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FACTORS AFFECTING ECONOMIC GROWTH

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Abstract
Climate change and global warming caused by the increasing number of greenhouse gas emissions can damage human survival, Greenhouse emissions and the economic growth of a country are the main factors that can encourage an increase in the amount of greenhouse gas emissions in the atmosphere, which causes global warming. The study purposed to determine the factors that influence changes in greenhouse emissions and economic growth. The method used in this research is Ordinary Least Square Multiple Linear Regression and simple panel data. The research variables are Energy 2963-4113 Consumption, Labor, Loan Interest Rates, and Fuel Eco sport. Those are used as independent variables that affect greenhouse emissions, which function as the dependent variable, and economic growth, which functioned as the dependent variable with the variable Free of Greenhouse Emissions. The results of the study show that (1) energy and labor consumption simultaneously or partially have a significant effect on changes in the number of greenhouse emissions by 89.5% (2) Changes in total greenhouse emissions partially have a significant and positive effect on the country's economic growth (3) research findings. The following variable the increase in the country's Greenhouse Emanation is the most dominant variable with a significant positive effect on a country's economic growth of 70.74 percent.

Keywords : Greenhouse Emissions, Energy Consumption, Labor, and Economic Growth

INTRODUCTION

Economic development absolutely needs to be implemented in order to create a better life and also to adapt to what is happening in the surrounding environment. Everyone can not be separated from the word development. Everyone is obliged to carry out development in order to survive in living life. In another sense, national development can be interpreted as a series of national sustainable development efforts that can be rendered as a series of development efforts to carry out the task of realizing national goals (Sahin, 2020).

Economic growth is a long-term economic problem, and economic growth is an important phenomenon experienced by the world recently (Boediono, 2016). The process of economic growth is known as Modern Economic Growth. Economic growth is defined as a process of output growth per capita in the long term. It means that in the long term, welfare is reflected in an increase in per capita output which at the same time provides many alternatives in consuming goods and services, and is followed by an increasing public purchasing power (Arsyad, 2017).

One of the ultimate goals of economic development is to create a prosperous society, both for the current and future generations (Gheeraert & Weill, 2015). Following the development of the economic development paradigm, there has been a change in the benchmark for the success of economic development from a growth approach to a quality-of-life approach (Di Luar & Dunia, n.d.). The empirical foundation indicates that excessive monetary boom does now no longer continually remedy welfare troubles along with poverty and the same old dwelling of the network at large, even the findings of the World Bank,finish that during growing nations monetary boom leaves a chain of troubles along with poverty, unemployment, environmental damage, and purpose negative political conditions (Engkus,

2019). In addition, in achieving the goal of national economic growth at this time it is not yet clear what strategies are used to anticipate the decline in environmental quality caused by externalities from the production process, thus the existing economic growth is actually "false". Since before the 1960s, the approach of economic growth as an economic development goal, has had implications for national policies that are not balanced between the agricultural sector versus non-agricultural or capital development and the real sector. It is more inclined to the capital sector which is seen as being able to create income and the two agricultural sectors are seen as inferior sectors so the development of the agricultural sector is neglected (Ghozali, 2016)(Ghozali, 2016).

Environmentally friendly sustainable development has become a commitment of almost all countries in the world since the first Global Partnership Consensus on the Millennium Development Goals (MDGs) was ratified in 2000 (Iskandar, 2020). The consensus that ended in 2015 was then continued with a broader framework of an agreement in the form of Development Goals. Sustainable Development Goals (SDGs) which will end in 2030. If the MDGs carry eight main goals, then the SDGs carry broader goals, as many as 17 goals with the main jargon "No one left behind". The SDGs are a sustainable development agreement based on human rights and equality. The agreement must be implemented by every ratifying country, so that policy practices and development planning always consider the achievement of the SDGs goals. The implementation is carried out thoroughly from the central government level to the regional government (Ghozali, 2016).

One of the strategic issues of economic development within the framework of sustainable development is the effort to realize a Green Economy (Prasetyo, 2021). Economic development not only internalizes the impact of environmental damage in the calculation of gross domestic product (GDP) but also pays attention to the entire development process that meets the green principle. (Irwhantoko & Basuki, 2016) The round financial system has now ended up an improvement paradigm that has to be followed with the aid of using all international locations withinside the world (Andhykha et al., 2018). One critical detail in understanding an inexperienced financial system is an inexperienced investment. Green investment is a fundamental element because long-term economic growth is highly dependent on investment so the driving force of production activities relies on investment. Although there is no standard consensus, the concepts and principles of green investment have been widely developed and applied internationally, both at the business group and government levels.

METHOD RESEARCH

The types of data used in this study are qualitative and quantitative data, with the following explanation. The analytical method used in this study is panel data regression. Analysis of the data in this study using the help of the Eviews program. The estimation approach of the usage of panel facts may be accomplished thru 3 strategies which include: not unusual place effect, constant effect, and random effect. The form of panel data regression model in this study: The type of data used in this study is secondary data in the form of panel data, which is a combination of time series data and cross-section data.

The time series data in the study consists of 1990-2014 (24 years) and the cross-section includes ASEAN countries with a total of 6 cross-sections and 6 (six) independent and dependent variables with a total of 864 data. The data in the study were obtained from several sources of world bank data databases, articles, journals, and information from the Ministry of the environment and various other sources related to the research.

The panel data regression analysis used in this study aims to determine the effect of the independent variable on the dependent variable, as well as to see the position of the intercept

or cross effect during the study period (Munandar, 2017). The specification of the research model was adopted from two studies, namely the Estimation of multiple linear regression models aimed at predicting the parameters of the regression model, namely the constant value (α) and the regression coefficient (βi). The constant is called the intercept and the regression coefficient is called the slope. Panel data regression has the same goal as multiple linear regression, namely predicting the value of the intercept and slope.

RESULT AND DISCUSSION

Table 1. F Test Results Model 1

R-squared	0.89579	Mean dependentvar	12.99274
Adjusted R-squared	0.89549	S.D. dependent var	0.895087
F-statistic	7187.58	Durbin-Watson stat	2.019886
Prob(F-statistic)	0.00000		

Source: processed by Eviews 10

Table 2. F Test Results Model 2

R-squared	0.719158	Mean dependentvar	2.094155
Adjusted R-squared	0.707375	S.D. dependent var	0.206017
F-statistic	61.03067	Durbin-Watson stat	2.004976
Prob(F-statistic)	0.000000		

Source: processed by Eviews 10

The F test is used to see whether or not there is a simultaneous influence of Energy Consumption and Labor on Greenhouse Emissions in six ASEAN Countries. 1990-2014 using a fixed effect model that has a probability value of 0.000000, which means the probability value is smaller than alpha 5% (0.05), so it can be concluded that the F test is significant and the independent variables jointly affect the dependent variable.

Table 3. Results of Model 1 T-Test ERK Depend Dependent Variable

Variable	T-statistic regression coefficient	Prob	Standard Prob
KE	0.048872	2.358581	0.0204** 0.05
TK	0.054707	2.681249	0.0086** 0.05
ERK(-1)	0.759973	7.416795	0.0000** 0.05
ERK(-2)	0.097568	0.726602	0.4692** 0.05

Source: processed by Eviews 10

Table 4. Results of Model 2 T Test (FEM)

Dependent Variable: PE?

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.918235	0.027069	70.86443	0.0000
ERK?	2.78E-07	4.03E-08	6.900454	0.0000
Fixed Effects (Cross)				
_AUS--C	-0.123297			
_IDN--C	0.082062			
_IND--C	-0.590496			
_MYS--C	0.070126			
_PHL--C	0.401076			
_THA--C	0.160528			
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.719158	Mean dependent var		2.094155
Adjusted R-squared	0.707375	S.D. dependent var		0.206017

F-statistic	61.03067	Durbin-Watson stat	2.004976
Prob(F-statistic)	0.000000		

From tables 3 and 4 can be seen that each independent variable has a different effect on the dependent variable.

a. Effect of energy consumption variables on greenhouse emissions

The test results with panel data regression analysis above show the energy consumption coefficient value of 0.048872 and the T-statistic value of 2.358581 which indicates that the direction of the coefficient is positive, while the probability of energy consumption of 0.0204 < 0.05 causes H0 to be rejected and H1 to be accepted. It concluded that energy consumption has a significant effect on greenhouse emissions.

b. Effect of labor variable on greenhouse emissions

The results with panel data regression analysis above show a workforce coefficient value of 0.054707 and a T-statistic value of 2.681349 indicating that the direction of the coefficient is positive, while the probability of labor is 0.0086 < 0.05 causing H0 to be rejected and H1 to be accepted. So it can be concluded that labor has a significant effect on greenhouse emissions.

c. The Influence of Greenhouse Emissions (ERK) on Economic Growth (PE)

The test results with the regression analysis of the FEM panel data in table 4.14 above show the ERK coefficient value between ASEAN countries of 2.78 x 10-7 and the T-statistic value of 6.900454 which shows that the direction of the coefficient is positive, while the ERK probability of 0.0000 < 0.05 causes H0 is rejected and H6 is accepted. So it can be concluded that the increase in Greenhouse Emissions (ERK) of ASEAN countries has a significant effect on the improvement of the country's economic growth (PE).

From the test results of the Energy and Labor Consumption variables on Greenhouse Emissions in six ASEAN Countries in 1990-2014, the R2 value of 0.8954 was obtained which means that 89.5% of Greenhouse Emissions are influenced by the energy consumption sector, labor, interest rates, and material exports, while the remaining 10.5% is influenced by variables outside the variables of this study.

The consequences of the Greenhouse Emissions variable check in six ASEAN nations in 1990-2014, the R2 price of 0.9402 changed into obtained, this means that 94.02% of Economic Growth will affect the growth in greenhouse fuel emissions, whilst the last 5.98% is motivated via way of means of variables outdoor the studies variables.

1. Effect of energy consumption variables on greenhouse emissions

Energy consumption l has a positive and significant effect on greenhouse emissions. The results of this study are following Friedman's energy consumption affects CO2 gas emissions.[7] In Lu (2017) energy consumption increases greenhouse gas emissions level. The use of energy consumption that is not yet friendly in ASEAN member countries is still a pillar of economic growth (Mahira, 2022). In Mardani, et al (2019), the results show that energy consumption has a significant positive effect on CO2 gas emissions. According to Anser, et al (2021), the use of non-renewable energy in South Asian countries causes severe environmental degradation. The study also shows that the consumption of non-renewable energy is the main determinant of CO2 gas emissions. Jun, et al (2021) explain the results of non-renewable energy consumption can increase damage to the environment. This study shows a huge dependence on the consumption of fossil energy which is not environmentally friendly in the South Asian region. According to BASHIR, et al (2021), uncontrolled energy consumption is due to a lack of supporting policies.

Several factors that cause the use of renewable energy in several ASEAN member countries are still low, namely the lack of government support and the lack of human resources in managing the use of renewable energy (Yana et al., 2022). Based on data from Our World in Data, the high level of fossil energy consumption in some countries can be caused by renewable energy that is not developed properly. This means that the development of the 5 ASEAN countries is still dependent on the consumption of fossil energy. In Arista's 2019 research, energy consumption affects CO2 gas emissions in ASEAN countries.

2. Effect of labor variable on greenhouse emissions

Labor has a positive effect on greenhouse emissions in this study. This means that the indicator of additional labor can increase CO2 gas emissions so that companies are required to process gas emissions from the company first before being discharged into the air. In the production process, the company can also use environmentally friendly materials so that it does not pollute the environment and increase the expansion of green areas in the company's area. This research is in line with Andika's research that forest areas are one of the indicators that can mitigate the rate of increase in CO2 gas emissions in the atmosphere.[8] Then, every increase in the percentage of forest area can reduce the value of CO2 gas emissions. Forest area in this study is a variable that can reduce the level of CO2 gas emissions in the atmosphere. The results also show that every 1 unit increase in forest area will reduce CO2 gas emissions level. It needs to be maintained to stop the rate of deforestation that is still happening where the forestry sector is important in mitigating environmental degradation. Keeping the area of the region maintained and not reduced will have a positive impact on countries in ASEAN. It is also in line with Friedman maintaining forest areas by improving forest and peatland management to reduce greenhouse gas emissions.

Labor absorption is the number of jobs that have been filled, which is reflected in a large number of working people. The working population is absorbed and scattered in various sectors of the economy. The absorption of the operating populace is a result of the call for labor. Therefore, the absorption of labor can be said as the demand for labor. Labor absorption in this study is the number or number of people who work or are employed by salted fish entrepreneurs. In this study, the absorption of labor can be regarded as the demand for labor. The more workers who work in a business, the more it will contribute to contributing to the addition of greenhouse emissions.

3. The Influence of Greenhouse Emissions (ERK) on Economic Growth (PE)

Greenhouse emissions on economic growth in this study have a positive and significant effect. This is in line with (Widyawati et al., 2021)in ASEAN countries (Brunei, Laos, Myanmar, Malaysia, Singapore, Thailand, Philippines, Vietnam, Indonesia, and Cambodia) in 2000-2014 economic growth had a positive and significant effect on carbon dioxide gas emissions. . Based on the results of the study, it shows that the economic development that occurred during the research period in several ASEAN member countries was already responsible for the environment. The results of this study are interesting in that an increase in economic growth as measured in GDP per capita can reduce the level of CO2 gas emissions by the Environmental Kuznets Curve theory. This theory explains that environmental damage or environmental degradation will increase along with an increase in GDP per capita but at a certain point an increase in income can reduce environmental degradation rank. The more income in a country increases, it will be able to improve the quality of the environment where people tend to choose environmentally friendly technologies and reduce economic activities that can cause externalities.

Responsible economic growth in these 5 ASEAN countries can be caused by several

things, such as increased income from the trade sector that uses sustainable technology (Mahira, 2022). It is also aligned with the findings of Rambeli, et al (2021) that in Malaysia and Singapore the Environmental Kuznets Curve hypothesis applies, where CO2 release will increase along with increasing state income and at a certain point, after passing the optimum point, CO2 emissions will decrease. According to Fasikha and Yuliadi (2018), ASEAN countries such as Brunei, Cambodia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam in 2000-2015 indicated the Environmental Kuznets Curve (EKC) hypothesis. According to Santi and Sasana (2020), the environmental Kuznets curve (EKC) hypothesis is proven in 8 ASEAN countries, namely Indonesia, Thailand, Malaysia, Singapore, Vietnam, Brunei, Myanmar, and the Philippines. In Adeel-Farooq, et al (2021) the EKC hypothesis in ASEAN countries proved valid.

CONCLUSION

Energy consumption has a positive and significant effect on greenhouse emissions. When there is an increase in the energy consumption variable by 1 percent, it will raise the greenhouse emissions of the 6 ASEAN countries by 0.049 percent. Labor has a positive and significant influence on greenhouse emissions. When the increase in the labor variable by 1 percent, it will increase the greenhouse gas emissions of the 6 ASEAN countries by 0.055 percent.

Greenhouse emissions have a positive and significant effect on Economic Growth, when there is an increase in the Greenhouse Emission variable by 1 percent, it will increase the Economic Growth of 6 ASEAN countries by 0.0000000278 percent.

Without us realizing it, habits in everyday life are quite consumptive and wasteful of energy. From leaving the light on in an empty room, using a straw to drink, buying bottled water every day, to wasting paper that can still be used. In fact, by saving electrical energy and not being consumptive by using plastic and paper, we can make the earth healthier. It is because every consumption of energy and goods from our daily activities produces greenhouse gas emissions that can accelerate global warming. These greenhouse gases create a warmer earth that threatens the safety of the organisms that live in it. This temperature change will cause climate change.

For Workers who will carry out good activities who work as ASN, Factory Workers, Burh from now on start reducing the frequency of using private motorized vehicles: For distances less than 500 m, make it a habit to walk, other than that it is healthier. Use bicycles for non-exhaust transportation. For distances of more than 3 km, you can share a vehicle (carpooling).

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