

ABSTRACT

Sustainable energy consumption in addition to have a positive impact on economic development also have a negative impact of increased carbon dioxide emissions, in particular energy consumption issued by BRICS is a collection of emerging economies comprising Brazil, Russia, India, China and South Africa. Five countries predicted to be the strongest developing countries that can dominate the international market share in the future. This study aimed to analyze the effect of the consumption of fossil fuels (coal, petroleum and natural gas) and renewable against carbon dioxide emissions with a case study of five BRICS countries. The method used in this research is multiple linear regression analysis (Ordinary Least Square) with panel data regression Fixed Effect Model (FEM) in the time series from 1995 to 2013, or for 19 years and cross section data of five BRICS countries, namely Brazil, Russia, India, China and South Africa. Fixed Effect Model is used to observe the interaction.

The results showed variable of energy consumption of petroleum and natural gas have positive and significant impact on carbon dioxide emissions, while the variable of consumption of coal energy have positive effect but not significant to the variable of carbon dioxide emissions, it is due to the existence of the behavior from different data to each BRICS-state. Variable of renewable energy consumption negatively affect carbon dioxide emissions.

Keywords: carbon dioxide emissions, energy consumption, panel data regression, Fixed Effect Model.