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UNIVERSITI
TEKNOLOGI
MARA

**SME'S AND GREEN ECONOMY FOR SUSTAINABILITY
DEVELOPMENT IN INDONESIA AND MALAYSIA**

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8. The targeted findings (explanation, method, theory, or anticipation contributed to the field of study)

- a. The valuation green GDP of SME's
- b. The simultaneous and partial effect of labour, Investment and Export on the green GDP of SME's

c. Factors are the dominant factors among labour, Investment and Export

for the green GDP of SME's

9. The basic contribution to the field of study (explain in not more than 50 words, focus on original and fundamental ideas supporting the development of science and technology)
 - * Enriching studies on Macro Economics especially sustainable development economic
 - * Enriches studies on green GDP of SME's, labour, investment and export
 - * Enrich the discussion of the field of green economic research
 - * Enrich discussion on policy of government for business & development
10. The targeted journals (write the name of the international journal, accredited national journal, or non-accredited, and state the year of publication).
 - * Scopus International Journal Q3: Asian Academy of Management Journal
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ABSTRACT

To overcome the weaknesses of conventional economic growth, a green growth strategy is needed. The green growth strategy focuses on strengthening positive trade-offs from economic and environmental policy aspects. To realize the principles of sustainable development, especially in implementing a green economy in Indonesia and Malaysia, policies have been made to support this program. The Government of the Unitary State of the Republic of Indonesia is making real efforts as stated in the 2005-2025 RPJPN as one of its long-term development missions. Meanwhile in Malaysia, the green economy concept has been initiated by the government in terms of technological evolution, through the establishment of the Ministry of Energy, Green Technology and Water (KeTTHa) in 2009. Under the Eleventh Malaysia Plan (RMK, 2015), the government has introduced Malaysian Quality of Life Index (MQLI) in 1999 to provide an aggregate measure of sustainable living (EPU, 1999).

This study analyzes the effect of labor, export, investment on the Green GDP of SMEs and determines the comparison of SMEs green GDP in Indonesia and in Malaysia.

This research uses annual secondary data for 1991-2020 obtained through relevant agencies. The data analysis method uses OLS Multiple Linear Regression which begins with the Stationarity Test and the Cointegration Test. Determination of the dominant factor and the amount of contribution using the value of beta (β). Different test of the dependent variable (difference t test) to determine the comparison of MSMEs green GRDP in Indonesia and Malaysia.

The result of research For the Green Economy Valuation calculated from Conventional GDP minus the Depletion Natural Source value, we get Semi Green GDP, while the Green GDP value is obtained from Semi Green GDP minus the Degradation value. The degradation value is obtained from the total costs incurred to overcome air pollution by planting trembesi trees. For the green GDP of SME obtained from spread of green GDP divided of GDP of SME. For Indonesia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 46%, the rest is influenced by other variables. For Malaysia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive not influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 57%, the rest is influenced by other variables. For the t-test difference on the Green GDP variable, it states that there is a not significant difference in Green GDP of SME between Indonesia and Malaysia.

Keywords: Green Economy; Green GDP; Sustainable development, SME's

CHAPTER 1

INTRODUCTION

1.1 Introduction

The concept of sustainable development is currently getting attention from various parties. The population density factor is an important factor that demands the availability of sufficient natural resources, this is the main problem that must be found an effective and efficient solution. Sustainable development is the integration between the economy and the environment as a human effort to improve the quality of life. Economic development based on natural resources that does not pay attention to aspects of environmental sustainability will ultimately have a negative impact on the environment itself. Basically, natural resources and the environment have a limited carrying capacity. In other words, economic development that does not pay attention to the capacity of natural resources and the environment will cause development problems in the future (Burhanudin, 2016, p.11).

In the conventional economic system, economic growth is the most important economic indicator. Economic growth is calculated based on the increase in the value of the Gross Regional Domestic Product (GDP). GDP which is currently known as conventional GDP or Brown GRDP. Brown / conventional GRDP is considered not to describe the situation of sustainable economic development because its value still contains depreciation in the value of natural resources and is indicated to contain the value of degradation of environmental benefits. The growth that occurs in the economic system is faced with unfavorable environmental system conditions. The amount of material and energy provided by the environmental system does not increase. Therefore, in certain situations the optimal point of economic growth will be reached. If the optimal point has been reached, the value of losses due to waste and degradation of materials and environmental services will be greater than the benefits derived from economic growth (Rahmat, 2016. p,209-217).

To overcome the weakness of conventional economic growth, a green growth strategy is needed. The green growth strategy focuses on the positive mutual reinforcement of economic and environmental policy aspects. Green growth takes into account the total value of natural capital as a factor of production and its important role in growth. Green growth also focuses on finding cost-effective ways to reduce pressure on the environment so that the transition to a new growth pattern that can be created does not exceed the carrying capacity of the environment. In green growth innovation plays an important role, because depletion of natural resources at a certain point will have a negative impact on growth. Innovation can play a role in creating substitutions for depleted natural resources to support growth. The green growth strategy recognizes that the measurement of economic

progress should take into account the contribution of natural resource assets to the well-being, health and prosperity of mankind. Measurement of economic progress also concerns the quality and composition of growth as well as the impact of growth on human welfare (DAN, D. B. S. D. A., 2013, pp. 14-18).

To realize the principles of sustainable development, especially in the application of a green economy in Indonesia and Malaysia, a policy was made to support this program. The government of the Unitary State of the Republic of Indonesia made real efforts as stated in the RPJPN 2005-2025 as one of the long-term development missions. The National Long-Term Development Plan (RPJPN) 2005-2025 lays out the vision of Indonesia's development which is independent, advanced, just and prosperous. The conditions described in this vision are marked by the level of independence, progress, justice, and prosperity to be achieved. Development as an effort to fill independence must be an effort to build independence. In one of the 8 (eight) development missions to achieve the conditions described in the vision, especially those related to sustainable development, the 6th vision is: Indonesia Asri and Lestari. To achieve this, the missions to be pursued are: (i) improving the management of development implementation that can maintain a balance between utilization and sustainability; (ii) the existence and utilization of natural resources and the environment while maintaining the function, carrying capacity and comfort in life today and in the future through the use of space that is in harmony between utilization for settlements, socio-economic activities and conservation. efforts, improve the economic utilization of resources. sustainable natural resources and environment; (iii) improve the management of natural resources and the environment to support the quality of life, provide the beauty and comfort of life, and increase the maintenance and utilization of biodiversity as the basic capital of development.

Meanwhile in Malaysia, the green economy concept has been initiated by the government in terms of technological evolution, through the establishment of the Ministry of Energy, Green Technology and Water (KeTTHa) in 2009. Under the Eleventh Malaysia Plan (RMK, 2015), the government has introduced the Malaysian Quality of Life Index (MQLI) in 1999 to provide an aggregate measure of sustainable living (EPU, 1999). This emphasizes the importance of balanced development, which is able to support sustainable economic growth, thereby providing a high quality of life for the community (EPU, 2011 & 2013). The Malaysian government's proactive actions in MQLI (2011) and the green economy concept appear to complement each other in meeting the needs of the whole community.

As reported by the OECD Investment Policy Review in 2013, the Malaysian government has placed a positive emphasis on implementing sustainable development, and has understood the need to conserve the environment rather than focusing solely on the country's economic development.

Major changes in environmental policy and public acceptance of the impact of the environment on their quality of life are important. Hence, a comprehensive set of policies and laws have been drafted which includes the National Climate Change Policy, Green Technology policy and Renewable Energy policy for Malaysia (KeTTha, 2015). All these proactive actions have been made to demonstrate the proper movement of the government to support green growth for the benefit of the people. According to Hezri and Ghazali (2011) Malaysia's national green economy framework reflects mainstream economic framing, such as the United Nations Economic Program (UNEP) and the Organization for Economic Cooperation and Development (OECD). The main objective is to strengthen the Malaysian economy through incentives, tax system, pricing, regulatory framework, and prioritizing all investments (Lestari, 1999 in Abdul Hamid, 2019).

Conventional GDP valuation Methods can interpret the progress of economic development, especially the impact of environmental pollution, so the importance of evaluating Green GDP is to calculate environmental aspects that are not carried out on Conventional GDP, so that by calculating Green GDP it is clear the impact of losses from economic development that does not pay attention to environmental factors. As a reference for the calculation of Green GDP by Wibowo, E. W. et.al (2021) for the province of Jakarta as the capital of the State of Indonesia. In 2019 the province of DKI Jakarta obtained a GDP of Rp. 1,842,996,120 (million), - while the 2019 green GDP valuation result is Rp. 1,824,804,136 (million), from these results the impact of the green economy is not implemented, the Jakarta provincial government actually gets a loss of Rp. 18,191,984,- (million). Similar results were stated by Stjepanović, S et.al (2017) showing that the GDP growth rate and the Green GDP growth rate in 2014, differed significantly in almost all countries, both between countries in the same group and between countries in different categories of countries. We see that the difference between average GDP growth and Green GDP growth is approximately 1% to 3%, environmental quality in 2014 was sacrificed to achieve higher growth rates and the benefits of higher standard economic features, so the losses are even greater.

Table 1.1 GDP & Population Indonesia & Malaysia Performance

Tahun	INDONESIA						MALAYSIA					
	GDP	% Growth	GDP per capita	% Growth	Population	% Growth	GDP	% Growth	GDP per capita	% Growth	Population	% Growth
2010	657,835,435,591	6.22	2,720	6.03	241,834,226	5.01	232,653,672,974	7.42	8,248	-	28,208,028	6.01
2011	698,422,462,409	6.17	2,849	4.75	245,115,988	1.36	244,970,155,627	5.29	8,550	3.67	28,650,962	1.57
2012	740,537,690,665	6.03	2,981	4.61	248,451,714	1.36	258,378,484,880	5.47	8,889	3.96	29,068,189	1.46
2013	781,691,322,851	5.56	3,104	4.15	251,805,314	1.35	270,506,054,026	4.69	9,179	3.27	29,468,923	1.38
2014	820,828,015,499	5.01	3,217	3.64	255,128,076	1.32	286,754,600,538	6.01	9,601	4.60	29,866,606	1.35
2015	860,854,235,065	4.88	3,332	3.56	258,383,257	1.28	301,354,803,994	5.09	9,955	3.69	30,270,965	1.35
2016	904,181,624,279	5.03	3,457	3.76	261,556,386	1.23	314,764,434,003	4.45	10,258	3.04	30,684,652	1.37
2017	950,021,696,789	5.07	3,590	3.84	264,650,969	1.18	333,060,816,797	5.81	10,708	4.38	31,104,655	1.37
2018	999,178,589,070	5.17	3,733	3.99	267,670,549	1.14	348,947,574,702	4.77	11,068	3.36	31,528,033	1.36
2019	1,049,318,966,509	5.02	3,877	3.87	270,625,567	1.10	363,962,146,716	4.30	11,392	2.93	31,949,789	1.34
2020	1,027,602,854,053	- 2.07	3,757	- 3.11	273,523,621	1.07	343,624,871,233	- 5.59	10,617	- 6.80	32,365,998	1.30

Source : Worldbank, 2021

Table 1.1 describes GDP figures both constant and per capita. It can be seen from year to year that both Indonesia and Malaysia have increased, for Indonesia it is between 5%-6% while Malaysia is 4%-7% but during the 2020 pandemic it has decreased, for Indonesia it is 2% while Malaysia is 5%. This GDP value is also accompanied by an increase in Indonesia's population in 2020 reaching 273 million while Malaysia's 32 million. With an increase in GDP, it means that development in both countries is very good, of course this development must still pay attention to environmental elements to be sustainable.

Table 1.2 Air Pollution Rates in Indonesia & Malaysia 2010-2018

Tahun	INDONESIA		MALAYSIA	
	CO ² M ³	% Growth	CO ² M ³	% Growth
2010	4,169,400	-	1,991,100	-
2011	4,804,600	15.23	2,016,700	1.29
2012	4,867,500	1.31	2,032,800	0.80
2013	4,543,200	- 6.66	2,198,200	8.14
2014	4,900,500	7.86	2,316,800	5.40
2015	4,908,400	0.16	2,325,500	0.38
2016	4,949,800	0.84	2,286,400	- 1.68
2017	5,329,200	7.66	2,228,900	- 2.51
2018	5,831,100	9.42	2,396,200	7.51

Source : worldbank

Table 1.2 shows that one of the impacts of development is air pollution with increasing CO2 levels. Data from 2010-2018 illustrates that the value of CO2 levels in both countries is still high, especially in 2018, Indonesia experienced an increase of 9.42% while Malaysia was 7.51% even though Malaysia was able to reduce it but in 2018 it increased sharply. The increase in CO2 levels is one of the negative effects of development due to not caring about the environment. Many problems occur due to air pollution with increasing CO2, including people who are susceptible to diseases such as Tuberculosis, Acute Respiratory Infections, which can also cause death.

Table 1.3 : Death Data due to Unclean Air Pollution & Sanitation
in Indonesia & Malaysia in 2016

Country 2016	Mortality rate attributed to household and ambient air pollution	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene
Indonesia	293,989	18,571
Malaysia	14,545	123

Source : worldbank

In Table 1.3 in 2016 the death rate due to air pollution for Indonesia was 293,989 people while Malaysia amounted to 14,545 people. Meanwhile, the death rate due to water pollution, namely not using good sanitation, for Indonesia is 18,571 people, while Malaysia is 123 people.

Table 1.4 : Number of Tuberculosis (TBC) patients
in Indonesia & Malaysia 2010-2019

Tahun	INDONESIA		MALAYSIA	
	TBC	% Growth	TBC	% Growth
2010	827,073	-	21,156	-
2011	828,492	0.17	22,921	8.34
2012	832,313	0.46	24,999	9.07
2013	835,994	0.44	26,817	7.27
2014	839,371	0.40	27,776	3.58
2015	839,746	0.04	27,244	- 1.92
2016	842,212	0.29	28,844	5.87
2017	844,237	0.24	29,238	1.37
2018	845,839	0.19	29,006	- 0.80
2019	844,352	- 0.18	29,394	1.34

Source : worldbank

In Table 1.4 in 2010-2019 the number of Tuberculosis (TBC) sufferers is still high for Indonesia, ranging from 827 thousand to 845 thousand people, while Malaysia is around 21 thousand to 29 thousand people. One of the reasons a person suffers from TB is an unfavorable environment, such as air pollution so that this disease is easy to spread.

Table 1.5 Area of agricultural and forestry land
in Indonesia & Malaysia 2010-2018

Tahun	INDONESIA					MALAYSIA				
	Land	Agriculture	% Growth	Forest	% Growth	Land	Agriculture	% Growth	Forest	% Growth
2010	1,811,570	556,000	-	996,592	-	328,550	73,893	-	189,477	-
2011	1,811,570	565,000	1.62	987,329	- 0.93	328,550	75,306	1.91	190,510	0.55
2012	1,811,570	565,000	-	978,067	- 0.94	328,550	78,292	3.97	191,543	0.54
2013	1,811,570	570,000	0.88	968,804	- 0.95	328,550	80,593	2.94	192,576	0.54
2014	1,811,570	570,000	-	959,542	- 0.96	328,550	80,890	0.37	193,609	0.54
2015	1,811,570	573,000	0.53	950,279	- 0.97	328,550	85,700	5.95	194,642	0.53
2016	1,877,519	602,000	5.06	952,718	0.26	328,550	85,710	0.01	193,146	- 0.77
2017	1,877,519	623,000	3.49	939,498	- 1.39	328,550	85,710	-	192,645	- 0.26
2018	1,877,519	623,000	-	933,443	- 0.64	328,550	85,710	-	192,143	- 0.26

Source : Worldbank, 2021

From a different perspective, the impact of development without regard to the environment is the decline in the quality of agricultural and forestry land. In both countries, Indonesia and Malaysia, although agricultural land is still increasing, if it is seen from the amount of production, it is decreasing. In Table 1.5 it can be seen that the area of forested land has decreased from year to year. For Indonesia, the decline was 0.64% to 0.97%, while Malaysia was 0.26% to 0.77%.

Table 1.6 Agricultural and fisheries products in Indonesia & Malaysia 2010-2018

Tahun	INDONESIA						MALAYSIA					
	Cereal Yield	% Growth	Cereal Production M3	% Growth	Aqua Production M3	% Growth	Cereal Yield	% Growth	Production M3	% Growth	Aqua Production M3	% Growth
2010	11,399.05	-	84,797,028	-	6,277,925	-	2,018.99	-	2,512,432	-	581,243	-
2011	11,562.94	1.44	83,400,154	- 1.65	7,937,072	26.43	1,992.12	- 1.33	2,635,830	4.91	526,693	- 9.39
2012	11,117.67	- 3.85	88,443,150	6.05	9,599,765	20.95	2,024.78	1.64	2,682,983	1.79	634,876	20.54
2013	11,208.56	0.82	89,791,565	1.52	13,301,408	38.56	2,041.36	0.82	2,690,153	0.27	530,702	- 16.41
2014	11,186.34	- 0.20	89,854,891	0.07	14,375,287	8.07	2,666.21	30.61	1,894,019	- 29.59	521,014	- 1.83
2015	10,797.87	- 3.47	95,010,276	5.74	15,649,311	8.86	2,113.85	- 20.72	2,803,864	48.04	506,965	- 2.70
2016	11,463.39	6.16	102,933,180	8.34	16,002,319	2.26	2,135.70	1.03	2,804,473	0.02	407,887	- 19.54
2017	12,024.47	4.89	110,072,609	6.94	16,118,238	0.72	2,016.33	- 5.59	2,974,455	6.06	427,516	4.81
2018	11,919.57	- 0.87	113,290,938	2.92	14,772,104	- 8.35	2,076.31	2.97	2,795,349	- 6.02	391,977	- 8.31

Source : worldbank

Table 1.6 depicts the decline in agricultural and fishery yields. For agricultural products (cereal yield) Indonesia in 2018 only increased by 0.87 even though it once reached a yield of 6.16%. Meanwhile, Malaysia in 2018 only increased by 2.97% even though it had reached 30.61%. Fishery products also appear to be declining, for Indonesia in 2018 it was 8.35% while Malaysia was 8.31%. The agricultural and fishery sectors are the mainstay sectors of the two countries, both for public consumption and for export.

Table 1.7 Figure of Total SME and GDP of SME Indonesia & Malaysia in 2015-2019

Describe	Indonesia			Malaysia		
	Total SME	GDP SME (Rp Mil)	% G	Total SME	GDP SME (RM Mil)	% G
2015	740	1.655.430		907.065	435.072	
2016	857	5.171.064	212,4	907.065	458.686	5,4
2017	942	5.445.564	5,3	907.065	491.568	7,2
2018	1.033	5.721.148	5,1	907.065	522.415	6,3
2019	1.098	5.931.690	3,7	907.065	553.458	5,9

Source : World Bank

From the data regarding environmental conditions above, it turns out that it has an impact on the condition of Micro, Small and Medium Enterprises (SMEs) in Table 1.7, it is explained regarding the data on the number of SMEs, it can be seen that from year to year there has been an increase in the number of SMEs, especially in Indonesia from 2015-2019, but the GDP of SME from year

decreasing every year. Indonesia in 2017 grew 5.3% while in 2019 it was only 3.7% while Malaysia's GDP of SMEs in 2017 was 7.2% but in 2019 it fell to 5.9%.

Table 1.8 Figure of Labour of SME Indonesia & Malaysia in 2015-2019

Describe	Indonesia		Malaysia	
	labour of SME	%G	labour of SME	%G
2015	123.229.387		13.992	
2016	112.828.610	- 8,4	14.180	1,3
2017	116.431.224	3,2	14.459	2,0
2018	116.978.631	0,5	14.810	2,4
2019	119.562.843	2,2	15.126	2,1

Source : World Bank

In Table 1.8, it can be seen that the number of workers in SMEs for Indonesia shows a downward trend from 2016 where the growth was 8.4%, while in 2019 it decreased to 2.2%. For Malaysia, there was fluctuating in 2016, growth of 1.3% had increased in 2018 to 2.4% but fell in 2019 to 2.1%.

Table 1.9 Figures of Export SME Indonesia & Malaysia in 2010-2019

Describe	Indonesia		Malaysia	
	Export (Rp. Mil)	%G	Export (RM Mil)	%G
2015	185.975		145	
2016	255.126	37,2	155	7,0
2017	301.630	18,2	166	7,2
2018	293.841	- 2,6	172	3,4
2019	339.191	15,4	176	2,6

Source : World Bank

In Table 1.9 it can be seen that the export value of MSMEs, for Indonesia, has fluctuated from 2016 which had increased by 37.2% then in 2019 it fell to -2.6% and again increased in 2019 to 15.4%. Meanwhile for Malaysia there was a decrease from 2016 of 7% then in 2019 it fell to 2.6%.

Table 1.10 Figures of Investment SME Indonesia & Malaysia in 2010-2019

Describe	Indonesia		Malaysia	
	Investment (Rp Mil)	%G	Investment (RM Mil)	%G
2015	739,80		274.412	
2016	856,96	15,8	299.733	9,2
2017	942,39	10,0	315.660	5,3
2018	1.032,64	9,6	297.615	- 5,7
2019	1.098,14	6,3	278.355	- 6,5

Source : World Bank

In Table 1.10 it can also be seen that the investment value of SMEs, for both countries, both Indonesia and Malaysia, there has been a decline in investment value growth. For Indonesia in 2016 from 15.8% to 6.3% in 2019. Meanwhile for Malaysia in 2016 from 9.2% to -6.5% in 2019.

From the explanation above, green economic growth is very necessary for sustainable development, many impacts are felt when development does not care about natural & environmental elements. This research will analyze the valuation of Green GDP of SME and the factors that influence it, such as labor of SME, Export of SME, Investment of SME and its implications for income inequality with a comparative study of Indonesia and Malaysia.

Conventionally, labor forces affect economic growth (Purwanggono, CH, & Sasana, H. 2015), Exports have a significant and partial effect on Indonesia's Gross Domestic Product 2008-2017 (Febriyanti, 2019), Partial test results show that investment has a positive and significant effect on the Gross Regional Domestic Product (GRDP) Banten 2010-2014 (Rahman, 2016). In the short term, a green economy can increase production factors, especially by allocating capital consisting of natural capital, and human and social capital, which is aimed at improving health, education, cohesion, and stability. In the end, the idea of a green economy is expected to be able to harmonize the short and long term, and to offset the short term costs by maximizing the synergies and long term economic benefits (for example, job creation and poverty alleviation, increased efficiency) and mitigation (Hallegatte, 2012).

The novelty in this research will compare Conventional GDP of SME and Green GDP of SME against 2 countries, Indonesia and Malaysia, as well as provide policy implications for the government and entrepreneurs regarding the best potential for the green business / economy in the future.

1.2 Identification of Problems

Based on the background of the problems that have been stated above, the problems of conventional GDP of SME comparison Green GDP of SME, which can be identified include the following:

1. On average there is a gap between conventional GDP and green GDP calculations of 1% to 3%, this is a loss for a country or region
2. Increasing CO₂ pollution, the value of CO₂ levels in both countries is still high, especially in 2018, Indonesia experienced an increase of 9.42% while Malaysia 7.51%
3. The impact of air pollution, increasing TB sufferers and deaths in both countries
4. The decline in the quality of forestry land, the area of forestry land has decreased from year to year. For Indonesia, the decline was 0.64% to 0.97%, while Malaysia was 0.26% to 0.77%.
5. The decline in the number of agricultural and fishery production in the two countries.
6. Decrease in the value of MSME GDP, both Indonesia and Malaysia for the 2015-2019 period.
7. The decrease in the number of MSME workers for Indonesia while for Malaysia tends to fluctuate in the 2015-2019 period
8. The decline in export value for Malaysia but for Indonesia tends to fluctuate in the 2015-2019 period
9. Decrease in the amount of investment in both Indonesia and Malaysia, 2015-2019 period.

1.3 Restricting The Problem

The increase Green GDP of SME's is influenced by many factors. This study is limited to the effect of Labour, Investment and Export on the Green GDP of SME's.

1.4. Formulation of the Problem

Based on the limitation of the problem and the objectives of the research, the research formula is put forward as follows:

2. How does the valuation green GDP of SME's ?
3. How are the simultaneous and partial effects of Labour, Investment, Export on the green GDP of SME's ?
4. What are the dominant factors among Labour, Investment, Export for the green GDP of SME's ?

1.5. Urgency in Research

The urgency to be achieved in this research are:

1. Input for government in order to improve their performance so that it plays a major role in green economic with implications for citizen.
2. As a discourse on the development of knowledge, especially green economy
3. As a medium for scientific development for writers and for comparison in carrying out the same research in different locations
4. As materials for policy makers with regard to improving the performance of green economic in Indonesia and Malaysia especially for SME's

1.6. Targeted Findings

The findings of this study are targeted to obtain information about:

1. Effort to determine the valuation green GDP of SME's
2. Efforts to determine the simultaneous and partial effect of partial effects of labour, investment, export on the green GDP of SME's
3. Efforts to identify the most dominant factors among labour, investment, export for the green GDP of SME's
4. Comparison of green economic / GDP performance growth in Indonesia and in Malaysia.

1.7. Output Target

The targets to be achieved from the output of this study are:

Tabel 1. 11 . Outcome Target

No	Type of Outcome	Indicator	
1	Scientific Publication ¹⁾	International	Submitted on Scopus International Journal Q3: Asian Academy of Management Journal
		National-Accredited	Nothing
2	Invited speaker in scientific forum ²⁾	International	Nothing
		National	Nothing
3	Keynote speaker in scientific forum ³⁾	International	Nothing
		National	Nothing
4	Visiting Lecturer ⁴⁾	International	Nothing
5	Intellectual Property Right ⁵⁾	Patent	Nothing
		Simple Patent	Nothing
		Copy Right	Registered
		Trade Mark	Nothing
		Trade Secret	Nothing
		Industrial Product Design	Nothing
		Geographical Indication	Nothing
		Plant Variety Conservation	Nothing

No	Type of Outcome		Indicator
		Integrated Circuit Topography Conservation	Nothing
6	Intermediate Technology ⁶⁾		Nothing
7	Model/Prototype/Design/Art/ Social Engineering ⁷⁾		Nothing
8	Book (ISBN) ⁸⁾		Nothing
9	Technological Readiness Level (TRL) ⁹⁾		4 scale

¹ Fill in with nothing, draft, submitted, reviewed, or *accepted/published*³⁾

^{2), 3) , 4)} Fill in with nothing, draft, registered, or has been conducted

⁵⁾ Fill in with nothing, draft, registered /*granted*

^{6), 7)} Fill in with nothing, draft, product or application

⁸⁾ Fill in with nothing, draft, *editing process /published*

⁹⁾ Fill in with 1-9 scale refer to

CHAPTER II
LITERATURE REVIEW

2.1. Relevant Previous Research

Relevant previous research on which the rationale for this research is based are as follows:

Table 3.1. Previous Research

No.	Title Year Name of Journal	Variable	Similarity Novelty	Result
1	Salim, M.N., Rahman, N.H.A, Susilastuti, D., Wibowo, E.W, Marlapa, E. & Samad, K. A. (2022).Green Economy and Green Openness Overview Indonesia & Malaysia Green Business. <i>The Seybold Report</i> . 17 (108):2000-2013. DOI 10.5281/zenodo.7043404	Green GDP Green Openness	Similarity: Green GDP and openness	For Indonesia and Malaysia there is a positive partial influence between Green Openness on Green GDP. For the t-test difference on the Green GDP and Green Openness variable, it states that there is a significant difference in Green GDP and Green Openness Variables between Indonesia and Malaysia.
2	Salim, M. N., A., Hussin, H., Susilastuti, D., & Murti, W. Marlapa, E., Ismail, S., Rahman, N. H.(2022). Determinants ofMSMEs Growth andits Impact on Income and Unemployment: Cases of Indonesia and Malaysia. <i>International Journal ofAcademic Research inEconomics and Management andSciences</i> , 11 (1), 223–239. DOI:10.6007/IJAREMS/v11-i1/12305	MSMEs growth, credit, investment, technology, employment	Similarity:Investment, national income/GDP	This result shows that the growth of Malaysian MSMEs has been negatively impacted by credit. However, the growth of MSMEs in Indonesia is positively influenced by credit, investment and technology. In addition, the growth of SMEs will help increase national income and ultimately reduce unemployment in Indonesia but not in Malaysia.
3	Salim, M.N., Astuty. P. & Susilastuti, D. (2021). Determinants ofIndonesian MSME Exports and Their Performance during theCovid-19 Pandemic. <i>Economics andBusiness QuarterlyReviews</i> Vol.4, No.3, 2021: 162-173.	exchange rate, growth in the number of MSMEs, Inflation, GDP/ Income per capita, Export	Similarity: Export Invesment Labour GDP	1) The stabilization of the rupee/dollar exchange rate, an increase in the number of MSMEs, an increase in investment, an increase in bank credit to MSMEs and a controlled inflation rate had a significant impact on the growth of MSME exports. 2) Exports of small and medium-sized products make a significant contribution to GDP and have some impact on increasing per capita income. 3)

	DOI:10.31014/aior.1992.04.03.379	Investment/Credit Employment/Labour		Increasing the value of MSME export products will encourage MSME entrepreneurs to further increase productivity, allowing the sector to absorb more labour. The contribution of credit and GDP continued to grow until the end of 2020.
4.	Talberth, J., & Bohara, A.K. (2006), Economic openness and green GDP. <i>Journal Ecological Economics</i> , Elsevier 58(4), 743-758.	Openness and green GDP	Equation: Green GDP and openness	The study provides robust results showing a negative non-linear relationship between openness and green GDP growth and a positive non-linear relationship between openness and the growth of the traditional green GDP gap.
5	Wang, X. (2011). Green GDP and Openness: Evidence from Chinese Provincial Comparable Green GDP. <i>Journal of Cambridge Studies</i> 1 Vol. 6 No.1 March 2011	Openness and Green GDP	Similarity: Green GDP and openness	There appears to be a non-linear relationship between green GDP and openness. Openness appears to be positively correlated with green GDP at a point often referred to as the threshold point, after which the effect reverses
6	Maharani, K., & Isnowati, S. (2014). <i>Journal of Business and Economics</i> , 21(1). A study of investment, government spending, labor and economic openness to economic growth in Central Java Province.	1. Investment 2. Government spending 3. Labor 4. openness 5. economic growth	Similarity: Openness Labor Difference: Only GDP / economic growth, but does not research green GDP	Conclusions The variable of economic openness was statistically significant from 1985 to 2010 and had a negative impact on economic growth in Central Java.
7	Analysis of the influence of economic openness on economic growth (case study: ASEAN 2007-2017) Purnomo, R. N. (2018) <i>Journal of Development Economics Dynamics</i>	1. openness 2. economic growth	Similarity: Openness Difference: Only GDP / economic growth, but does not research green GDP	From 2013 to 2017, trade openness was the first independent variable to have a significant impact on ASEAN economic growth.

8	Analysis of the influence of labor force and capital on economic growth in Bengkulu Province. Purba, F., & Handoko (2008). (Doctoral dissertation, Faculty of Economics UNIB).	1.labor force 2.capital 3.economic growth	Similarity:Labor force capital Difference: Only GDP / economic growth, but does not research green GDP	A study of the significant impact of gross domestic fixed capital formation on economic growth in Bengkulu from 1990 to 2004.
9	The effect of capital accumulation and development of road infrastructure on economic growth and the number of poor people in East Kutai district. Marlina, I. (2015). Executive Journal 12(2).	1.capital 2.infrastructure 3.economic growth	Similarity: Capital Difference: Only GDP / economic growth, but does not research green GDP	The data obtained show that such variables as capital accumulation and road infrastructure development have a direct and significant impact on the economic growth of East Kutai region.
10	Study of Investment, Government Expenditure, Manpower and Economic Openness to Economic Growth in Central Java Province. Maharani, K., & Isnawati, S. (2014). Journal of Business and Economics, 21(1).	1.investment 2.government expenditure 3.openness 4.economic growth	Similarity: Openness Difference : Only GDP / economic growth, but does not research green GDP	The results show that the labor force had a significant positive impact on Central Java's economic growth from 1985 to 2010.
11	The Influence of PAD, Labor, and Investment on Economic Growth in the Province of Bali. Karmini, N. L., & Barimbing, Y. R. (2015). E-Journal of Development Economics, Udayana University, 4(5), 44534.	1.PAD 2.Labor 3.Investment 4.Economic Growth	Similarity:Labor Difference: Only GDP / economic growth, but does not research green GDP	The survey results show that employment had a significant positive impact on Bali's economic growth in 2015.
12	Effect of Net Exports, Labor and Investment on Indonesia's Economic Growth. Purwanggono, C. H., & SASANA, H. (2015). (Doctoral dissertation, Faculty of Economics and Business).	1.net export 2.labor 3.economic growth	Similarity:Labor Difference: Only GDP / economic growth, but does not research green GDP	The results show that from 1990 to 2012, employment had a positive impact on Indonesia's economic growth.

13	Analysis of the influence of labor force and capital on economic growth in Bengkulu province. Purba, F., & Handoko (2008) (Doctoral dissertation, Faculty of Economics, UNIB).	1. labor force 2. capital 3. economic growth	Similarity: 1. labor force 2. capital Difference: Only GDP / economic growth, but does not research green GDP Growth	research that the labor force does not have a significant influence on the economic growth of Bengkulu Province
14	Analysis of economic growth and poverty on the level of disparity in North Sulawesi Province. Pangkiro, H. A. (2016). Scientific Journal of Efficiency, 16(1).	1. economic growth 2. poverty 3. Income Disparity	Similarity: 1. economic growth 2. income disparity Difference: Only GDP / economic growth, but does not research green GDP	The results of this study show that economic growth from 2003 to 2013 had a positive but insignificant effect on economic inequality in North Sulawesi.
15	Analysis of the Effect of Economic Growth, Investment, and HDI on Income Disparity Between Regions in Central Java Province in 2005-2012. Hidayat, M. H., & NUGROHO, S. (2014). (Doctoral dissertation, Faculty of Economics and Business).	1. economic growth 2. investment 3. disparity	Similarity: 1. economic growth 2. income disparity Difference: Only GDP / economic growth, but does not research green GDP	The results show that the results of the regression show that variable economic growth from 2005 to 2012 had no significant impact on income inequality between Central Java regions.

Based on theoretical studies and research conducted by a number of previous researchers, this research is a complementary follow-up study on the factors that influence the performance of green GDP of SME's such as Labour, export, investment.

State of the Art of this research from Previous Research are:

- 1) Previous research is also still using conventional GDP, so it has not used green GDP.
- 2) Not specifically analyzing the Green GDP of SMEs

- 3) Comparative study of green GDP of SME's between Indonesia and Malaysia has never been studied before
- 4) In previous studies only analyzed the effect of openness on green GDP so that it has not discussed the effect of labor, export, investment on the green GDP SME's of Indonesia and Malaysia.

This research is a continuation of previous research, namely the analysis of openness, capital, labor on Green GDP which has been published in the Scopus Q3 indexed Seybold journal entitled Green Economy and Green Oppennes (overview of Indonesia and Malaysia Green Business) (Noor Salim, 2022). So that a novelty emerges by analyzing / valuation of green GDP of SME's with factors that influence it either partially or simultaneously, namely: labor, export, investment.

2.2. Theoretical review

2.2.1. Sustainable Development

Sustainable development (Emil Salim, 1990) in (Rahadian, 2016, pp. 46-56) aims to improve people's welfare, to meet human needs and aspirations. Sustainable development is essentially aimed at seeking equal distribution of development between generations, both now and in the future. According to KLH (1990) in (Rahadian, 2016, pp.46-56) development (which is basically more economic-oriented) can be measured for its sustainability based on three criteria, namely: (1) There is no waste of natural resources. use or depletion of natural resources; (2) No pollution and other environmental impacts; (3) Activities must be able to increase the resources that can be used or resources that can be replaced.

2.2.2 Green GDP

The green economy concept initiated by UNEP seems to be tasked with eradicating the myth that has been developing, namely the trade off between the economy and the environment. Cato (2009) in Siswanto et al. (2013) in Suhada and Setyawan (2016, p.21-35) states that a green economy is needed because the economic system adopted so far is full of injustice and inequality (an indicator of inequality). Although currently the green economy has become the mainstream of economic thought, so far the development of the green economy in many countries is still at the normative level or does not yet have a significant proportion in the national economic system.

The economic development model that incorporates environmental variables is known as the green economy. The calculation of environmentally friendly Gross Domestic Product (GDP), known as Green GRDP, is a serious effort to control environmental impacts.

2.2.2 Export

Exports are purchases by other countries of goods made by domestic companies. Factor The most important thing that determines exports is the ability of the country to produce goods that can compete in foreign markets. (Sukirno, 2008: 205). Export will be directly affect national income. However, the opposite relationship does not always hold, that is an increase in national income does not necessarily increase exports because national income can experience increases as a result of increases in household spending, corporate investment, government spending and the replacement of imported goods with domestically produced goods. (Sukirno, 2008:206). net export is the difference between total exports and total imports of a country. If the net export value is positive, it means the export value is greater than the import value and if the net export value is negative, it means that the export value is less than import value (Case and Fair, 2007: 387)

2.2.3 Investment

Credit channeled by banks to the community will be able to increase the standard people's lives because these credits can be used to make investments as well consumption needs. Third party funds have the largest contribution from several funding sources so that the amount of third party funds successfully collected by a bank will affect ability to extend credit (Kasmir, 2011: 25). According to Sukirno (2008), investment is expenses for buy capital goods and production equipment with a view to replace and especially add capital goods in the economy to be used for produce goods and services over time future

2.2.4 Labor

According to the Central Statistics Agency (BPS) the working age population is the population aged 15 years and over, and is distinguished as the Labor Force and not the Labor Force. Population growth every year will affect the growth of the labor force. To see its role in economic growth, it takes a productive workforce capable of producing goods and services.

2.3 Framework

This study analyzes the effect of economic labor, export, investment on green economic growth and its implications for income inequality in Indonesia & Malaysia, from previous research it can be explained as follows:

1. Effect of Export on GRDP/economic growth and Green GDP/Economic

Several previous studies analyzed the effect of economic openness on conventional economic growth, including:

- Febriyanti (2019) Research produces that partially Exports have a significant and partial effect on Indonesia's Gross Domestic Product. Simultaneously Export and Imports have a significant effect on Indonesia's Gross Domestic Product. Exports are a more dominant influence in influencing Domestic Products Indonesia's gross in 2008-2017.
- Novinawati (2017) This study concludes that Exports have partially had no effect on GRDP Provinsi Sumatera Utara Tahun 2008-2015

From the results of previous studies it can be concluded that there is an influence on economic openness and does not affect conventional economic growth. It is from the results of this previous research that will form the basis of this research by replacing the conventional economic growth variable (brown) with green economic growth of SME's variables, so that from these results it will be known whether exports have an effect on green economic growth of SME's

2. Effect of investment on GDP/economic growth and Green GDP/Economic

Several previous studies analyzed the effect of capital formation on conventional/cocoa economic growth, including:

- Novinawati (2017) This study concludes that Investment has no partial effect on GRDP Provinsi Sumatera Utara Tahun 2008-2015
- Rahman (2016) Partial test results show that investment has a positive and significant effect on the Gross Regional Domestic Product (GRDP) Banten 2010-2014

From the results of previous studies, it can be concluded that there is investment that has and does not affect conventional economic growth. From the results of previous studies this will be the basis of this research by replacing the conventional economic growth variable with the green economic growth of SME's variable, so that from these results it will be known whether investment has an effect on green or not.

3. Labor to GDP / economic growth and Green GDP / Economic

Several previous studies analyzed the influence of labor on conventional/cocoa economic growth, including:

- The results of Maharani, K., & Isnowati, S. (2014) research show that the labor force has a positive and significant impact on economic growth in Central Java in 1985 - 2010
- Karmini, N. L., & Barimbing, Y. R. (2015), research results that labor has a positive and significant impact on economic growth in Bali Province in 2015
- Purwanggono, C. H., & Sasana, H. (2015), research results that labor has a positive effect on Indonesia's economic growth in 1990-2012
- The results of Purba, F., & Handoko (2008) research that the labor force has no significant effect on economic growth in Bengkulu Province

From the results of previous studies, it can be concluded that there are workers who are influential and some are not influential on conventional economic growth. From the results of previous studies this will be the basis of this research by replacing the conventional economic growth variable with the green economic growth variable, so that the results will be known whether the labor force has an effect on green economic growth. In terms of the green economy, it is shown that trade unions are negatively related to CO2 emissions per capita, even when controlling for labor conditions. These findings suggest that trade unions can promote environmental protection at the national level (Alvarez, et.al, 2019).

The following is a schematic framework for the relationship between variables in the study as shown below:

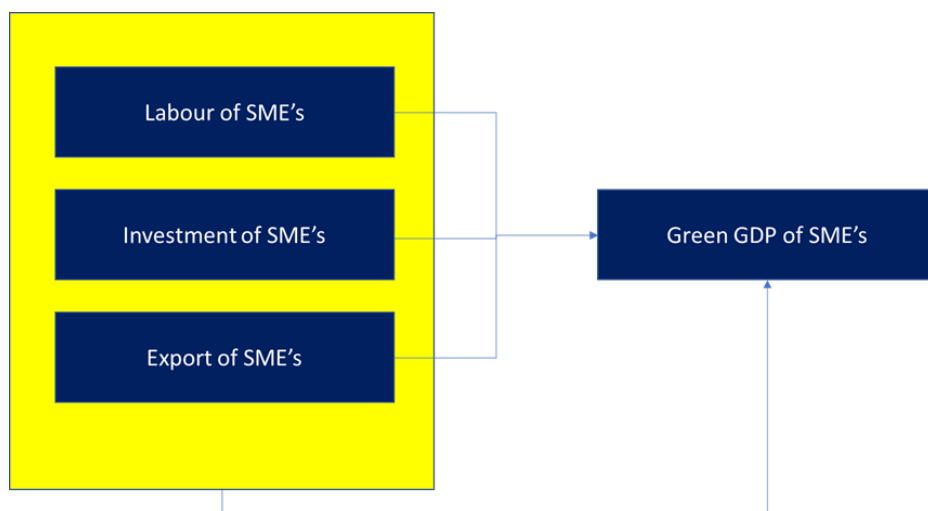


Figure 3.1 Logical Framework

2.4 Hypothesis

Based on previous research, theory and framework development, it is assumed that the increasing variable of openness, capital, labour will increase the green GDP both in Indonesia and in Malaysia.

The formulation of the research hypothesis is as follows:

1. There is a simultaneous and partial positive influence of the variables of labour, investment, export on the Green GDP of SME's.
2. There is one of the dominant factors among the variables of labour, Investment, Export on the Green GDP of SME's.

CHAPTEP III

RESEARCH PURPOSE AND CONTRIBUTION

3.1. Research Purpose

The objectives of this research are:

1. Review and analyze the valuation green GDP of SME's
2. Review and analyze the simultaneous and partial effect of labour, investment, export on the green GDP of SME's
3. Review and analyze what factors are the dominant factors labour, investment, export for the green GDP of SME's

3.2. Contribution

This research is expected to contribute to the development of science, which can be a reference for future researchers on efforts to identify the influence of internal and external factors on the green GDP especially the effect of labour, investment, export credit on the Green GDP of SME's.

CHAPTER IV RESEARCH METHOD

4.1 Research Area

The method of determining research areas and respondents was carried out purposively, namely green GDP of SME's in Indonesia and Malaysia. The study was conducted from January to December 2023.

4.2 Population, Sample and Research Sampling

The population in this study is all variable data studied in Indonesia. Determination of the sample in this study using purposive sampling technique, namely in accordance with the required amount. The number of samples was determined by annual data between 1990 and 2019 or a total of 30 samples, both in Indonesia and in Malaysia.

4.3. Method and Research Desain

The research method is quantitative survey research with the following research stages:

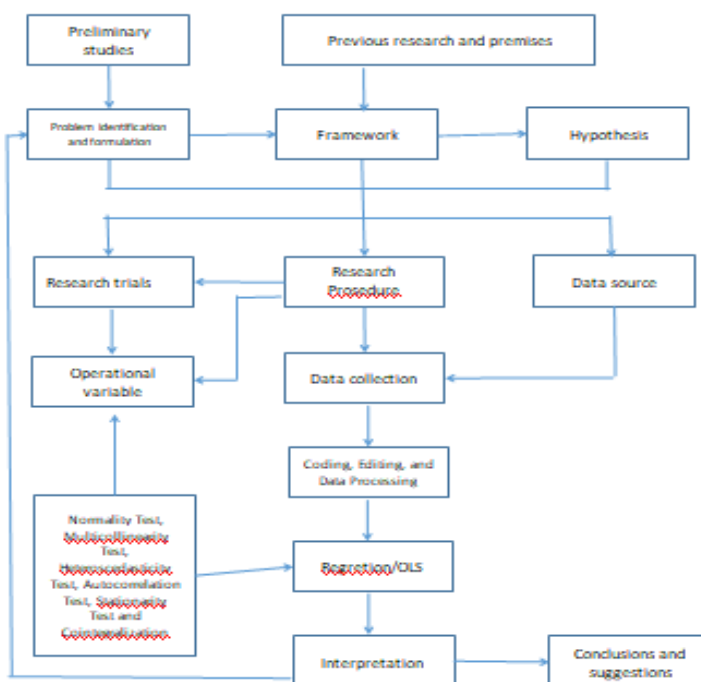


Figure 5.1. Research Stages Diagram

4.4 Data and Data Collection Methods

The data collected in this research is time series secondary data. Secondary data were obtained through related agencies in this study such as BPS or worldbank.

4.5 Variables and Variable Operational Definitions

In this study, the independent variables are labour (X1), investment (X2), export (X3). Green GDP of SME's (Y) is treated as an intermediate variable. To understand the interpretation, several definitions and operational limits are determined as follows:

1. Green GDP of SME's Indonesia and Malaysia in 1991-2020.
2. Labour of SME's Indonesia and Malaysia in 1991-2020.
3. Investment of SME's Indonesia and Malaysia in 1991-2020.
4. Export of SME's Indonesia and Malaysia in 1991-2020

4.6. Data Analysis Method

4.6.1. Formulation model:

Model 1.

The first model is used to determine the effect of openness, capital, labour, on the green GDP. Model 1a for Indonesia and Model 1b for Malaysian data $Y = b_0 + b_1X_1 + b_2X_2 + b_3 X_3 + b_4 x_4 + e$

Remarks:

- Y = Green GDP of SME's
- x₁ = Labour
- x₂ = Investment
- x₃ = Export
- x₁...x₄ = Variable independent
- b₁...b₄ = Parameter

4.6.2. Data Analysis Method

5.6.2.1 Valuation Green GDP

Data analysis methods that will be applied consist of:

(1)Valuation Semi Green GDP

/According to Suparmoko (2006) in (Mulya, 2016), Semi-Green GRDP is a GRDP that includes elements of natural resource and environmental depletion. Mathematically, can be expressed as follows:

Semi-Green GRDP is obtained by subtracting the depletion value of natural resources from the value of Conventional GRDP (or Brown GRDP). Depletion value is obtained by multiplying the volume of extraction of each type of natural resource by unit rent or unit price.

$$D = Q \times U$$

Where:

D = depletion value

Q = volume of natural resources taken

U = unit rent

How to calculate unit rent is by subtracting the cost of taking per unit from the price of natural resources including the value of profit per unit (remuneration for investment expenses) that is acceptable to investors. The proper profit value is the same as the interest rate on loans in banks as an alternative cost of capital invested to exploit natural resources in the area concerned. Here's how to calculate unit rent.

(2) Valuation Green GDP

To get the value of Green GRDP, the value of environmental damage or degradation is reduced by the value of Semi Green GRDP, so that the value of Green GRDP is obtained. Calculating environmental damage is more complex because it is necessary to use various estimates according to the type of natural resource and degraded environment. The calculation steps in assessing environmental damage are as follows (Ratnaningsih, 2012) in (Mulya, 2016):

- (a) Identification of the degraded environment
- (b) Physical quantification of environmental degradation
- (c) Economic assessment of environmental damage.

4.6.2.2. The data analysis method in this study uses OLS multiple linear regression to determine the effect of the dependent variable on the independent variable in each model for both Indonesian and Malaysian green GDP data with the analysis stages:

a. Stationarity Test

To test whether the time series data is stationary and does not contain spurious regression, the unit root testing stage is carried out using the Augmented Dicky Fuller (ADF) method (Gujarati, 2012).

b. Classic Assumption

1) Multicollinearity Test

- a. Multicollinearity test is shown to test whether in the regression model there is a correlation between the independent variables (independent variables). A good regression test model is one that does not occur multicollinearity. According to Sarjono and Julianita (2011) to detect the presence or absence of multicollinearity:
 - i. The R^2 value generated by an empirical regression model estimate is very high but individually the dependent variable.
 - ii. Analyzing the correlation between the independent variables, if there is a high enough correlation between the independent variables (greater than 0.90), it indicates that there is multiolinerity.
2. Multicollinearity can also be seen from the VIF (Variance-inflating factor) value, if $VIF < 10$ the level of collinearity can be tolerated.

2) Heteroscedasticity Test

According to Wijaya (2010), heteroscedasticity shows that variable variance is not the same for all observations. If the residual variance from one observation to another is constant, it is called homocedasticity. A good regression model is one that includes homoscedasticity or does not occur heteroscedasticity.

3) Autocorrelation Test

Testing the presence or absence of autocorrelation by looking at the Breusch-Godfrey LM test. The hypothesis testing is based on the null hypothesis of no autocorrelation or serial correlation exist.

(2) Valuation Green GDP of SME's

Obtained from SME's GDP divided by the results of the Green GDP Total.

d. Hypothesis testing

Determination Test (R^2)

To find out how far the influencing variables explain the affected variables using the determination test (R^2). The input of credit, investment, technology and cooperative factors will be more closely related to the green GDP if the R^2 value is equal to or close to one.

$$R^2 = ESS / TSS$$

Where:

ESS = Explained sum of square (Sum of Squares Regression)

TSS = Total Sum of square

F test

The F test is used to examine whether the use of several variables together affects the SME business.

$$F = (ESS / (k-1)) / (TSS / (N-1))$$

Where:

ESS = Explained sum of square (Sum of Squares Regression); TSS = Total Sum of square; k = number of variables, N = number of samples. With the hypothesis:

$$H_0: b_i = 0$$

$$H_1: \text{at least one } b_i \neq 0$$

With a significant level of $\alpha = 5\%$:

t test

The t test is used to determine the effect of each of the openness, capital, labour on the green GDP

$$t_{hit} = \beta_i / (Se(\beta_i)); \text{ where } Se(\beta_i) = \sqrt{[Se]^2 / (\sum 1^2 (1-r))}$$

Information:

B_i = regression coefficient $\mu_1, \mu_2, \mu_3, \mu_4$ and μ_5 ; $Se(\beta_i)$ = standard error $\mu_1, \mu_2, \mu_3, \mu_4$ and μ_5

4.6.2.3. t-test Different test

Different test independent sample t-test is to test two groups that have the same variant. This test is used to test the differences in the green GDP of SME's Indonesian and the green GDP of SME's Malaysian (Pramana, 2012; idtesis.com, 2019, Resmi et.all., 2020).

CHAPTER V
IMPLEMENTATION OF RESEARCH COLLABORATION

UMB	Association/BPS	International Partner
1. Coordinating research planning 2. Compiling a research proposal 3. Coordinating the implementation of research, Carry out research in the field 4. Coordinating the publication of research results. Processing data & Prepare published article	As a source of primary data about Green GDP of SME Labour, Investment, Export	1. Provide research data 2. Analyze the data 3. Compile articles together for publication

CHAPTER V
RESEARCH COLLABORATION PLAN

UMB	Association/BPS	International Partner
1. Coordinating research planning 2. Compiling a research proposal 3. Coordinating the implementation of research, Carry out research in the field 4. Coordinating the publication of research results. Processing data & Prepare published article	As a source of primary data about Green GDP of SME, Labour, Investment, Export	1. Provide research data 2. Analyze the data 3. Compile articles together for publication

CHAPTER VI RESULT AND DISCUSSION

6.1.Profile of Indonesia & Malaysia

A.Profile of Indonesia



Figure 6.1 : Indonesia Map and others Country in ASIA

Astronomically, Indonesia is located between 60 04' 30" North Latitude and 110 00' 36" South Latitude and between 940 58' 21" to 1410 01' 10" East Longitude and is traversed by the equator or the equator which passes is located at latitude 00.

Based on its geographical position, the state of Indonesia has the following boundaries:

- North–Countries of Malaysia, Singapore, Vietnam, Philippines, Thailand, Palau and South China Sea;
- South–Countries of Australia, Timor Leste, and the Indian Ocean;
- West–Indian Ocean; East–Papua New Guinea and the Pacific Ocean.

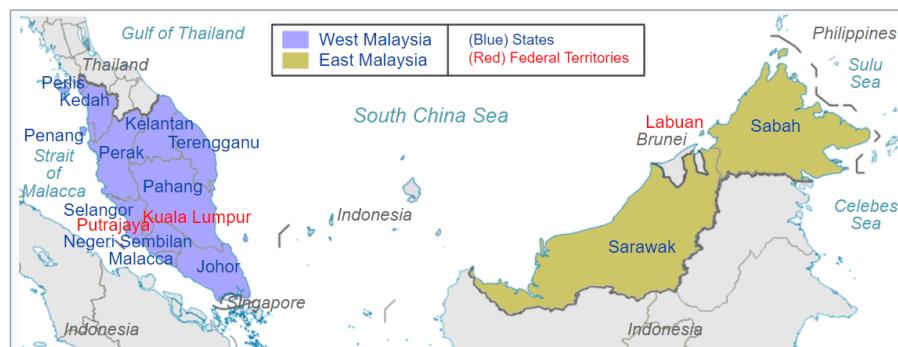
These boundaries exist in the 111 outer islands that need to be maintained and managed properly. These islands are used to determine the baseline for Indonesia's territorial boundaries with other countries (Presidential Decree Number 6 of 2017 concerning Designation of Outermost Small

Islands). Based on its geographical location, the Indonesian archipelago is located between the continents of Asia and the continents of Australia, as well as between the Indian Ocean and the Pacific Ocean. Indonesia consists of 34 provinces located on five major islands and four archipelagos, namely:

- Sumatra Island: Aceh, North Sumatra, West Sumatra, Riau, Jambi, South Sumatra, Bengkulu and Lampung.
- Riau Islands: Riau Islands.
- Bangka Belitung Islands: Bangka Belitung Islands.
- Java Island: DKI Jakarta, West Java, Banten, Central Java, DI Yogyakarta, and East Java.
- Nusa Tenggara Islands (Sunda Minor): Bali, West Nusa Tenggara, and East Nusa Tenggara.
- Kalimantan Island: West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan and North Kalimantan.
- Sulawesi Island: North Sulawesi, Gorontalo, Central Sulawesi, South Sulawesi, West Sulawesi and Southeast Sulawesi.
- Maluku Islands: Maluku and North Maluku.
- Papua Island: Papua and West Papua.

As an archipelagic country, Indonesia has thousands of islands and is connected by various straits and seas. Currently, there are 13,466 islands that are coordinated and registered with the United Nations (2012).

B. Profile of Malaysia



Malaysia is located in Southeast Asia region. The federal constitutional monarchy has two regions, separated by the South China Sea; Peninsular Malaysia and Borneo's East Malaysia. Malaysia is a federation of 13 states (Negeri) and 3 federal territories (Wilayah Persekutuan) as stated below:

1. 13 states are Johor, Melaka, Negeri Sembilan, Kedah, Perlis, Pulau Pinang, Kelantan, Pahang, Perak, Selangor and Terengganu, Sabah and Sarawak.
2. 3 federal territories are Wilayah Persekutuan Kuala Lumpur, Labuan dan Putrajaya.

The country's combined area of 329,847 km², making it slightly larger than Norway or somewhat larger than the U.S. state of New Mexico. The highest mountain is Mount Kinabalu (4,095 m) in Sabah state on the island of Borneo. Mt. Kinabalu and surrounding Kinabalu Park official website are a UNESCO World Heritage Site.

Malaysia has a population of about 33 million people (in 2021). The largest city and national capital is Kuala Lumpur. Spoken languages are Malay (official), English, Tamil, and Chinese (Cantonese). Malaysia's official religion is Islam; about 60 % of the population are Muslim, 20% are Buddhist.

Malaysia's population is a mix of three major ethnic groups, each with its own heritage, culture and tradition. 60% of the population are Bumiputera, a term that describes the traditional inhabitants of the country and includes Malays, Orang Asli and other indigenous peoples. Minorities are Chinese, about 20%, and Indians (6%). Malaysia has more than 130 living languages; the official language is Bahasa Malaysia (Melayu).

6.2 Overview of Research Operational Variables

6.2.1. Economic Growth Variables

Table 6.1
GDP Indonesia & Malaysia
1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	269,915,109,658.49	7.24	74,627,439,029.62	9.01
1991	288,571,595,709.62	6.91	81,750,976,904.37	9.55
1992	307,321,553,946.56	6.50	89,014,647,650.75	8.89
1993	327,286,416,333.05	6.50	97,822,596,594.55	9.89
1994	351,963,717,524.10	7.54	106,834,055,076.18	9.21
1995	380,895,161,146.50	8.22	117,334,865,369.35	9.83
1996	410,674,257,411.07	7.82	129,071,520,752.79	10.00
1997	429,975,449,993.56	4.70	138,523,095,019.84	7.32
1998	373,533,752,988.27	- 13.13	128,328,605,325.82	- 7.36
1999	376,488,875,933.23	0.79	136,204,917,219.31	6.14
2000	395,012,383,689.13	4.92	148,271,131,276.41	8.86
2001	409,404,527,351.18	3.64	149,038,694,328.51	0.52
2002	427,825,583,308.41	4.50	157,073,352,912.56	5.39
2003	448,277,225,387.51	4.78	166,165,542,824.22	5.79
2004	470,829,487,520.98	5.03	177,437,278,939.96	6.78
2005	497,631,791,817.58	5.69	186,898,481,577.26	5.33
2006	525,006,276,753.31	5.50	197,336,475,944.18	5.58
2007	558,318,041,704.74	6.35	209,766,278,120.60	6.30
2008	591,893,633,878.69	6.01	219,901,701,984.38	4.83
2009	619,291,627,728.72	4.63	216,573,426,577.90	- 1.51
2010	657,835,435,591.37	6.22	232,653,672,974.01	7.42
2011	698,422,462,409.20	6.17	244,970,155,626.68	5.29
2012	740,537,690,664.80	6.03	258,378,484,880.30	5.47
2013	781,691,322,850.81	5.56	270,506,054,026.37	4.69
2014	820,828,015,498.85	5.01	286,754,600,537.70	6.01
2015	860,854,235,065.08	4.88	301,354,803,994.37	5.09
2016	904,181,624,278.98	5.03	314,764,434,003.33	4.45
2017	950,021,696,789.27	5.07	333,060,816,796.83	5.81
2018	999,178,589,070.13	5.17	348,947,574,702.34	4.77
2019	1,049,318,966,508.58	5.02	363,962,146,716.17	4.30

Source : World Bank

Seen from Table 6.1, it states that Indonesia & Malaysia's economic growth from 1990 to 2019, for Indonesia the highest economic growth was in 1998 at 13.13% while the lowest was in 1999 at 0.79%. For Malaysia, the highest economic growth was in 1996 at 10%, while the lowest was in 2001 at 0.52%.

6.2.2. Variabel GDP of SME

Table 6.2
GDP of SME Indonesia & Malaysia
Tahun 1990 – 2019

Year	INDONESIA		MALAYSIA	
	SME (U\$)	G%	SME (U\$)	G%
1990	43.186.417.545		21.641.957.319	
1991	47.070.644.034	16,3	23.707.783.302	9,5
1992	44.961.761.222	14,6	25.814.247.819	8,9
1993	37.331.228.441	11,4	28.368.553.012	9,9
1994	132.086.338.335	37,5	30.981.875.972	9,2
1995	52.382.569.764	13,8	34.027.110.957	9,8
1996	70.581.390.874	17,2	37.430.741.018	10,0
1997	58.691.706.778	13,7	40.171.697.556	7,3
1998	195.143.340.188	52,2	37.215.295.544	- 7,4
1999	64.363.867.166	17,1	39.499.425.994	6,1
2000	68.703.281.463	17,4	42.998.628.070	8,9
2001	16.971.025.420	4,1	43.221.221.355	0,5
2002	20.547.693.628	4,8	45.551.272.345	5,4
2003	25.129.721.304	5,6	48.700.389.118	6,9
2004	25.988.814.113	5,5	52.698.871.845	8,2
2005	29.728.657.671	6,0	56.385.233.026	7,0
2006	28.327.256.004	5,4	60.007.320.021	6,4
2007	36.079.741.733	6,5	66.030.716.544	10,0
2008	35.779.619.385	6,0	70.353.567.931	6,5
2009	24.886.397.500	4,0	70.496.545.057	0,2
2010	37.960.099.447	5,8	76.348.722.061	8,3
2011	47.241.863.565	6,8	81.820.031.979	7,2
2012	44.418.546.637	6,0	86.815.170.920	6,1
2013	46.024.166.617	5,9	92.513.070.477	6,6
2014	69.707.094.644	8,5	104.952.183.797	13,4
2015	- 6.199.618.526	- 0,7	111.501.277.478	6,2
2016	1.920.209.045.680	212,4	117.407.133.883	5,3
2017	50.430.811.873	5,3	125.896.988.749	7,2
2018	50.565.493.729	5,1	133.646.921.111	6,2
2019	38.615.626.417	3,7	141.581.275.073	5,9

Source : World Bank

Viewed from Table 6.2, it states that Indonesia & Malaysia GDP of SME from 1990 to 2019, for Indonesia the highest GDP of SME was in 2016 at 212.4% while the lowest was in 2015 at -0.7%. For Malaysia, the highest GDP of SME was in 2014 at 13.4%, while the lowest was in 1998 at -7.4%.

6.2.3. Variabel Labor Force

Table 6.3
Labor Force Indonesia & Malaysia
1990 – 2019

Year	INDONESIA		MALAYSIA	
	LABOUR	G%	LABOUR	G%
1990	54.828.404		3.968.072	
1991	55.433.718	1,1	4.086.364	3,0
1992	56.918.671	2,7	4.204.117	2,9
1993	57.538.699	1,1	4.320.730	2,8
1994	59.765.423	3,9	4.440.982	2,8
1995	62.664.271	4,9	4.565.740	2,8
1996	63.785.255	1,8	4.701.603	3,0
1997	65.601.591	2,8	4.847.165	3,1
1998	64.313.573	- 2,0	5.030.015	3,8
1999	67.169.844	4,4	5.187.638	3,1
2000	72.704.416	8,2	5.341.752	3,0
2001	74.687.428	2,7	5.488.726	2,8
2002	77.807.897	4,2	5.635.182	2,7
2003	81.942.353	5,3	3.996.246	- 29,1
2004	80.446.600	- 1,8	4.126.791	3,3
2005	83.586.616	3,9	4.265.121	3,4
2006	87.909.598	5,2	4.389.571	2,9
2007	90.491.930	2,9	4.615.184	5,1
2008	94.024.278	3,9	4.805.658	4,1
2009	96.211.332	2,3	4.989.160	3,8
2010	99.401.775	3,3	4.944.576	- 0,9
2011	101.722.458	2,3	5.144.165	4,0
2012	107.657.509	5,8	5.303.026	3,1
2013	114.144.082	6,0	5.482.026	3,4
2014	116.998.014	2,5	6.251.521	14,0
2015	123.229.387	5,3	4.689.276	- 25,0
2016	112.828.610	- 8,4	4.859.522	3,6
2017	116.431.224	3,2	5.056.722	4,1
2018	116.978.631	0,5	5.243.508	3,7
2019	119.562.843	2,2	5.410.446	3,2

Source : World Bank

Viewed from Table 6.3, it states that the Indonesian & Malaysian Labor Force of SME from 1990 to 2019, for Indonesia Labor Force of SME was the highest in 2000 at 8.2% while the lowest in 2016 was -8.4%. For Malaysia Labor Force of SME, the highest was in 2014 at 14%, while the lowest was in 2003 at -29.1%.

6.2.4. Variabel Investment of SME

Table 6.4
Gross Capital Indonesia & Malaysia
1990 – 2019

Year	INDONESIA		MALAYSIA	
	INVESTMENT (Rp Billion)	G%	INVESTMENT (U\$)	G%
1990	97.696		14.179.213.416	
1991	113.609	16,3	15.532.685.612	9,5
1992	122.918	8,2	16.912.783.054	8,9
1993	150.271	22,3	18.586.293.353	9,9
1994	188.880	25,7	20.298.470.464	9,2
1995	234.611	24,2	22.293.624.420	9,8
1996	292.921	24,9	24.523.588.943	10,0
1997	378.139	29,1	26.319.388.054	7,3
1998	487.426	28,9	24.382.435.012	- 7,4
1999	225.133	- 53,8	25.878.934.272	6,1
2000	269.000	19,5	28.171.514.943	8,9
2001	307.594	14,3	28.317.351.922	0,5
2002	365.410	18,8	29.843.937.053	5,4
2003	229.514	- 37,2	31.571.453.137	5,8
2004	282.947	23,3	33.713.082.999	6,8
2005	353.613	25,0	35.510.711.500	5,3
2006	415.003	17,4	37.493.930.429	5,6
2007	529.058	27,5	40.484.891.677	8,0
2008	680.972	28,7	39.658.788.603	- 2,0
2009	701.164	3,0	43.021.893.525	8,5
2010	247.139	- 64,8	39.980.212.467	- 7,1
2011	260.934	5,6	44.418.024.808	11,1
2012	300.175	15,0	49.757.338.336	12,0
2013	341.341	13,7	56.043.871.892	12,6
2014	350.667	2,7	63.161.309.381	12,7
2015	361.031	3,0	70.262.943.740	11,2
2016	1.451.396	302,0	75.494.458.389	7,4
2017	1.586.688	9,3	76.647.917.735	1,5
2018	1.675.139	5,6	77.207.061.309	0,7
2019	1.716.750	2,5	67.176.523.472	- 13,0

Source : World Bank

Viewed from Table 6.4 it states that Indonesia & Malaysia's Investment of SME from 1990 to 2019, for Indonesia the highest Investment of SME was in 2016 at 302% while the lowest was in 2010 at 64.8%. For Malaysia, the highest Investment of SME was in 2014 at 12.7%, while the lowest was in 2019 at 13%.

6.2.5. Variabel Export of SME

Table 6.5
Export of SME Indonesia & Malaysia
1990 – 2019

Year	INDONESIA		MALAYSIA	
	EXPORT (Rp. Billion)	G%	EXPORT (U\$)	G%
1990	14.604		5.245.295.575	
1991	18.247	24,9	6.119.348.269	16,7
1992	23.296	27,7	7.193.246.162	17,5
1993	27.077	16,2	8.446.975.642	17,4
1994	30.360	12,1	10.623.685.414	25,8
1995	34.953	15,1	13.353.939.394	25,7
1996	38.092	9,0	14.777.518.086	10,7
1997	39.277	3,1	14.927.106.253	1,0
1998	69.315	76,5	13.364.696.290	- 10,5
1999	52.594	- 24,1	15.362.568.421	14,9
2000	75.449	43,5	17.979.073.684	17,0
2001	80.847	7,2	16.389.726.316	- 8,8
2002	87.290	8,0	17.475.368.421	6,6
2003	77.097	- 11,7	18.856.673.684	7,9
2004	95.548	23,9	23.028.421.053	22,1
2005	110.338	15,5	25.927.765.309	12,6
2006	123.768	12,2	29.202.551.660	12,6
2007	140.364	13,4	32.877.821.736	12,6
2008	178.008	26,8	36.745.416.392	11,8
2009	162.255	- 8,9	29.583.589.162	- 19,5
2010	175.895	8,4	36.356.617.305	22,9
2011	187.442	6,6	42.929.424.183	18,1
2012	166.627	- 11,1	43.636.800.699	1,6
2013	182.113	9,3	43.519.471.897	- 0,3
2014	185.975	2,1	44.405.259.556	2,0
2015	255.126	37,2	37.043.781.846	- 16,6
2016	298.209	16,9	37.416.610.660	1,0
2017	301.630	1,1	38.650.961.306	3,3
2018	293.841	- 2,6	42.552.700.800	10,1
2019	339.191	15,4	42.669.667.833	0,3

Source : World Bank

Viewed from Table 6.5, it states that the Export of SME of Indonesia & Malaysia from 1990 to 2019, for Indonesia the highest Export of SME was in 1998 at 76.5% while the lowest in 1999 was 24.1%. For Malaysia, the highest Export of SME was in 2010 at 22.9%, while the lowest was in 2009 at -19.5%.

6.3 Analysis Data

6.3.1. Green GDP of SME Valuation

A. Depletion Natural Source

Table 6.6
Depletion Natural Source (%) Indonesia & Malaysia
1990 – 2019

Tahun	Indonesia	% Growth	Malaysia	% Growth
1990	8.33	21.93	8.51	26.12
1991	4.53	- 45.55	4.69	- 44.95
1992	4.68	3.24	4.19	- 10.53
1993	3.79	- 19.02	3.41	- 18.63
1994	3.19	- 15.83	2.78	- 18.55
1995	3.43	7.35	2.78	0.14
1996	3.91	14.00	3.30	18.70
1997	3.56	- 8.72	3.17	- 4.14
1998	4.91	37.79	2.43	- 23.40
1999	4.98	1.47	3.41	40.40
2000	7.52	50.86	5.89	73.00
2001	5.59	- 25.60	4.26	- 27.76
2002	4.37	- 21.91	4.37	2.68
2003	4.14	- 5.16	5.02	14.91
2004	5.43	31.03	6.69	33.15
2005	6.79	25.08	7.99	19.53
2006	6.22	- 8.35	7.78	- 2.65
2007	6.31	1.34	6.76	- 13.10
2008	6.70	6.16	7.45	10.25
2009	4.03	- 39.84	5.06	- 32.13
2010	4.20	4.18	4.89	- 3.26
2011	4.97	18.43	5.54	13.16
2012	3.71	- 25.35	5.47	- 1.30
2013	3.31	- 10.82	4.89	- 10.48
2014	2.77	- 16.15	4.63	- 5.39
2015	1.65	- 40.49	3.96	- 14.56
2016	1.38	- 16.18	2.79	- 29.39
2017	1.69	21.88	3.39	21.42
2018	2.52	49.53	4.94	45.70
2019	1.80	- 28.43	3.79	- 23.24

Source : World Bank

Viewed from Table 6.6, it states that Indonesia & Malaysia Natural Source Depletion from 1990 to 2019, for Indonesia the highest Natural Source Depletion was in 2000 at 7.52% while the lowest in 2016 was 1.38%. For Malaysia, the highest Natural Source Depletion was in 2005 at 7.99%, while the lowest was in 1994 at 2.79%.

B.Depletion Total

Table 6.7
Depletion Natural Source Indonesia & Malaysia
1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	8,459,310,632.23	31.15	3,683,290,602.49	37.76
1991	5,105,524,735.97	- 39.65	2,221,777,664.95	- 39.68
1992	5,800,303,574.35	13.61	2,294,635,102.72	3.28
1993	5,353,881,247.39	- 7.70	2,147,122,968.71	- 6.43
1994	5,259,458,659.15	- 1.76	1,998,406,120.07	- 6.93
1995	6,678,466,899.15	26.98	2,308,910,860.51	15.54
1996	8,509,026,135.28	27.41	3,123,853,466.80	35.30
1997	7,953,134,313.55	- 6.53	3,154,007,002.25	0.97
1998	6,669,332,237.96	- 16.14	1,952,328,622.02	- 38.10
1999	5,926,879,893.98	- 11.13	2,608,142,625.67	33.59
2000	9,224,503,229.71	55.64	4,727,593,052.55	81.26
2001	8,637,248,551.24	- 6.37	3,582,014,426.74	- 24.23
2002	7,501,986,562.59	- 13.14	4,009,534,536.30	11.94
2003	8,215,210,864.99	9.51	5,159,766,669.49	28.69
2004	13,091,411,660.69	59.36	7,983,737,616.65	54.73
2005	18,746,720,696.53	43.20	10,820,340,996.07	35.53
2006	19,693,986,717.14	5.05	11,905,649,956.05	10.03
2007	23,447,606,517.67	19.06	11,977,873,755.74	0.61
2008	30,583,689,195.74	30.43	15,247,092,123.70	27.29
2009	20,662,276,543.38	- 32.44	10,663,809,705.85	- 30.06
2010	25,671,147,149.12	24.24	11,403,081,632.48	6.93
2011	36,660,959,425.50	42.81	14,360,455,926.64	25.93
2012	32,993,197,418.01	- 10.00	16,176,001,741.44	12.64
2013	31,070,613,970.49	- 5.83	15,631,346,679.06	- 3.37
2014	25,619,286,706.24	- 17.54	15,402,998,508.26	- 1.46
2015	14,629,063,869.74	- 42.90	12,787,041,109.23	- 16.98
2016	12,304,364,756.40	- 15.89	8,697,536,060.23	- 31.98
2017	15,754,041,486.69	28.04	10,494,380,055.76	20.66
2018	25,917,494,078.71	64.51	16,588,686,412.93	58.07
2019	19,780,425,402.90	- 23.68	13,643,424,767.41	- 17.75

Viewed from Table 6.7, it states that Indonesia & Malaysia's Total Depletion from 1990 to 2019, Total Depletion is obtained from per capita depletion multiplied by population, while per capita depletion is obtained from % natural source depletion multiplied by GNI. For Indonesia, the highest Total Depletion was in 2018 at 64.51% while the lowest was in 2015 at -42.90%. For Malaysia, the highest total depletion was in 2000 at 81.26%, while the lowest was in 1991 at -39.68%.

C. Semi Green GDP

Table 6.8
Semi Green GDP Indonesia & Malaysia
1990-2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	261,455,799,026.26	6.61	70,944,148,427.13	7.84
1991	283,466,070,973.64	8.42	79,529,199,239.42	12.10
1992	301,521,250,372.21	6.37	86,720,012,548.03	9.04
1993	321,932,535,085.66	6.77	95,675,473,625.83	10.33
1994	346,704,258,864.96	7.69	104,835,648,956.11	9.57
1995	374,216,694,247.36	7.94	115,025,954,508.85	9.72
1996	402,165,231,275.79	7.47	125,947,667,285.98	9.49
1997	422,022,315,680.00	4.94	135,369,088,017.59	7.48
1998	366,864,420,750.31	- 13.07	126,376,276,703.80	- 6.64
1999	370,561,996,039.25	1.01	133,596,774,593.64	5.71
2000	385,787,880,459.41	4.11	143,543,538,223.85	7.45
2001	400,767,278,799.94	3.88	145,456,679,901.77	1.33
2002	420,323,596,745.82	4.88	153,063,818,376.26	5.23
2003	440,062,014,522.52	4.70	161,005,776,154.73	5.19
2004	457,738,075,860.29	4.02	169,453,541,323.30	5.25
2005	478,885,071,121.06	4.62	176,078,140,581.19	3.91
2006	505,312,290,036.17	5.52	185,430,825,988.14	5.31
2007	534,870,435,187.07	5.85	197,788,404,364.86	6.66
2008	561,309,944,682.95	4.94	204,654,609,860.68	3.47
2009	598,629,351,185.34	6.65	205,909,616,872.06	0.61
2010	632,164,288,442.24	5.60	221,250,591,341.53	7.45
2011	661,761,502,983.70	4.68	230,609,699,700.04	4.23
2012	707,544,493,246.79	6.92	242,202,483,138.85	5.03
2013	750,620,708,880.32	6.09	254,874,707,347.31	5.23
2014	795,208,728,792.61	5.94	271,351,602,029.45	6.46
2015	846,225,171,195.34	6.42	288,567,762,885.14	6.34
2016	891,877,259,522.58	5.39	306,066,897,943.10	6.06
2017	934,267,655,302.58	4.75	322,566,436,741.06	5.39
2018	973,261,094,991.42	4.17	332,358,888,289.42	3.04
2019	1,029,538,541,105.68	5.78	350,318,721,948.76	5.40

Seen from Table 6.8, it states that Indonesia & Malaysia's Semi Green GDP from 1990 to 2019, Semi Green GDP is obtained from Conventional GDP (Brown GDP) minus the total depletion. For Indonesia, the highest semi-green GDP was in 1991 at 8.42%, while the lowest was in 1998 at -13.07%. For Malaysia, the highest semi-green GDP was in 1991 at 12.10%, while the lowest was in 1998 at -6.64%.

D. Total CO²M³

Table 6.9

Total CO²M³ Indonesia & Malaysia 1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	1,479,900	13.00	561,900	12.65
1991	1,618,400	9.36	633,300	12.71
1992	1,709,100	5.60	688,700	8.75
1993	1,854,800	8.52	711,900	3.37
1994	1,969,300	6.17	770,000	8.16
1995	2,228,400	13.16	838,800	8.94
1996	2,344,800	5.22	957,100	14.10
1997	2,576,700	9.89	1,025,000	7.09
1998	2,611,400	1.35	1,030,400	0.53
1999	2,789,900	6.84	1,118,200	8.52
2000	2,801,700	0.42	1,216,500	8.79
2001	3,018,300	7.73	1,267,700	4.21
2002	3,060,600	1.40	1,363,300	7.54
2003	3,353,700	9.58	1,438,100	5.49
2004	3,431,600	2.32	1,574,700	9.50
2005	3,444,000	0.36	1,664,100	5.68
2006	3,641,000	5.72	1,726,800	3.77
2007	3,799,800	4.36	1,883,400	9.07
2008	3,771,800	- 0.74	2,011,300	6.79
2009	3,944,900	4.59	1,810,200	- 10.00
2010	4,169,400	5.69	1,991,100	9.99
2011	4,804,600	15.23	2,016,700	1.29
2012	4,867,500	1.31	2,032,800	0.80
2013	4,543,200	- 6.66	2,198,200	8.14
2014	4,900,500	7.86	2,316,800	5.40
2015	4,908,400	0.16	2,325,500	0.38
2016	4,949,800	0.84	2,286,400	- 1.68
2017	5,329,200	7.66	2,228,900	- 2.51
2018	5,831,100	9.42	2,396,200	7.51
2019	6,467,951	10.92	2,607,103	8.80

Viewed from Table 6.9 it states that the Total CO²M³ of Indonesia & Malaysia from 1990 to 2019, this Total CO²M³ is an indicator of air pollution which is calculated per capita. For Indonesia, the highest Total CO²M³ was in 2011 at 15.23%, while the lowest was in 2015 at 0.16%. For Malaysia, the highest Total CO²M³ was in 1996 at 14.10%, while the lowest was in 2015 at 0.38%.

E. Total Trembesi Tree

Table 6.10
Total Trembesi Tree Indonesia & Malaysia
1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	51,926	13.00	19,716	12.65
1991	56,786	9.36	22,221	12.71
1992	59,968	5.60	24,165	8.75
1993	65,081	8.52	24,979	3.37
1994	69,098	6.17	27,018	8.16
1995	78,189	13.16	29,432	8.94
1996	82,274	5.22	33,582	14.10
1997	90,411	9.89	35,965	7.09
1998	91,628	1.35	36,154	0.53
1999	97,891	6.84	39,235	8.52
2000	98,305	0.42	42,684	8.79
2001	105,905	7.73	44,481	4.21
2002	107,389	1.40	47,835	7.54
2003	117,674	9.58	50,460	5.49
2004	120,407	2.32	55,253	9.50
2005	120,842	0.36	58,389	5.68
2006	127,754	5.72	60,589	3.77
2007	133,326	4.36	66,084	9.07
2008	132,344	- 0.74	70,572	6.79
2009	138,418	4.59	63,516	- 10.00
2010	146,295	5.69	69,863	9.99
2011	168,582	15.23	70,761	1.29
2012	170,789	1.31	71,326	0.80
2013	159,411	- 6.66	77,130	8.14
2014	171,947	7.86	81,291	5.40
2015	172,225	0.16	81,596	0.38
2016	173,677	0.84	80,225	- 1.68
2017	186,989	7.66	78,207	- 2.51
2018	204,600	9.42	84,077	7.51
2019	226,946	10.92	91,477	8.80

Viewed from Table 6.10, the Total Trembesi Tree Indonesia & Malaysia from 1990 to 2019, Total Trembesi Tree is needed to overcome air pollution. Every 1 trembesi tree can overcome air pollution per year 28.5 tons. For Indonesia, the highest total demand for trembesi tree was in 2011 at 15.23%, while the lowest was in 2015 at 0.16%. For Malaysia, the highest total demand for trembesi tree was in 1996 at 14.10%, while the lowest was in 2015 at 0.38%.

F. Total Degradation

Table 6.11
Total Degradation Indonesia & Malaysia
1990 – 2019

Tahun	Indonesia	% Growth	Malaysia	% Growth
1990	726,398	12.91	431,386	4.88
1991	794,380	9.36	486,202	12.71
1992	838,899	5.60	528,734	8.75
1993	910,415	8.52	546,546	3.37
1994	966,616	6.17	591,151	8.16
1995	1,093,794	13.16	643,970	8.94
1996	1,280,706	17.09	636,725	- 1.13
1997	1,407,367	9.89	681,896	7.09
1998	1,426,320	1.35	685,488	0.53
1999	1,523,815	6.84	743,899	8.52
2000	1,530,260	0.42	809,294	8.79
2001	2,237,494	46.22	1,076,304	32.99
2002	2,268,851	1.40	1,157,470	7.54
2003	2,486,129	9.58	1,220,977	5.49
2004	2,543,877	2.32	1,336,953	9.50
2005	2,553,069	0.36	1,412,855	5.68
2006	2,986,913	16.99	1,463,809	3.61
2007	3,117,185	4.36	1,596,559	9.07
2008	3,094,215	- 0.74	1,704,980	6.79
2009	3,236,219	4.59	1,534,507	- 10.00
2010	3,420,389	5.69	1,687,856	9.99
2011	4,558,516	33.27	1,913,408	13.36
2012	4,618,194	1.31	1,928,683	0.80
2013	4,310,504	- 6.66	2,085,612	8.14
2014	4,649,504	7.86	2,198,137	5.40
2015	4,656,999	0.16	2,206,391	0.38
2016	4,949,800	6.29	2,286,400	3.63
2017	5,329,200	7.66	2,228,900	- 2.51
2018	5,831,100	9.42	2,396,200	7.51
2019	6,467,951	10.92	2,607,103	8.80

Viewed from Table 6.11, it states that the Total Degradation of Indonesia & Malaysia from 1990 to 2019, this Total Degradation is obtained from the amount of Trembesi tree needs multiplied by the current Trembesi tree price of \$28.5. For the previous year's price, the inflation rate is used. For Indonesia, the highest Total Degradation was in 2001 at 46.22%, while the lowest was in 2013 at 6.66%. For Malaysia, the highest Total Degradation was in 2001 at 32.99%, while the lowest was in 2009 at 10%.

G. Green GDP

Table 6.12
Green GDP Indonesia & Malaysia
1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	261,455,072,628	6.61	70,943,717,041	7.84
1991	283,465,276,594	8.42	79,528,713,037	12.10
1992	301,520,411,473	6.37	86,719,483,814	9.04
1993	321,931,624,671	6.77	95,674,927,080	10.33
1994	346,703,292,249	7.69	104,835,057,805	9.57
1995	374,215,600,454	7.94	115,025,310,539	9.72
1996	402,163,950,570	7.47	125,947,030,561	9.50
1997	422,020,908,313	4.94	135,368,406,122	7.48
1998	366,862,994,430	- 13.07	126,375,591,215	- 6.64
1999	370,560,472,224	1.01	133,596,030,695	5.71
2000	385,786,350,199	4.11	143,542,728,930	7.45
2001	400,765,041,306	3.88	145,455,603,598	1.33
2002	420,321,327,895	4.88	153,062,660,906	5.23
2003	440,059,528,394	4.70	161,004,555,178	5.19
2004	457,735,531,984	4.02	169,452,204,370	5.25
2005	478,882,518,052	4.62	176,076,727,726	3.91
2006	505,309,303,123	5.52	185,429,362,179	5.31
2007	534,867,318,002	5.85	197,786,807,806	6.66
2008	561,306,850,468	4.94	204,652,904,881	3.47
2009	598,626,114,966	6.65	205,908,082,365	0.61
2010	632,160,868,054	5.60	221,248,903,485	7.45
2011	661,756,944,468	4.68	230,607,786,292	4.23
2012	707,539,875,053	6.92	242,200,554,456	5.03
2013	750,616,398,376	6.09	254,872,621,736	5.23
2014	795,204,079,289	5.94	271,349,403,892	6.46
2015	846,220,514,196	6.42	288,565,556,494	6.34
2016	891,872,309,723	5.39	306,064,611,543	6.06
2017	934,262,326,103	4.75	322,564,207,841	5.39
2018	973,255,263,891	4.17	332,356,492,089	3.04
2019	1,029,532,073,155	5.78	350,316,114,846	5.40

Judging from Table 6.12 it states that the Green GDP of Indonesia & Malaysia from 1990 to 2019, Green GDP is obtained from the Semi Green GDP minus the amount of degradation. For Indonesia, the highest Green GDP was in 1991 at 8.42%, while the lowest was in 1998 at 13.07%. For Malaysia, the highest Total Degradation was in 1993 at 10.33%, while the lowest was in 1998 at 6.64%.

G. Green GDP of SME

Table 6.13
Green GDP of SME Indonesia & Malaysia
1990 – 2019

Year	INDONESIA	MALAYSIA
	Green GDP of SME %	Green GDP of SME %
1990	0,38	0,24
1991	0,47	0,36
1992	0,40	0,28
1993	0,55	0,32
1994	0,19	0,30
1995	0,53	0,30
1996	0,40	0,29
1997	0,34	0,23
1998	- 0,28	- 0,24
1999	0,06	0,18
2000	0,22	0,23
2001	0,88	0,04
2002	0,95	0,17
2003	0,79	0,16
2004	0,68	0,16
2005	0,71	0,12
2006	0,93	0,16
2007	0,82	0,19
2008	0,74	0,10
2009	1,50	0,02
2010	0,88	0,20
2011	0,63	0,11
2012	1,03	0,13
2013	0,94	0,14
2014	0,64	0,16
2015	- 8,23	0,15
2016	0,02	0,15
2017	0,84	0,13
2018	0,77	0,07
2019	1,46	0,13

Judging from Table 6.13 it states that the Green GDP of SME Indonesia & Malaysia from 1990 to 2019, Green GDP of SME is obtained from the spread of Green GDP divide of GDP of SME. For Indonesia, the highest Green GDP of SME was in 2009 at 1.50%, while the lowest was in 2015 at -8.23%. For Malaysia, the highest Green GDP of SME was in 1993 at 0.32%, while the lowest was in 1998 at 0.24%.

6.3.2 Stationarity Test

A. Stationarity Test

The Augmented Dickey Fuller unit root tests for labour of SME, Investment of SME, export of SME and green GDP of SME for both Indonesia and Malaysia is recorded in the Table 6.14. The results of Augmented Dickey Fuller unit root tests for Indonesia shows that all variables are integrated at the first difference, $I(1)$. Besides, the results of Augmented Dickey Fuller unit root test in Malaysia also shows that all variables are integrated at the first difference, $I(1)$. Since none of the variables are integrated at the higher order ($I(2)$), therefore it is feasible to conduct the regression analysis using Ordinary Least Square (OLS) method for both countries time series, provided that the model passed all classical assumptions and diagnostic tests.

Table 6.14: Results of Augmented Dickey Fuller unit root test for Indonesia

Table 6.14: Results of Augmented Dickey Fuller unit root test for Indonesia										
		GREEN GDP OF SME		LABOUR OF SME		INVESTMENT OF SME		EXPORT OF SME		
		Level	First Difference	Level	First Difference	Level	First Difference	Level	First Difference	
Z(t)		-2.308	-4.9626	-0.1291	-6.246	1.786	-4.344	-4.877	-3.682	
Prob. of Z(t)		0.1782	0.0006	0.9369	0.0000	0.9994	0.0026	1.000	0.0102	
Critical values for rejection of hypothesis of a unit root										
1%	critical value	-3.76	-3.75	-3.67	-3.68	-3.75	-2.75	-3.76	-3.68	
5%	critical value	-3.00	-2.99	-2.96	-2.97	-2.99	-2.99	-3.00	-2.97	
10%	critical value	-2.64	-2.63	-2.62	-2.62	-2.63	-2.63	-2.64	-2.62	
Results of Augmented Dickey Fuller unit root test for Malaysia										
		GREEN GDP OF SME		LABOUR OF SME		INVESTMENT OF SME		EXPORT OF SME		
		Level	First Difference	Level	First Difference	Level	Second Difference	Level	First Difference	
Z(t)		-2.27	-13.68	-2.66	-6.23	-0.66	-7.36	-2.77	-4.38	
Prob. of Z(t)		0.187	0.000	0.00914	0.000	0.8404	0.0000	0.07	0.0018	
Critical values for rejection of hypothesis of a unit root										
1%	critical value	-3.71	-3.68	-3.67	-3.68	-3.67	-3.69	-3.67	-3.68	
5%	critical value	-2.98	-2.97	-2.96	-2.97	-2.96	-2.97	-2.96	-3.97	
10%	critical value	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-2.62	-3.62	

6.3.3 Findings of Model 1

a) Indonesia

The study used Ordinary Least Square in analysing the model introduced in Chapter 4. The model specified that the green GDP of SME is affected by labour of SME, investment of SME and export of SME. All variables were previously transformed into natural logarithm forms.

So the estimation model indicated is

$$\text{Green GDP of SME Indonesia} = f(\text{labour of SME, investment of SME, export of SME})$$

Table 6.15: OLS results for Indonesia

Dependent Variable: INDONESIA_GREEN_GDP_OF_SME
 Method: Least Squares
 Date: 06/13/23 Time: 09:49
 Sample: 1990 2019
 Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDONESIA_LABOUR_OF_SME	3.82E-06	1.63E-06	2.347266	0.0268
INDONESIA_INVESTMENT_OF_SME	2.37E-10	4.96E-11	4.786050	0.0001
INDONESIA_EXPORT_OF_SME	-8.74E-09	2.06E-09	-4.250141	0.0002
C	-231.6852	110.9717	-2.087785	0.0468
R-squared	0.520170	Mean dependent var	-18.05003	
Adjusted R-squared	0.464805	S.D. dependent var	101.8382	
S.E. of regression	74.50180	Akaike info criterion	11.58309	
Sum squared resid	144313.5	Schwarz criterion	11.76992	
Log likelihood	-169.7463	Hannan-Quinn criter.	11.64286	
F-statistic	9.395270	Durbin-Watson stat	2.161454	
Prob(F-statistic)	0.000223			

The regression analysis as displayed in the above table shows that labour of SME has positive and significant influence on the Green GDP of SME. The coefficient of labour of SME is 3.82 implies that one percent increases in labour will eventually increases the green GDP of SME in Indonesia by 3.82%. Investment of SME has positive and significant influence on the Green GDP of SME. The coefficient of investment of SME is 2.37 implies that one percent increases in investment of SME will eventually increases the green GDP of SME in Indonesia by 2.37%. Export of SME has negative and significant influence on the Green GDP of SME. The coefficient of export of SME is -8.7 implies that one percent decreases in export of SME will eventually increases the green GDP in Indonesia by 8.7%.

b) Malaysia

As mentioned in Chapter 4, the following table shows the findings for model 1 for both countries. To recap, the first model is focusing on the determinants of green GDP of SME which is influenced by labour of SME, investment of SME and export of SME.

$$\text{Green GDP} = f(\text{labour of SME, investment of SME, export of SME})$$

Table 6.16: OLS results for Malaysia

Dependent Variable: MALAYSIA_GREEN_GDP_OF_SME
Method: Least Squares
Date: 06/13/23 Time: 12:32
Sample: 1990 2019
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MALAYSIA_LABOUR_OF_SME	-1.17E-05	3.85E-05	-0.305085	0.7627
MALAYSIA_INVESTMENT_OF_SME	1.45E-08	1.88E-07	0.077302	0.9390
MALAYSIA_EXPORT_OF_SME	-0.039906	0.014346	-2.781732	0.0099
C	1.012201	0.298157	3.394861	0.0022
R-squared	0.621968	Mean dependent var		0.039741
Adjusted R-squared	0.578349	S.D. dependent var		0.032859
S.E. of regression	0.021337	Akaike info criterion		-4.733192
Sum squared resid	0.011837	Schwarz criterion		-4.546365
Log likelihood	74.99787	Hannan-Quinn criter.		-4.673424
F-statistic	14.25909	Durbin-Watson stat		1.688558
Prob(F-statistic)	0.000011			

The regression analysis as displayed in the above table shows that labour of SME has negative and not significant influence on the Green GDP of SME. The coefficient of labour of SME is -1.17 implies that one percent decreases in labour will eventually increases the green GDP of SME in Malaysia by 1.17%. Investment of SME has positive and not significant influence on the Green GDP of SME. The coefficient of capital is 1.45 implies that one percent increases in investment of SME will eventually increases the green GDP of SME in Malaysia by 1.45%. Export of SME has negative and significant influence on the Green GDP of SME. The coefficient of export of SME is -0.03 implies that one percent decreases in export of SME will eventually increases the green GDP in Indonesia by 0.03%.

The above findings are valid since they met all classical assumption tests for Ordinary Least Square (OLS) method. The results for the classical assumption tests are explained in the next section.

6.3.4 Classical Assumptions and Diagnostic Tests for Model 1

1. Indonesia

The viability and reliability of model can be signified using several diagnostic test. First, the Variance Inflation Factors (VIF) test is conducted and depicted in the below table. The VIF mean value shows less than 10 so there is no multicollinearity problem.

Correlation				
	INDONESIA_GREEN_GDP_OF_SME	INDONESIA_LABOUR_OF_SME	INDONESIA_INVESTMENT_OF_SME	INDONESIA_EXPORT_OF_SME
INDONESIA_GREEN_GDP_OF_SME	1.000000	-0.307497	0.072973	-0.230606
INDONESIA_LABOUR_OF_SME	-0.307497	1.000000	0.572521	0.843637
INDONESIA_INVESTMENT_OF_SME	0.072973	0.572521	1.000000	0.888130
INDONESIA_EXPORT_OF_SME	-0.230606	0.843637	0.888130	1.000000

Next, Apart from multicollinearity test, it is also important to ensure that the model is free from any heteroscedasticity. Thus, the followings are the results of the tests:

Heteroskedasticity Test: Breusch-Pagan-Godfrey
 Null hypothesis: Homoskedasticity

F-statistic	13.57241	Prob. F(3,26)	0.0000
Obs*R-squared	18.30887	Prob. Chi-Square(3)	0.0004
Scaled explained SS	45.63478	Prob. Chi-Square(3)	0.0000

The null hypotheses for the above diagnostic tests are as follows Variances are constant
 Since the probabilities for all the tests are more than 0.05, we can conclude that the above model is free from any of the three problems. Thus, the results of the OLS are valid.

2. Malaysia

One of the methods to check for the multicollinearity problem is by looking at the Variance Inflation Factors (VIF). The following table shows that none of the VIF values are more than 10. Thus, it indicates that the first model is free from any multicollinearity problem.

Correlation				
	MALAYSIA_GREEN_GDP_OF_SME	MALAYSIA_LABOUR_OF_SME	MALAYSIA_INVESTMENT_OF_SME	MALAYSIA_EXPORT_OF_SME
MALAYSIA_GREEN_GDP_OF_SME	1.000000	-0.473931	-0.702416	-0.787753
MALAYSIA_LABOUR_OF_SME	-0.473931	1.000000	0.520626	0.563428
MALAYSIA_INVESTMENT_OF_SME	-0.702416	0.520626	1.000000	0.896037
MALAYSIA_EXPORT_OF_SME	-0.787753	0.563428	0.896037	1.000000

Apart from multicollinearity test, it is also important to ensure that the model is free from any heteroscedasticity. Thus, the followings are the results of the tests:

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	4.130464	Prob. F(3,26)	0.0160
Obs*R-squared	9.682945	Prob. Chi-Square(3)	0.0215
Scaled explained SS	6.948839	Prob. Chi-Square(3)	0.0735

The null hypotheses for the above diagnostic tests are as follows Variances are constant

Since the probabilities for all the tests are more than 0.05, we can conclude that the above model is free from any of the three problems. Thus, the results of the OLS are valid.

6.3.5 t-test Different test

Table 6.49
t-test Different Test Green GDP of SME

T-Test

Group Statistics					
	Country	N	Mean	Std. Deviation	Std. Error Mean
Green_GDP_of_SME	Indonesia	30	-1805.0667	10183.78272	1859.29584
	Malaysia	30	4.0333	3.34750	.61117

Independent Samples Test										
		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Green_GDP_of_SME	Equal variances assumed	4.284	.043	-.973	58	.335	-1809.10000	1859.29594	-5530.88519	1912.68519
	Equal variances not assumed			-.973	29.000	.339	-1809.10000	1859.29594	-5611.78713	1993.58713

From the results of the t-test Different test, the results of Sig 0.335 are obtained, it can be concluded that there is a not significant difference between the Green GDP of SME Indonesia and Malaysia.

6.4 Result

A.Indonesia

Dependent Variable: INDONESIA_GREEN_GDP_OF_SME
 Method: Least Squares
 Date: 06/13/23 Time: 09:49
 Sample: 1990 2019
 Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDONESIA_LABOUR_OF_SME	3.82E-06	1.63E-06	2.347266	0.0268
INDONESIA_INVESTMENT_OF_SME	2.37E-10	4.96E-11	4.786050	0.0001
INDONESIA_EXPORT_OF_SME	-8.74E-09	2.06E-09	-4.250141	0.0002
C	-231.6852	110.9717	-2.087785	0.0468
R-squared	0.520170	Mean dependent var		-18.05003
Adjusted R-squared	0.464805	S.D. dependent var		101.8382
S.E. of regression	74.50180	Akaike info criterion		11.58309
Sum squared resid	144313.5	Schwarz criterion		11.76992
Log likelihood	-169.7463	Hannan-Quinn criter.		11.64286
F-statistic	9.395270	Durbin-Watson stat		2.161454
Prob(F-statistic)	0.000223			

1.The Effect of labour of SME on Green GDP of SME

X1 labour of SME on Green GDP of SME. The labour of SME variable has insignificant effect on Green GDP of SME with probability value 3.82 and a t statistic of 2.34. It can be concluded that the labour of SME has positive effect on Green GDP of SME, with the regression formula $Y = 3.82 + 2.347X_1 \text{labour_of_SME}$. The results of this study are in accordance with previous research conducted by Karmini, N. L., & Barimbing, Y. R. (2015) research results that labor has a positive and significant effect on economic growth in Bali Province in 2015.

2.The Effect of Investment of SME on Green GDP of SME

X2 investment of SME on Green GDP of SME. Investment of SME has significant effect on green GDP of SME. The findings contradict to the results of previous studies conducted by Maharani, K., & Isnowati, S. (2014), research results Variable economic investment is statistically significant, has a positive effect on economic growth in Central Java in 1985 – 2010

3.Effect of Export of SME on Green GDP of SME

X3 Export of SME on Green GDP of SME. The export of SME variable has a significant negative effect on Green GDP of SME with probability value is 0.0002 and statistical t value of -4.25. This implies an increase one percent of export of SME will decrease the green GDP by 8.7 percent.

The findings contradict to the results of previous studies conducted by Leksono (2013), Research result find export value have negative and significant impact on GDP in creative industries

B. Malaysia

Dependent Variable: MALAYSIA_GREEN_GDP_OF_SME
Method: Least Squares
Date: 06/13/23 Time: 12:32
Sample: 1990 2019
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MALAYSIA_LABOUR_OF_SME	-1.17E-05	3.85E-05	-0.305085	0.7627
MALAYSIA_INVESTMENT_OF_SME	1.45E-08	1.88E-07	0.077302	0.9390
MALAYSIA_EXPORT_OF_SME	-0.039906	0.014346	-2.781732	0.0099
C	1.012201	0.298157	3.394861	0.0022
R-squared	0.621968	Mean dependent var		0.039741
Adjusted R-squared	0.578349	S.D. dependent var		0.032859
S.E. of regression	0.021337	Akaike info criterion		-4.733192
Sum squared resid	0.011837	Schwarz criterion		-4.546365
Log likelihood	74.99787	Hannan-Quinn criter.		-4.673424
F-statistic	14.25909	Durbin-Watson stat		1.688558
Prob(F-statistic)	0.000011			

1.The Effect of labour of SME on Green GDP of SME

Since the p-value of the t-statistics for the labour of SME is 0.7627, this variable is insignificant in influencing the green GDP of SME in Malaysia. The results of this study might be due to a very little contribution of labour of SME in Malaysia that does not significantly affect the green GDP of SME in the country. It might be due to the composition of the labour in Malaysia that is focusing much on manufacturing and services sector. Labours that work in green economy is still limited, thus leading to insignificant relationship towards green GDP of SME. The findings contradict to the results of previous studies conducted by Ramayani. (2013), research result find labor has no significant effect on economic growth in Indonesia.

2.The Effect of Investment of SME on Green GDP of SME

Similar to labour of SME, the p-value of the t-statistics indicates that the investment is also insignificant in explaining the green GDP of SME in Malaysia. The findings contradict to the results of previous studies conducted by Ramayani. (2013), research result find Private and government investment fluctuation have no effect to economic growth in Indonesia.

3.Effect of export of SME on Green GDP of SME

Out of the three variables, export of SME is the only independent variable that is significant in explaining the green GDP of SME in Malaysia. The coefficient of -0.03 implies that one percent increase in export of SME will decrease green GDP of SME by 0.03% percent in Malaysia. The findings contradict to the results of previous studies conducted by Leksono (2013), Research result find export value have negative and significant impact on GDP in creative industries

CHAPTER VII

CONCLUSION AND SUGESTION

7.1 Conclusion

1. For the Green Economy Valuation calculated from Conventional GDP minus the Depletion Natural Source value, we get Semi Green GDP, while the Green GDP value is obtained from Semi Green GDP minus the Degradation value. The degradation value is obtained from the total costs incurred to overcome air pollution by planting trembesi trees. For the green GDP of SME obtained from spread of green GDP divided of GDP of SME.
2. For Indonesia there is a positive simultaneous influence between labour of SME, Invetment of SME, Export of SME on Green GDP of SME, while partially there is a positive influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 46%, the rest is influenced by other variables.
3. For Malaysia there is a positive simultaneous influence between labour of SME, Invetment of SME, Export of SME on Green GDP of SME, while partially there is a positive not influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 57%, the rest is influenced by other variables.
4. For the t-test difference on the Green GDP variable, it states that there is a not significant difference in Green GDP of SME between Indonesia and Malaysia.

7.2 Suggestion

1. The green economy valuation can be increased again by calculating the degradation from the reduction of land for growing rice as a basic need
2. Although the results of this research, labour of SME, investment of SME, export of SME simultaneously have a good effect on Green GDP of SME, it can still be improved by creating a green economy development program (Green Campaign) such as increasing urban farming activities and reducing carbon, air and water pollution.
3. There should be further research on the variables to be studied more, so that the dominant variables will be the best
4. The results of the Green GDP research on Indonesia and Malaysia are good, but need to be improved for further research in ASEAN countries

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Lembar Hasil Review dan Revisi Laporan Antara

Nama Dosen : Prof. Dr. Noor

salimNIDN 8899350017

Judul Penelitian : SME'S AND GREEN ECONOMY FOR SUSTAINABILITY DEVELOPMENT IN INDONESIA AND MALAYSIA

Skema : KLN

Telah melakukan revisi sesuai dengan saran yang disampaikan dengan rincian sebagai berikut ini.

No	Revisi	Saran/Pernyataan	Hasil Revisi	Status
1	Revisi 1	perbaiki sistematika laporan antara : 1. cover dan hal pengesahan mhn judulnya dirubah menjadi laporan antara bukan usulan atau download dari halaman utama/ home siris bapak/ ibu. Kemudian lengkapi ttd dekan.	sudah diperbaiki	Sudah direvisi

2	Reviewer 2	<p>Mhn diperbaiki: 1. Halama pengesahan harap ditandatangani Dekan (Dr, Nurul Hidayah) 2. harap menambahkan Prakata 3. Penelitian ini adalah penelitian kuantitatif sehingga Perumusan masalah sebaiknya diawali dengan Does atau Do...diawali dg Apakah. 4. Penelitian ini uji pengaruh? maka Hipotesanya diarahkan pada pengaruh dependen variabel terhadap independen variabel. 5. Pada bab 4 harap ditambahkan tabel operasional variabel, yg memuat indikator variabel 6. Pada bab 6 harap ditambahkan hasil uji hipotesa dan hasil uji instrumen,</p>	sudah diperbaiki	Sudah direvisi
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3	Reviewer 3	<p>A draft report between very good and interesting research, discussion and conclusion chapters have been presented even though the discussion is not yet in-depth, however, so that later this research becomes even better, there are several suggestions that can be considered for adding, contemplating or removing: 1. For background - please cite supporting previous research to be strengthened again, 2. Please provide a research gap at the end of the background before formulating the problem 3. Good research, why not move on to a more challenging publication like Scopus Q2 https://www.tandfonline.com/ 4. To maximize this good report, always comply with the guidelines given by LPPM UMB. Success always</p>	sudah diperbaiki	Sudah direvisi
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*) Melampirkan lembar saran dan masukan dari reviewer pada saat seminar usulan/lembaran notulen seminar proposal

APPENDIX 1. Draft Article of Journal Calitatea (Scopus Q3)

SME'S AND GREEN ECONOMY FOR SUSTAINABILITY INDONESIA & MALAYSIA

Author :

Noor Salim, Nur Hayati Abd Rahman, Darwati Susilastuti, Edi Wahyu Wibowo, Eri Marlapa

ABSTRACT

To overcome the weaknesses of conventional economic growth, a green growth strategy is needed. The green growth strategy focuses on strengthening positive trade-offs from economic and environmental policy aspects. To realize the principles of sustainable development, especially in implementing a green economy in Indonesia and Malaysia, policies have been made to support this program. The Government of the Unitary State of the Republic of Indonesia is making real efforts as stated in the 2005-2025 RPJPN as one of its long-term development missions. Meanwhile in Malaysia, the green economy concept has been initiated by the government in terms of technological evolution, through the establishment of the Ministry of Energy, Green Technology and Water (KeTTHa) in 2009. Under the Eleventh Malaysia Plan (RMK, 2015), the government has introduced Malaysian Quality of Life Index (MQLI) in 1999 to provide an aggregate measure of sustainable living (EPU, 1999).

This study analyzes the effect of labor, export, investment on the Green GDP of SMEs and determines the comparison of SMEs green GDP in Indonesia and in Malaysia.

This research uses annual secondary data for 1991-2020 obtained through relevant agencies. The data analysis method uses OLS Multiple Linear Regression which begins with the Stationarity Test and the Cointegration Test. Determination of the dominant factor and the amount of contribution using the value of beta (β). Different test of the dependent variable (difference t test) to determine the comparison of MSMEs green GRDP in Indonesia and Malaysia.

The result of research For the Green Economy Valuation calculated from Conventional GDP minus the Depletion Natural Source value, we get Semi Green GDP, while the Green GDP value is obtained from Semi Green GDP minus the Degradation value. The degradation value is obtained from the total costs incurred to overcome air pollution by planting trembesi trees. For the green GDP of SME obtained from spread of green GDP divided of GDP of SME. For Indonesia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 46%, the rest is influenced by other variables. For Malaysia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive not influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 57%, the rest is influenced by other variables. For the t-test difference on the Green GDP variable, it states that there is a not significant difference in Green GDP of SME between Indonesia and Malaysia.

Keywords: Green Economy; Green GDP; Sustainable development, SME's

I.INTRODUCTION

The concept of sustainable development is currently getting attention from various parties. The population density factor is an important factor that demands the availability of sufficient natural resources, this is the main problem that must be found an effective and efficient solution. Sustainable development is the integration between the economy and the environment as a human effort to improve the quality of life. Economic development based on natural resources that does not pay attention to aspects of environmental sustainability will ultimately have a negative impact on the environment itself. Basically, natural resources and the environment have a limited carrying capacity. In other words, economic development that does not pay attention to the capacity of natural resources and the environment will cause development problems in the future (Burhanudin, 2016, p.11). To overcome the weakness of conventional economic growth, a green growth strategy is needed. The green growth strategy focuses on the positive mutual reinforcement of economic and environmental policy aspects. Green growth takes into account the total value of natural capital as a factor of production and its important role in growth. Green growth also focuses on finding cost-effective ways to reduce pressure on the environment so that the transition to a new growth pattern that can be created does not exceed the carrying capacity of the environment. In green growth innovation plays an important role, because depletion of natural resources at a certain point will have a negative impact on growth. Innovation can play a role in creating substitutions for depleted natural resources to support growth. The green growth strategy recognizes that the measurement of economic progress should take into account the contribution of natural resource assets to the well-being, health and prosperity of mankind. Measurement of economic progress also concerns the quality and composition of growth as well as the impact of growth on human welfare (DAN, D. B. S. D. A., 2013, pp. 14-18).

Table 1 Air Pollution Rates in Indonesia & Malaysia 2010-2018

Tahun	INDONESIA		MALAYSIA	
	CO ² M ³	% Growth	CO ² M ³	% Growth
2010	4,169,400	-	1,991,100	-
2011	4,804,600	15.23	2,016,700	1.29
2012	4,867,500	1.31	2,032,800	0.80
2013	4,543,200	- 6.66	2,198,200	8.14
2014	4,900,500	7.86	2,316,800	5.40
2015	4,908,400	0.16	2,325,500	0.38
2016	4,949,800	0.84	2,286,400	- 1.68
2017	5,329,200	7.66	2,228,900	- 2.51
2018	5,831,100	9.42	2,396,200	7.51

Source : worldbank

Table 1 shows that one of the impacts of development is air pollution with increasing CO₂ levels. Data from 2010-2018 illustrates that the value of CO₂ levels in both countries is still high, especially in 2018, Indonesia experienced an increase of 9.42% while Malaysia was 7.51% even though Malaysia was able to reduce it but in 2018 it increased sharply. The increase in CO₂ levels is one of the negative effects of development due to not caring about the environment. Many problems occur due to air pollution with increasing CO₂, including people who are susceptible to diseases such as Tuberculosis, Acute Respiratory Infections, which can also cause death.

Table 2 Figures of Export SME Indonesia & Malaysia in 2010-2019

Describe	Indonesia		Malaysia	
	Export (Rp. Mil)	%G	Export (RM Mil)	%G
2015	185.975		145	
2016	255.126	37,2	155	7,0
2017	301.630	18,2	166	7,2
2018	293.841	- 2,6	172	3,4
2019	339.191	15,4	176	2,6

Source : World Bank

In Table 2 it can be seen that the export value of MSMEs, for Indonesia, has fluctuated from 2016 which had increased by 37.2% then in 2019 it fell to -2.6% and again increased in 2019 to 15.4%. Meanwhile for Malaysia there was a decrease from 2016 of 7% then in 2019 it fell to 2.6%.

Table 3 Figures of Investment SME Indonesia & Malaysia in 2010-2019

Describe	Indonesia		Malaysia	
	Investment (Rp Mil)	%G	Investment (RM Mil)	%G
2015	739,80		274.412	
2016	856,96	15,8	299.733	9,2
2017	942,39	10,0	315.660	5,3
2018	1.032,64	9,6	297.615	- 5,7
2019	1.098,14	6,3	278.355	- 6,5

Source : World Bank

In Table 3 it can also be seen that the investment value of SMEs, for both countries, both Indonesia and Malaysia, there has been a decline in investment value growth. For Indonesia in 2016 from 15.8% to 6.3% in 2019. Meanwhile for Malaysia in 2016 from 9.2% to -6.5% in 2019.

From the explanation above, green economic growth is very necessary for sustainable development, many impacts are felt when development does not care about natural & environmental elements. This research will analyze the valuation of Green GDP of SME and the factors that influence it, such as labor of SME, Export of SME, Investment of SME and its implications for income inequality with a comparative study of Indonesia and Malaysia. Conventionally, labor forces affect economic growth (Purwanggono, CH, & Sasana, H. 2015), Exports have a significant and partial effect on Indonesia's Gross Domestic Product 2008-2017 (Febriyanti, 2019), Partial test results show that investment has a positive and significant effect on the Gross Regional Domestic Product (GRDP) Banten 2010-2014 (Rahman, 2016). In the short term, a green economy can increase production factors, especially by allocating capital consisting of natural capital, and human and social capital, which is aimed at improving health, education, cohesion, and stability. In the end, the idea of a green economy is expected to be able to harmonize the short and long term, and to offset the short term costs by maximizing the

synergies and long term economic benefits (for example, job creation and poverty alleviation, increased efficiency) and mitigation (Hallegatte, 2012). The novelty in this research will compare Conventional GDP of SME and Green GDP of SME against 2 countries, Indonesia and Malaysia, as well as provide policy implications for the government and entrepreneurs regarding the best potential for the green business / economy in the future.

II.METHOD

2.1 Research Area

The method of determining research areas and respondents was carried out purposively, namely green GDP of SME's in Indonesia and Malaysia. The study was conducted from January to December 2023.

2.2 Population, Sample and Research Sampling

The population in this study is all variable data studied in Indonesia. Determination of the sample in this study using purposive sampling technique, namely in accordance with the required amount. The number of samples was determined by annual data between 1990 and 2019 or a total of 30 samples, both in Indonesia and in Malaysia.

2.3. Data Analysis Method

2.3.1. Formulation model:

The first model is used to determine the effect of openness, capital, labour, on the green GDP. Model 1a for Indonesia and Model 1b for Malaysian data $Y = b_0 + b_1x_1 + b_2x_2 + b_3 x_3 + b_4 x_4 + e$

Remarks:

- Y = Green GDP of SME's
- x₁ = Labour
- x₂ = Investment
- x₃ = Export
- x₁...x₄ = Variable independent
- b₁...b₄ = Parameter

2.4.2. Data Analysis Method

2.4.2.1 Valuation Green GDP

Data analysis methods that will be applied consist of:

(1)Valuation Semi Green GDP

/According to Suparmoko (2006) in (Mulya, 2016), Semi-Green GRDP is a GRDP that includes elements of natural resource and environmental depletion. Mathematically, can be expressed as follows:

Semi-Green GRDP is obtained by subtracting the depletion value of natural resources from the value of Conventional GRDP (or Brown GRDP). Depletion value is obtained by multiplying the volume of extraction of each type of natural resource by unit rent or unit price.

$$D = Q \times U$$

Where:

D = depletion value

Q = volume of natural resources taken

U = unit rent

How to calculate unit rent is by subtracting the cost of taking per unit from the price of natural resources including the value of profit per unit (remuneration for investment expenses) that is acceptable to investors. The proper profit value is the same as the interest rate on loans in banks as an alternative cost of capital invested to exploit natural resources in the area concerned. Here's how to calculate unit rent.

(2) Valuation Green GDP

To get the value of Green GRDP, the value of environmental damage or degradation is reduced by the value of Semi Green GRDP, so that the value of Green GRDP is obtained. Calculating environmental damage is more complex because it is necessary to use various estimates according to the type of natural resource and degraded environment. The calculation steps in assessing environmental damage are as follows (Ratnaningsih, 2012) in (Mulya, 2016):

- (a) Identification of the degraded environment
- (b) Physical quantification of environmental degradation
- (c) Economic assessment of environmental damage.

2.4.2.2. The data analysis method in this study uses OLS multiple linear regression to determine the effect of the dependent variable on the independent variable in each model for both Indonesian and Malaysian green GDP data with the analysis stages:

a. Stationarity Test

To test whether the time series data is stationary and does not contain spurious regression, the unit root testing stage is carried out using the Augmented Dicky Fuller (ADF) method (Gujarati, 2012).

b. Classic Assumption

2) Multicollinearity Test

- a. Multicollinearity test is shown to test whether in the regression model there is a correlation between the independent variables (independent variables). A good regression test model is one that does not occur multicollinearity. According to Sarjono and Julianita (2011) to detect the presence or absence of multicollinearity:
 - i. The R^2 value generated by an empirical regression model estimate is very high but individually the dependent variable.
 - ii. Analyzing the correlation between the independent variables, if there is a high enough correlation between the independent variables (greater than 0.90), it indicates that there is multiolinerity.
3. Multicollinearity can also be seen from the VIF (Variance-inflating factor) value, if $VIF < 10$ the level of collinearity can be tolerated.

2) Heteroscedasticity Test

According to Wijaya (2010), heteroscedasticity shows that variable variance is not the same for all observations. If the residual variance from one observation to another is constant, it is called homocedasticity. A good regression model is one that includes homoscedasticity or does not occur heteroscedasticity.

3) Autocorrelation Test

Testing the presence or absence of autocorrelation by looking at the Breusch-Godfrey LM test. The hypothesis testing is based on the null hypothesis of no autocorrelation or serial correlation exist.

(2) Valuation Green GDP of SME's

Obtained from SME's GDP divided by the results of the Green GDP Total.

d. Hypothesis testing

Determination Test (R^2)

To find out how far the influencing variables explain the affected variables using the determination test (R^2). The input of credit, investment, technology and cooperative factors will be more closely related to the green GDP if the R^2 value is equal to or close to one.

$$R^2 = ESS / TSS$$

Where:

ESS = Explained sum of square (Sum of Squares Regression)

TSS = Total Sum of square

F test

The F test is used to examine whether the use of several variables together affects the SME business.

$$F = (ESS / (k-1)) / (TSS / (N-1))$$

Where:

ESS = Explained sum of square (Sum of Squares Regression); TSS = Total Sum of square; k = number of variables, N = number of samples. With the hypothesis:

$H_0: b_i = 0$

$H_1: \text{at least one } b_i \neq 0$

With a significant level of $\alpha = 5\%$:

t test

The t test is used to determine the effect of each of the openness, capital, labour on the green GDP

$$t_{hit} = \beta_i / (Se(\beta_i)); \text{ where } Se(\beta_i) = \sqrt{[Se]^2 / (\sum 1^2 (1-r))}$$

Information:

B_i = regression coefficient $\mu_1, \mu_2, \mu_3, \mu_4$ and μ_5 ; $Se(\beta_i)$ = standard error $\mu_1, \mu_2, \mu_3, \mu_4$ and μ_5

2.4.2.3. t-test Different test

Different test independent sample t-test is to test two groups that have the same variant. This test is used to test the differences in the green GDP of SME's Indonesian and the green GDP of SME's Malaysian (Pramana, 2012; idtesis.com, 2019, Resmi et.all., 2020).

III. RESULT & DISCUSSION

3.1 Result

A.Green GDP

Table 6.12
Green GDP Indonesia & Malaysia
1990 – 2019

Year	Indonesia	% Growth	Malaysia	% Growth
1990	261,455,072,628	6.61	70,943,717,041	7.84
1991	283,465,276,594	8.42	79,528,713,037	12.10
1992	301,520,411,473	6.37	86,719,483,814	9.04
1993	321,931,624,671	6.77	95,674,927,080	10.33
1994	346,703,292,249	7.69	104,835,057,805	9.57
1995	374,215,600,454	7.94	115,025,310,539	9.72
1996	402,163,950,570	7.47	125,947,030,561	9.50
1997	422,020,908,313	4.94	135,368,406,122	7.48
1998	366,862,994,430	- 13.07	126,375,591,215	- 6.64
1999	370,560,472,224	1.01	133,596,030,695	5.71
2000	385,786,350,199	4.11	143,542,728,930	7.45
2001	400,765,041,306	3.88	145,455,603,598	1.33
2002	420,321,327,895	4.88	153,062,660,906	5.23
2003	440,059,528,394	4.70	161,004,555,178	5.19
2004	457,735,531,984	4.02	169,452,204,370	5.25
2005	478,882,518,052	4.62	176,076,727,726	3.91
2006	505,309,303,123	5.52	185,429,362,179	5.31
2007	534,867,318,002	5.85	197,786,807,806	6.66
2008	561,306,850,468	4.94	204,652,904,881	3.47
2009	598,626,114,966	6.65	205,908,082,365	0.61
2010	632,160,868,054	5.60	221,248,903,485	7.45
2011	661,756,944,468	4.68	230,607,786,292	4.23
2012	707,539,875,053	6.92	242,200,554,456	5.03
2013	750,616,398,376	6.09	254,872,621,736	5.23
2014	795,204,079,289	5.94	271,349,403,892	6.46
2015	846,220,514,196	6.42	288,565,556,494	6.34
2016	891,872,309,723	5.39	306,064,611,543	6.06
2017	934,262,326,103	4.75	322,564,207,841	5.39
2018	973,255,263,891	4.17	332,356,492,089	3.04
2019	1,029,532,073,155	5.78	350,316,114,846	5.40

Judging from Table 6.12 it states that the Green GDP of Indonesia & Malaysia from 1990 to 2019, Green GDP is obtained from the Semi Green GDP minus the amount of degradation. For Indonesia, the highest Green GDP was in 1991 at 8.42%, while the lowest was in 1998 at 13.07%. For Malaysia, the highest Total Degradation was in 1993 at 10.33%, while the lowest was in 1998 at 6.64%.

B Green GDP of SME

Table 6.13
Green GDP of SME Indonesia & Malaysia
1990 – 2019

Year	INDONESIA	MALAYSIA
	Green GDP of SME %	Green GDP of SME %
1990	0,38	0,24
1991	0,47	0,36
1992	0,40	0,28
1993	0,55	0,32
1994	0,19	0,30
1995	0,53	0,30
1996	0,40	0,29
1997	0,34	0,23
1998	- 0,28	- 0,24
1999	0,06	0,18
2000	0,22	0,23
2001	0,88	0,04
2002	0,95	0,17
2003	0,79	0,16
2004	0,68	0,16
2005	0,71	0,12
2006	0,93	0,16
2007	0,82	0,19
2008	0,74	0,10
2009	1,50	0,02
2010	0,88	0,20
2011	0,63	0,11
2012	1,03	0,13
2013	0,94	0,14
2014	0,64	0,16
2015	- 8,23	0,15
2016	0,02	0,15
2017	0,84	0,13
2018	0,77	0,07
2019	1,46	0,13

Judging from Table 6.13 it states that the Green GDP of SME Indonesia & Malaysia from 1990 to 2019, Green GDP of SME is obtained from the spread of Green GDP divide of GDP of SME. For Indonesia, the highest Green GDP of SME was in 2009 at 1.50%, while the lowest was in 2015 at -8.23%. For Malaysia, the highest Green GDP of SME was in 1993 at 0.32%, while the lowest was in 1998 at 0.24%.

C.Findings of Model

c) Indonesia

The study used Ordinary Least Square in analysing the model introduced in Chapter 4. The model specified that the green GDP of SME is affected by labour of SME, investment of SME and export of SME. All variables were previously transformed into natural logarithm forms.

So the estimation model indicated is

$$\text{Green GDP of SME Indonesia} = f(\text{labour of SME, investment of SME, export of SME})$$

Table 6.15: OLS results for Indonesia

Dependent Variable: INDONESIA_GREEN_GDP_OF_SME
 Method: Least Squares
 Date: 06/13/23 Time: 09:49
 Sample: 1990 2019
 Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDONESIA_LABOUR_OF_SME	3.82E-06	1.63E-06	2.347266	0.0268
INDONESIA_INVESTMENT_OF_SME	2.37E-10	4.96E-11	4.786050	0.0001
INDONESIA_EXPORT_OF_SME	-8.74E-09	2.06E-09	-4.250141	0.0002
C	-231.6852	110.9717	-2.087785	0.0468
R-squared	0.520170	Mean dependent var		-18.05003
Adjusted R-squared	0.464805	S.D. dependent var		101.8382
S.E. of regression	74.50180	Akaike info criterion		11.58309
Sum squared resid	144313.5	Schwarz criterion		11.76992
Log likelihood	-169.7463	Hannan-Quinn criter.		11.64286
F-statistic	9.395270	Durbin-Watson stat		2.161454
Prob(F-statistic)	0.000223			

The regression analysis as displayed in the above table shows that labour of SME has positive and significant influence on the Green GDP of SME. The coefficient of labour of SME is 3.82 implies that one percent increases in labour will eventually increases the green GDP of SME in Indonesia by 3.82%. Investment of SME has positive and significant influence on the Green GDP of SME. The coefficient of investment of SME is 2.37 implies that one percent increases in investment of SME will eventually increases the green GDP of SME in Indonesia by 2.37%. Export of SME has negative and significant influence on the Green GDP of SME. The coefficient of export of SME is -8.7 implies that one percent decreases in export of SME will eventually increases the green GDP in Indonesia by 8.7%.

d) Malaysia

As mentioned in Chapter 4, the following table shows the findings for model 1 for both countries. To recap, the first model is focusing on the determinants of green GDP of SME which is influenced by labour of SME, investment of SME and export of SME.

$$\text{Green GDP} = f(\text{labour of SME, investment of SME, export of SME})$$

Table 6.16: OLS results for Malaysia

Dependent Variable: MALAYSIA_GREEN_GDP_OF_SME
 Method: Least Squares
 Date: 06/13/23 Time: 12:32
 Sample: 1990 2019
 Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MALAYSIA_LABOUR_OF_SME	-1.17E-05	3.85E-05	-0.305085	0.7627
MALAYSIA_INVESTMENT_OF_SME	1.45E-08	1.88E-07	0.077302	0.9390
MALAYSIA_EXPORT_OF_SME	-0.039906	0.014346	-2.781732	0.0099
C	1.012201	0.298157	3.394861	0.0022
R-squared	0.621968	Mean dependent var		0.039741
Adjusted R-squared	0.578349	S.D. dependent var		0.032859
S.E. of regression	0.021337	Akaike info criterion		-4.733192
Sum squared resid	0.011837	Schwarz criterion		-4.546365
Log likelihood	74.99787	Hannan-Quinn criter.		-4.673424
F-statistic	14.25909	Durbin-Watson stat		1.688558
Prob(F-statistic)	0.000011			

The regression analysis as displayed in the above table shows that labour of SME has negative and not significant influence on the Green GDP of SME. The coefficient of labour of SME is -

1.17 implies that one percent decreases in labour will eventually increases the green GDP of SME in Malaysia by 1.17%. Investment of SME has positive and not significant influence on the Green GDP of SME. The coefficient of capital is 1.45 implies that one percent increases in investment of SME will eventually increases the green GDP of SME in Malaysia by 1.45%. Export of SME has negative and significant influence on the Green GDP of SME. The coefficient of export of SME is -0.03 implies that one percent decreases in export of SME will eventually increases the green GDP in Indonesia by 0.03%.

3.2 DISCUSSION

A.Indonesia

1.The Effect of labour of SME on Green GDP of SME

X1 labour of SME on Green GDP of SME. The labour of SME variable has insignificant effect on Green GDP of SME with probability value 3.82 and a t statistic of 2.34. It can be concluded that the labour of SME has positive effect on Green GDP of SME, with the regression formula $Y = 3.82 + 2.347X1\text{labour_of_SME}$. The results of this study are in accordance with previous research conducted by Karmini, N. L., & Barimbing, Y. R. (2015) research results that labor has a positive and significant effect on economic growth in Bali Province in 2015.

2.The Effect of Investment of SME on Green GDP of SME

X2 investment of SME on Green GDP of SME. Investment of SME has significant effect on green GDP of SME. The findings contradict to the results of previous studies conducted by Maharani, K., & Isnowati, S. (2014), research results Variable economic investment is statistically significant, has a positive effect on economic growth in Central Java in 1985 – 2010

3.Effect of Export of SME on Green GDP of SME

X3 Export of SME on Green GDP of SME. The export of SME variable has a significant negative effect on Green GDP of SME with probability value is 0.0002 and statistical t value of -4.25. This implies an increase one percent of export of SME will decrease the green GDP by 8.7 percent.

The findings contradict to the results of previous studies conducted by Leksono (2013), Research result find export value have negative and significant impact on GDP in creative industries

B. Malaysia

1.The Effect of labour of SME on Green GDP of SME

Since the p-value of the t-statistics for the labour of SME is 0.7627, this variable is insignificant in influencing the green GDP of SME in Malaysia. The results of this study might be due to a very little contribution of labour of SME in Malaysia that does not significantly affect the green GDP of SME in the country. It might be due to the composition of the labour in Malaysia that is focusing much on manufacturing and services sector. Labours that work in green economy is still limited, thus leading to insignificant relationship towards green GDP of SME. The findings contradict to the results of previous studies conducted by Ramayani. (2013), research result find labor has no significant effect on economic growth in Indonesia.

2.The Effect of Investment of SME on Green GDP of SME

Similar to labour of SME, the p-value of the t-statistics indicates that the investment is also insignificant in explaining the green GDP of SME in Malaysia. The findings contradict to the results of previous studies conducted by Ramayani. (2013), research result find Private and government investment fluctuation have no effect to economic growth in Indonesia.

3. Effect of export of SME on Green GDP of SME

Out of the three variables, export of SME is the only independent variable that is significant in explaining the green GDP of SME in Malaysia. The coefficient of -0.03 implies that one percent increase in export of SME will decrease green GDP of SME by 0.03% percent in Malaysia. The findings contradict to the results of previous studies conducted by Leksono (2013), Research result find export value have negative and significant impact on GDP in creative industries

IV. Conclusion

5. For the Green Economy Valuation calculated from Conventional GDP minus the Depletion Natural Source value, we get Semi Green GDP, while the Green GDP value is obtained from Semi Green GDP minus the Degradation value. The degradation value is obtained from the total costs incurred to overcome air pollution by planting trembesi trees. For the green GDP of SME obtained from spread of green GDP divided of GDP of SME.
6. For Indonesia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 46%, the rest is influenced by other variables.
7. For Malaysia there is a positive simultaneous influence between labour of SME, Investment of SME, Export of SME on Green GDP of SME, while partially there is a positive not influence of labour of SME and investment of SME on Green GDP of SME, but for export of SME there is a negative influence on Green GDP of SME. For the simultaneous effect of labour of SME, investment of SME, export of SME on Green GDP of SME of 57%, the rest is influenced by other variables.
8. For the t-test difference on the Green GDP variable, it states that there is a not significant difference in Green GDP of SME between Indonesia and Malaysia.

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