Examining the Relationship Between Energy Consumption, Economic Growth and Environmental Degradation in Indonesia: Do Capital and Trade Openness Matter?

Title	Examining the Relationship Between Energy Consumption, Economic Growth and Environmental Degradation in Indonesia: Do Capital and Trade Openness Matter?
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Abstract	This paper examines the relationship between energy consumption, economic growth, and environmental degradation in Indonesia in 1965-2018 with the inclusion of gross capital formation and trade openness as relevant factors. The autoregressive distributed lag model to cointegration, fully modified ordinary least squares, dynamic ordinary least squares, and canonical cointegrating regression approach applied to estimate this relationship. The result of cointegration confirms the existence of a cointegration relationship between energy consumption, economic growth, gross fixed capital formation, trade openness, and environmental degradation. The empirical result, in the long run, indicates that energy consumption, economic growth, and trade openness have a positive relationship with environmental degradation. However, the gross fixed capital formation was found to be negatively associated with environmental degradation. It implies that gross fixed capital formation plays a pivotal role in reducing environmental degradation in Indonesia.ÃƒÂ‚Ã‚Â The error correction model coefficient indicates that the deviation of CO2 emissions from its long run equilibrium will be adjusted by 0.53% through the short run channel per annum. The findings of this paper propose implementing an energy policy that focuses on energy from environmentally friendly sources. It is also recommended to reverse the effect of openness to the international markets to improve and facilitate access to advanced and environmentally friendly technologies to mitigate environmental degradation and improve environmental quality.
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