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The causal nexus between economic growth and energy consumption: new evidence from global panel of 53 countries

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Highlights

- This study investigates the causal relationship between energy consumption and economic growth on a global panel of 53 countries during the period 1990-2014.
- We use the panel co-integration technique to reveal that the long-term relationship between variables and the Vector error correction model (VECM) to determine the direction of causality in the short and long-terms.
- A bidirectional Granger causality between economic growth and energy consumption for the global panel both in the short and long runs
- For African and Middle East countries; a short and long-run bidirectional causality between energy consumption and economic growth is found.
- A unidirectional causality from energy consumption to economic growth is found for the European countries both in the short and long runs.
- For the European, African and Middle East countries, only short and long-runs unidirectional causality running from FDI to economic growth is revealed.

Abstract

This study investigates the causal relationship between energy consumption and economic growth on a global panel of 53 countries. Using the panel data for the period of 1990-2014, the direction of causality between these two variables is also explored. The panel co-integration technique is used to reveal the long-term relationship between variables and the Vector error correction model (VECM) is applied to determine the direction of causality in the short and long-terms. The results show that there is a long run positive relationship between economic growth and energy consumption. The causality results reveal that there is a bidirectional Granger causality between economic growth and energy consumption and between economic growth and FDI for the global panel both in the short and long runs. Separately, the same results are also observed for the American countries. For African and Middle East countries; a short and long-run bidirectional causality between energy

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