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EXPLORING THE INCOME ELASTICITY OF DEMAND FOR ENERGY IN AFRICA

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Overview

The paper provides an overview of various theoretical and methodological aspects of approaches used to test the interaction between primary energy consumption and income and discusses the appropriateness of drawing policy conclusions on the basis of the energy-income nexus in Africa.

Methods

To test the causal relationship between primary energy consumption and income, a panel Granger-type causality test will be performed mainly using data from 42 African countries. Zachariadis (2006) provide a recent review of the literature. Arellano and Bond (1991) GMM methodology is appropriate to conduct such investigation. The direction of the causality is an important economic issue. Furthermore, Hadri's (2000) panel unit root test and eventually Pedroni's (1997, 2000) cointegration test is employed. The long run estimates are computed using the FMOLS. Furthermore, the impact of business cycles on the income elasticity of energy is evaluated using the GEE approach.

Results

Bi-directional causality prevails. The variables are found to be $I(1)$ and cointegrated. The long run elasticity of income is below unity. Energy consumption in Africa is found to be pro-cyclical.

Conclusion

Following our a-priori expectation, energy is a necessity in Africa and may constitute an important channel towards alleviating inherent socio-politico-economic problems in Africa.

References

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