

ENERGY CONSUMPTION, ECONOMIC GROWTH, AND POLLUTION IN SELECTED OPEC COUNTRIES: TESTING THE ENVIRONMENTAL KUZNETS CURVE HYPOTHESIS

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Abstract

This study attempted to investigate empirically the causal relationships among energy consumption, pollution, and economic growth for a panel of 8 selected OPEC countries over the period 1971-2008 inspiring panel data techniques. The findings showed that in the long-run equilibrium there is a bi-directional causality between energy consumption, and CO_2 emissions and a uni-directional causality running from economic growth to energy consumption, and pollution. In the short-run, the causality resulted also pointed out a uni-directional causality from economic growth to CO_2 emissions and from energy consumption to CO_2 emissions, and economic growth. Finally, since economic growth causes CO_2 emissions both in the short-run and in the long-run, we examined the functional form of the environmental Kuznets Curve. Our findings suggested a cubic (i.e. N-shaped) relationship between economic growth and CO_2 emissions for the countries under analysis. Therefore, panel data analyses did not confirm the inverted u-shaped Environmental Kuznets Curve hypothesis.

Keywords: Panel cointegration, Panel causality, Energy consumption, and Environmental Kuznets Curve

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