. and Poplawski. 2020).

In Indonesia, although the growth of the green economy remains sluggish, efforts to integrate low-carbon development are represented in the National Medium-Term Development Plan (RPJMN) 2020 – 2024. As of 2020, green energy investments have only

achieved 60% of the set target (Sari and Setiyono 2022) . In green trade, the government assesses its indicators based on green industry provisions as regulated in Law No. 4 of 2014 concerning Industry. According to this regulation, green industry prioritizes efforts towards efficient and effective resource utilization sustainably during its production processes, aligning industrial development with environmental preservation while benefiting society. By 2021, 44 companies had obtained Green Industry Certificates issued by the government (Kemenperin 2021).

However, long before the central government initiated the National Action Plan for Green Growth (PRK), in 2017, the South Sumatra Provincial Government, with support from the World Agroforestry Center (ICRAF), had formulated strategies for green economic growth. The outcome of this support was realized in Governor Regulation No. 21/2017 concerning the Master Plan for Green Economic Growth of South Sumatra Province. This regulation was based on the assumption of South Sumatra Province's vulnerability to climate change and global warming. Its vision includes sustainable economic growth, inclusive and equitable growth, national resilience in economy and the environment, healthy and productive ecosystems providing environmental services, and greenhouse gas emission reduction. This study aims to provide an overview of the influence of green investment and green jobs on poverty reduction with sustainable development as an intermediate variable.

Green Investment and Green Jobs

Green investment refers to both government and private investments, directly or indirectly utilizing sustainable resources (such as water, energy, land) and protecting natural capital (environmental assets) to promote sustainable development and green economic growth (Eyraud et al., 2011; Obradović, 2019). Its indicator is adjusted net savings, including particulate emission damage, as a percentage of Gross National Income (GNI) (Acosta et al., 2020). Although there's no precise definition of green investment, it generally focuses on investments directed towards projects, activities, or programs beneficial to the environment, low-carbon consumption and technology, climate change mitigation, and achieving sustainable development goals, ultimately creating green jobs.

Green jobs refer to employment created and sustained by more environmentally friendly economic activities, contributing to environmental protection, reducing society's environmental footprint, and providing decent working conditions (UNEP, ILO, IOE, & ITUC, 2008; ILO, 2011). A broader definition by the European Commission (2018) states

that a green job involves directly handling information, technology, or materials that preserve or restore environmental quality, requiring specific skills, knowledge, training, or experience. Thus, green technology innovation becomes crucial for generating green jobs at the corporate level, embedded in sustainable business cycle models relying on diverse strategies with varying intensities (Moreno-Mondejar, Triguero, & Cuerva, 2021). In alignment, Acosta et al. (2020) state that the green job indicator is the share of green jobs in total manufacturing employment (percentage).

Furthermore, Eyraud et al. (2011) explain that green investment's structure is based on three main factors: supply factors, including low-emission energy supply, renewable energy supply, clean energy research and development, and carbon sequestration. Demand factors encompass energy consumption efficiency in households, industries, transportation, agriculture, and various services, and finally, combined factors such as energy efficiency in the electricity sector. This structure of green investment illustrates that meeting the supply requires human resources, thus presenting a tangible opportunity for the opening of green jobs.

Rafika Dewi and Ahmad Maruf (2017) found that allocating 2% of green investment could contribute to the creation of green jobs in the energy, agriculture, and forestry sectors (Dewi and Maruf, 2017). These researchers also simulated the calculation of green investment, calculated at 2% of GDP, specifically allocated to sectors supporting environmentally friendly development, such as energy, agriculture, and forestry. Meanwhile, according to Eman Omar Rayan et al. (2020), green investment policies that can create more environmentally friendly jobs will contribute to sustainable development if supported by effective resource utilization and policies (Rayan, Ragab, & Anwar, 2020).

In classical economic views, economic growth and improved environmental quality do not have a linear relationship but are depicted as an inverted U-shaped curve known as the Environmental Kuznets Curve (EKC). Lukas (2015) explains that the EKC illustrates a situation where, at low per capita income, pollution increases until reaching a point where per capita income is at its highest, leading to a desire to reduce pollution or environmental damage through environmentally friendly economic policies (Lukas, 2015).

Sustainable Development and Poverty

Sustainable development, in general, is an ongoing process to secure the needs of both the present and future generations. While this definition is widely accepted, implementing this approach to development involves lengthy discussions (Razminienė and Tvaronavičienė,

2018). Referring to the concept of sustainable development put forth by the United Nations, there are 17 main goals: (1) no poverty; (2) zero hunger; (3) good health and well-being; (4) quality education; (5) gender equality; (6) clean water and sanitation; (7) affordable and clean energy; (8) decent work and economic growth; (9) industry, innovation, and infrastructure; (10) reduced inequalities; (11) sustainable cities and communities; (12) responsible consumption and production; (13) climate action; (14) life below water; (15) life on land; (16) peace, justice, and strong institutions; (17) partnerships for the goals (UN Indonesia).

In Indonesia, Bappenas has grouped the achievement of these 17 goals into four issues namely:

Table 1: Group of Issues on SDG Achievement in Indonesia

Issues	Sustainable Development Goals																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Social Development	√	√	√	√	√												
Economic Development							√	√	√	√							√
Environmental Development						√					√	√	√	√	√		
Legal and Governance Development																√	

The data on table 1 shows that green poverty is reflecting in social development and economic development. Historically, economic development has been the primary focus and measure of development success in all countries. The environmental impact was not considered and was left as the responsibility of communities who became victims, either directly through their livelihoods or indirectly due to declining economic activities caused by pollution or environmental degradation. This perspective has shifted towards a more responsible approach, where every action must consider and account for its impact on health and environmental sustainability. This step is often referred to as "internalizing" environmental impacts into economic and social activities (Alisjahbana and Murniningtyas, 2018).

Opschoor and Reijnders (1991) state that environmental indicators are not indicators of sustainable development, but the environment and the economy are two inseparable aspects. These indicators can evolve according to the situation and conditions of the country where sustainable development is measured. The concept of sustainability is also related to

time and resource utilization; hence its indicators will be highly dynamic. The goal of sustainable development prioritizes the achievement of no poverty. This means that the world agrees to eradicate poverty in all its forms worldwide, including Indonesia. Poverty alleviation is closely related to other global goals, such as: a world without hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, and so on, highlighting the importance of partnerships to achieve these goals (Ishartono and Raharjo, 2016).

Poverty manifests as social spatial disparities, posing challenges to regional development, coupled with the double burden of poverty and environmental degradation. With the certainty that wealth is created within companies, and they are the key to regional development (Eddelani et al., 2019). In Indonesia, poverty issues are included in the social development pillar, which, in relation to development, can be seen from the achievement of goals (1) no poverty, (2) zero hunger, (3) good health and well-being, (4) quality education, and (5) gender equality. Achievements in this pillar regarding green investment and green jobs cannot be detached from achievements in the third pillar.

Conceptual Framework The dynamics of sustainable development indicators allow for research to be conducted using assumptions that can represent green investment and green jobs. In this study, the data used are assumptions that refer to previous research and based on hypotheses and research models as presented in Figure 1.

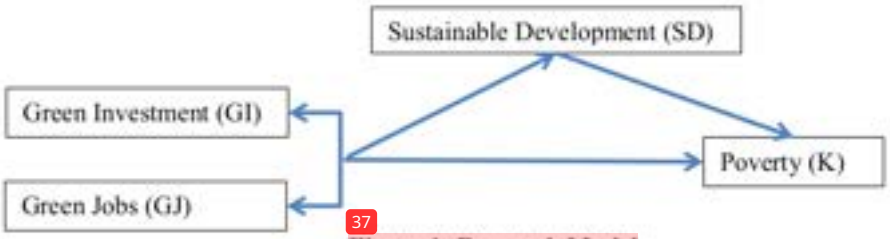


Figure 1: Research Model

Research Hypotheses

Based on the research model in Figure 1, the hypotheses of this study consist of:

1. H0.1: There is no direct partial influence of Green Investment and Green Jobs on poverty in South Sumatra Province.
2. H1.1: There is a direct partial influence of Green Investment and Green Jobs on poverty in South Sumatra Province.
3. H0.2: There is no partial indirect influence of Green Investment and Green Jobs on poverty through sustainable development achievement in South Sumatra Province.

4. H1.2: There is a partial indirect influence of Green Investment and Green Jobs on poverty through sustainable development achievement in South Sumatra Province.
5. H0.3: There is no simultaneous indirect influence of Green Investment and Green Jobs on poverty through sustainable development achievement in South Sumatra Province.
6. H1.3: There is a simultaneous indirect influence of Green Investment and Green Jobs on poverty through sustainable development achievement in South Sumatra Province.

METHOD

Research Method

This research is designed as descriptive-quantitative research, which employs methods to test objective theories by examining the relationships between existing variables (Creswell, 2016). In this study, the theories and concepts used provide an overview of the variables under investigation, consisting of Green Investment, Green Jobs, Sustainable Development, and Poverty.

Design and Sample

The sample for this study is sourced from secondary data presented by the Central Bureau of Statistics (BPS) in 17 regencies/cities in South Sumatra Province for the period 2016 – 2020. The sample design refers to several studies for each variable, consisting of:

Green Investment (GI): The data on green investment are calculated based on the research by Dewi & Ma'ruf (2017), which computed green investment at 2% of income according to the reference used by the Millennium Institute, stating that 2% is the standard figure. The assumption is that this 2% is invested in green industries such as agriculture, forestry, electricity, gas, and water. The percentage of green investment is taken from the total investment/gross fixed capital formation (BI, 2021), within the period 2016 – 2020.

Green Jobs (GJ): Data for green jobs are generated from the allocation of green investment to the energy, agriculture, and forestry sectors in the 17 regencies/cities in South Sumatra Province. The steps to determine green jobs are based on the capacity data of the horticulture (agriculture, forestry, fisheries), energy (electricity and gas), and water sectors of the Gross Regional Domestic Product (GRDP) of each regency/city. This capacity data is used as the basis for allocating green investment to each sector of green jobs, within the period 2016 – 2020.

Sustainable Development (SD): In this study, its achievement is only measured from the economic perspective, which contributes to green economic achievements through economic growth and GRDP from sectors classified under green economy, within the period

2016 – 2020. Economic Growth (LPBRB): GRDP of the 17 regencies/cities in South Sumatra Province from sectors classified under the green economy, within the period 2016 – 2020. Per Capita Income (PDRB_PKP): GRDP per capita of the 17 regencies/cities in South Sumatra Province from sectors classified under the green economy, within the period 2016 – 2020.

Poverty (K) has 2 variable elements: Poverty Rate (K1) refers to the number of poor people in the 17 regencies/cities in South Sumatra Province, within the period 2015-2020. Unemployment Rate (K2): the number of open unemployed individuals in the 17 regencies/cities in South Sumatra Province, within the period 2015 – 2020. The total data used in this study amounts to 391.

Data Collection Method

The data used in this research are secondary data taken from the Central Bureau of Statistics (BPS) of South Sumatra Province, over a 5-year period (2016-2020). There are 17 regencies/cities in South Sumatra Province. Based on the grouping results, the data used in this research are sourced from BPS data from 17 regencies/cities, in line with the operationalization of variables.

Instrument and Analysis Techniques

The instrument used to analyze the data is the eViews-12 application. The analysis steps consist of:

a. Determining the best regression model for panel data by conducting Chow test, Hausman Test, and Breusch Pagan – Lagrange Multiple Test. The regression model used: $Y(K) = (\beta 0+1) + \beta 1GI + \beta 2GJ + \beta 3LPDRB + \beta 4PDRB\text{-}PKP + \beta 5TKMISKIN + \beta 6TPT + \varepsilon 5$
b. Determining the panel data regression model, performing classical assumptions consisting of: normality test, heteroskedasticity test (non-homoskedasticity), multicollinearity test, and performing non-autocorrelation test by analyzing the Durbin-Watson value, comparing the test results with the Durbin-Watson table.
c. Conducting F and Partial Simultaneous Tests, as well as conducting determination tests through R-squared, which depict the accuracy of the model used.

RESULTS AND DISCUSSION

Independent variables, or the explanatory variables, in this study consist of green investment (X1), which is derived from the calculation of two percent of the total gross fixed capital formation/investment, as presented in Table 2.

Table 2: Assumptions of Green Investment in South Sumatra Province (inmillions)

District/City	2016	2017	2018	2019	2020
Ogan Komering Ulu	23.860.289	27.922.840	28.250.438	69.890.217	27.704.995
Ogan Komering Ilir	39.584.993	42.176.832	44.480.037	62.911.173	42.350.765
Muaran Enim	40.980.067	48.067.005	50.511.673	24.076.71	48.545.446
Lahat	32.783.822	35.300.300	38.337.480	18.060.801	34.676.578
Musi Rawas	31.765.852	33.437.739	35.197.620	4.932.197	35.097.490
Musi Banyuasin	52.805.104	52.855.520	60.393.997	113.974.024	70.813.062
Banyuasin	39.024.541	40.128.445	41.612.980	33.909.380	43.402.378
OKU Selatan	22.719.823	24.445.520	25.362.536	3.487.499	27.230.768
OKU Timur	33.395.338	30.916.108	32.543.271	45.189.785	39.953.420
Ogan Ilir	25.580.072	26.165.017	28.343.717	1.750.601	26.914.524
Empat Lawang	16.034.572	19.273.840	19.572.347	40.831.103	18.155.740
PALI	15.790.669	20.455.157	24.528.687	1.329.505	19.689.294
Musi Rawas Utara	16.659.821	17.536.654	18.459.636	1.278.500	15.975.796
Kota Palembang	62.457.430	68.351.875	69.717.653	185.614.841	69.751.153
Kota Prabumulih	18.814.747	17.905.500	19.167.379	24.408.952	19.412.110
Kota Pagar Alam	15.475.246	16.245.412	15.388.969	16.822.860	16.839.865
Kota Lubuk Lingau	17.672.594	18.125.180	18.477.977	20.523.788	19.679.431

Source: BPS District/ City 2016-2021

Green Job Opportunity Variable (X2), derived from the allocation of green investment in the horticulture sector (agriculture, forestry, fisheries), energy (electricity and gas), and water from the Gross Regional Domestic Product (GRDP) of 17 districts/cities in South Sumatra Province during the period 2016 - 2020, as presented in Table 2.

Tables 2 and 3 depict the number of green job opportunities available based on the allocation of green investment in agriculture, plantations, forestry, and fisheries. According to the allocated investment data, the largest green job opportunities were in Palembang City in 2016, and in 2021, the highest green job opportunities were available in Prabumulih City.

Sustainable development, as an intervening variable in this study, is derived from data depicting economic growth in districts/cities in South Sumatra Province. In this study, sustainable development serves as the intervening variable for the impact of green investment and green jobs on poverty, but it is also assumed to have a direct impact on poverty in South Sumatra Province. Poverty data used are taken from poverty rate and the number of open unemployment in 17 districts/cities in South Sumatra Province.

Table 3: Green Job Opportunities in South Sumatra Province

Kebupaten/kota	2016	2017	2018	2019	2020
Ogan Komering Ulu	89	78	107	277	110
Ogan Komering Ilir	902	87	150	297	200
Muaran Enim	103	179	313	194	391
Lahat	316	324	391	207	397
Musi Rawas	112	72	73	10	75
Musi Banyuasin	185	96	50	98	61
Banyuasin	43	29	60	35	45
OKU Selatan	56	9	24	3	25
OKU Timur	106	103	64	47	42
Ogan Ilir	64	120	36	5	71
Empat Lawang	60	67	95	420	187
PALI	89	43	82	8	120
Musi Rawas Utara	29	30	32	2	25
Kota Palembang	5.047	1.140	561	1.896	713
Kota Prabumulih	549	377	27	882	702
Kota Pagar Alam	318	258	77	307	307
Kota Lubuk Lingau	638	722	797	8.631	8.276

Source: Data processed from BPS of 17 districts/cities for the period 2016-2021.

Results

In assessing the direct and indirect effects on poverty in South Sumatra Province, using data assumed to represent green investment and green jobs, it is demonstrated by conducting analysis steps starting from determining the appropriate regression model. Before examining the influence on poverty, an initial step is to test the direct effect of independent variables on the intervening variable of sustainable development (Table 4).

Based on the results of the Chow and Hausman tests, the most appropriate regression model for examining the direct effect of green investment and green jobs on sustainable development is to use the fixed effect model. This simultaneous direct effect is influenced by the variable.

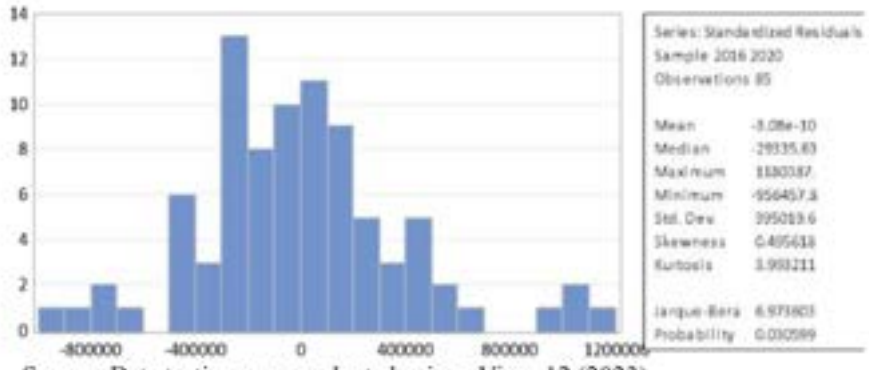
Table 4: Results of the Tested Model

Variable	Koefisien Fixed effect	Probabilitas Model Pengujian			Uji Common Effect & Fixed Effect	Uji Fixed Effect & Random Effect
		Common Effect	Fixed Effect	Random Effect		
Investasi Hijau (IH)	0,003805	0.0001	0,3184	0,0002	Chow Result	Hausman Result Test
Pekerjaan Hijau (PH)	-27,6076	0,7714	0,6131	0,0041	Test p < 0,005	P < 0,005
LPDRB	4138,162	0,5012	0,8799	0,0481	H_0 ditolak	H_0 ditolak
PDRB-PKP	405.3617	0,0000	0,000	0,0000	*fixed*	*fixed effect*
Konstanta	41279,32	0,0000	0,0000	0,0000	*effect*	lebih baik
Koefisien R. Square	-	0,9333	0,9971	0,6227	lebih baik	dari
F statistic	-	116,6413	9641,987	13,7579	dari	*random*
Durbin-Watson		0,4833	1.3277	1,0575	*common effect*	*effect*

Source: Data testing was conducted using eViews12 (2023).

Sustainable Development (SD / Y) = (- 13447696 + μ_1) + 0,003816GI – 27,608GJ + 0,2930

This regression model illustrates the simultaneous direct effect of green investment and green jobs on sustainable development. Furthermore, to assess the partial effects of each variable on sustainable development as an intervening variable, a Jarque-Bera value of 6.9736 with a p-value of 0.0306 <0.05 was obtained using eViews, indicating that the data are not normally distributed. However, because the tested data are panel data with more than 30 observations, according to the central limit theorem, these results can be disregarded.



Source: Data testing was conducted using eViews12 (2023).

Figure 2. Data Testing was conducted eViews12

The next classical assumption test is to test homoscedasticity through probability analysis on the fixed effect model, which shows all p-values > 0.05, indicating no homoscedasticity condition. The autocorrelation test conducted with eViews shows that the Dubin Watson value indicates that: the Dubin-Watson value is 1.327, with the assumption du < Dw < 4 - du. with a sample size of 106 and 2 independent variables, and α = 5%, the values dL = 1.6542, du = 1.7220, then du > dw < 2.3458 so it can be concluded that negative autocorrelation occurs in this model. Therefore, to determine the partial effect of the fixed effect model, it is necessary to add another variable.

Using data from the fixed effect model chosen as the best model for analyzing the relationship and the magnitude of the direct effect of green investment and green jobs together have a positive direct effect on sustainable development in South Sumatra Province. This conclusion is supported by the F-statistic value of 9641.69 with prob (F-statistic) 0.000 < 0.05. The magnitude in each district will vary, as indicated by the value of 1 affecting the constant of the measured variables.

The next hypothesis testing is the direct and indirect effects of green investment and green jobs through sustainable development on poverty, conducted with the same steps as the first hypothesis testing, namely determining the appropriate regression model as presented in Table 5.

Table 5: Model testing table for intervening variable testing.

Variabel	Koefisien	Probabilitas Model Pengujian			Uji Common Effect & Fixed Effect	Uji Fixed Effect & Random Effect
	Fixed effect	Common Effect	Fixed Effect	Random Effect		
Investasi Hijau (IH)	7.31E-06	0.5994	0,3050	0,9041	Hasil uji Chow p < 0,005 H_0 ditolak *fixed effect* lebih baik dari *common effect*	Hasil Hausman Test P < 0,005 H_0 ditolak *fixed effect* lebih baik dari *random effect*
Pekerjaan Hijau (PH)	0.173961	0,5261	0,0933	0,0049		
LPDRB	-80, 1537	0,1942	0,1284	0,6202		
PDRB-PKP	0,07598	0,0000	0,5232	0,0032		
TKT-MISKIN	1984,9	0,0000	0,0000	0,0000		
TPT	56,351	0,6084	0,5281	0,6348		
Konstanta	41279,32	0,9412	0,0000	0,1694		
Koefisien R. Square	-	0,9333	0,9998	0,6227		
Koefisien F	-	116,6413	9677,699	13,7579		

Source: Data testing was conducted using eViews12 (2023)

Based on the results of the Chow and Hausman tests, the most appropriate regression model to examine the direct effects of green investment and green jobs on poverty through sustainable development as an intervening variable is the fixed effect model. Therefore, the regression model is as follows:

Poverty (Y) = (41279.32 + μ_i) + 7.31E-06GI + 0.174GJ – 80.154LPDRB + 0.076PDRB_PKP + 1984.9TKMISKIN + 56.351TPT + 0.02

The second classical assumption test was conducted to ensure that the generated model can be used to analyze the effects among the tested variables. The normality test results indicate that the Jarque-Bera value is 23.35 with a p-value of 0.000014 < 0.05, thus it can be concluded that the normality assumption is met.

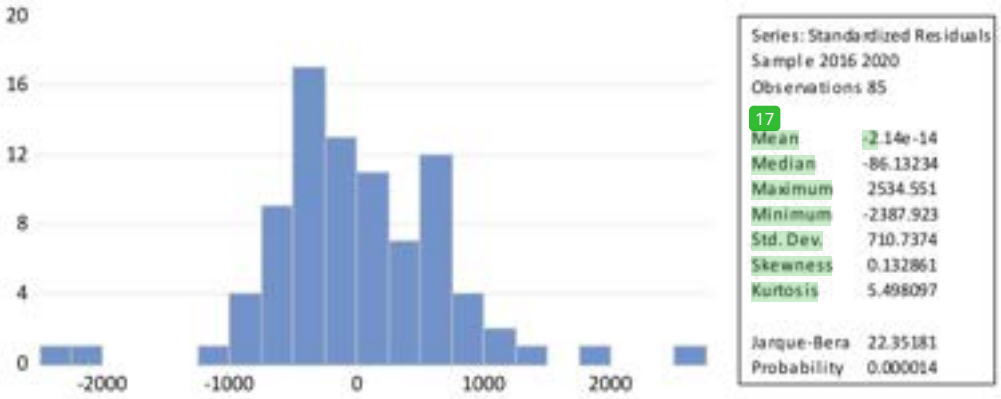


Figure 3. Standardized Residual Test Results

The residual test results to determine homoskedasticity in this model show p-values > 0.05, thus it can be concluded that the homoskedasticity assumption is not met. Furthermore, the autocorrelation test results did not prove the existence of autocorrelation in most variables with coefficients > 0.8, except for the sustainable development variable with a p-value > 0.8. This indicates a Dubin-Watson value in the fixed effect model of 1.8653 with the assumption of du < Dw < 4 - du. With a sample size of 450 and 9 independent variables and α = 5%, the values obtained are dL = 1.6867, du = 1.852, so 1.852 < 1.8653 < 2.148, thus it can be concluded that there is no autocorrelation.

Based on the fixed effect model, it is known that the F statistic value is 9677.7 with a prob (F-statistic) of 0.000 < 0.05, so it can be concluded that jointly the green investment, green jobs, and sustainable development variables influence poverty conditions in South Sumatra Province. Partially, based on the probability values in the fixed effect model, the

variables have a significant effect on poverty conditions in South Sumatra Province at 0.000482 when measured through sustainable development as a mediating variable.

Discussion

Currently, South Sumatra Province is not included in the priority areas for implementing green economy, hence green investment programs and green job opportunities cannot yet be adequately represented in real economic development aside from assumptions referring to previous research. However, according to the sustainable development indicators, particularly goal 1, which aims to end poverty in all its forms by 2019, there has been a decrease, although the target of reducing it to 10-11.65% has not been achieved. Therefore, referred to the group of issues by Bapenas, the poverty reduction in South Sumatra is cause by several factors outside of SGD goals 1. Furthermore, to be able to achieve SDG goal 1, the South Sumatra government must increase investment that can encourage achievements in food security, health, education and gender equality.

Poverty indicators measured in sustainable development include the number of people living below the poverty line, access for women and toddlers to basic health services including childbirth facilities and child immunization, access to safe drinking water, access to adequate sanitation, urban slum conditions, school participation rates for school-age children, access to population administration, and access to primary lighting sources. Most of these measured indicators have been achieved, meaning that the South Sumatra provincial government has successfully achieved most of the targets for sustainable development in poverty alleviation.

Indicators of sustainable development achievements assumed to be relevant to green investment and green jobs are target 8 concerning the promotion of inclusive and sustainable economic growth, full and productive employment, and decent work for all. The achievement indicators are observed from the GDP per capita growth rate based on both expenditure and employment fields, the proportion of non-agricultural employment, the formal labor force participation rate, average wages, and the open unemployment rate.

In this study, besides analyzing its influence as an intermediate variable between green investment and green jobs, the direct effect of sustainable development on poverty is also considered. Statistical analysis results indicate that sustainable development directly affects poverty conditions in South Sumatra with a negative direction at 80.154, as seen from the sub-variable of economic growth. In other words, if the overall sustainable development indicators improve, it will significantly reduce poverty rates in South Sumatra Province.

The high influence of sustainable development on poverty conditions in South

Sumatra Province during the period 2016-2020 indicates that economic growth and non-oil economic growth rates using a fixed effect model or a model with a constant for each district/city over time are stable. In other words, various changes in income components in each district/city will affect poverty reduction significantly. This condition can be understood because sustainable development activities are not limited reached from environmentally friendly sectors but also can be achieved from brown economic activities or the profit oriented economic. This can be seen from the recent economic development activities in South Sumatera that still not implementing the green economic concept. In this study, the mining and excavation components are not included because they are not considered environmentally friendly industries.

Partially, sustainable development also influences the poverty rate by 0.0017 or 1.7% and the open unemployment rate by 0.4495 or 44.95%. Meanwhile, the economic growth rate component as a sustainable development indicator influences poverty reduction by 144.24% and per capita income influences poverty reduction by 0.166 with a negative direction or is capable of reducing poverty by 16.6%.

The coefficient of determination or R-square results indicate that the model used can explain the variation in the influence of sustainable development on poverty over time in each district/city in South Sumatra Province by 99.96%. This result is consistent with the study by Adeleke and Josue (2019), who found that per capita income has a weak impact on poverty. Both researchers also found that indicators of sustainable development under goal one are more appropriate indicators in describing the relationship between sustainable development and poverty. The indicators used to measure the relationship between sustainable development and poverty are part of the weaknesses that can be corrected through further research.

Different impacts are shown by the direct effect of green investment on poverty, which is very small at 0.00073 percent. This less significant impact can be understood because if it is assumed that all green investments are only invested in agriculture, plantation, forestry, and fisheries, the allocation for developing green human resources through formal and informal education will also be limited. Meanwhile, access to education is one of the indicators that describe poverty, as mentioned earlier. Meanwhile, green jobs will directly contribute positively to poverty conditions by 17.4 percent.

Partially, the relationship between green investment and the poverty rate affects the open unemployment rate by 48.23%. Meanwhile, green investment affects poverty by 1.6% negatively and 25.87% on the open unemployment rate. Negative effects are also shown by

green jobs on the poverty rate by 11.3% and 33.05% on the open unemployment rate. This research is in line with the study by Sulich et al. (2020), especially regarding green jobs and the open unemployment rate, where the study found that the opening of green jobs provides opportunities for young people who are just entering the workforce, obtaining jobs in more environmentally friendly occupations. Novariarita et al. (2021) also found that during the Covid-19 pandemic, many tourist villages and businesses implemented green economies and were able to provide job opportunities.

Lukas (2015) in his research suggests that through green investment and green jobs as the main components of the green economy, there is a small impact on the economic development of a country. This happens because for developing countries, the application of the green economy is considered to hinder economic growth due to limitations in the use of natural resources, which are the mainstay of developing countries. In South Sumatra itself, the implementation of the green economy is not easily recognized because it is not a priority area in the green economy program. Renewable energy development that relies more on central directions does not provide many opportunities for development in this province.

The research results also reinforce the dynamic model of a country or region's economic growth as proposed by Green Solow (1956), which states that industrial activities in producing goods or services will increase pollution. In other words, in relation to this research, as long as the South Sumatra Provincial Government does not have good environmental policies and consistently applies them, it can be ensured that green economy targets will not be easily achieved. This refers to Kožluk and Zipperer (2013), who argue that there is a significant relationship between environmental policies and productivity. Although various studies show that this condition cannot be generalized everywhere, at least the government or policymakers in South Sumatra Province can consider developing policies that consider environmental quality if they want to increase the presence of investors who can create jobs.

CONCLUSION

While South Sumatra Province may not yet be included in the priority areas for green economic development, through assumptions using data referencing previous research, simulations can be built to illustrate the potential for implementing green investment that can create more environmentally friendly jobs and contribute to poverty alleviation in each district/city. Consistency in implementing existing policies, in the future, will increasingly open up investment opportunities that create more environmentally friendly jobs.

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