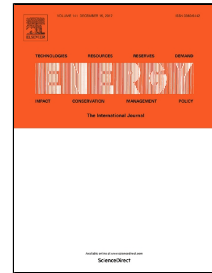


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# The Relationship between Energy Consumption, Urbanization, and Economic Growth in New Emerging-Market Countries

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## Abstract

This study investigates the causal relationship between energy consumption, urbanization and economic growth using Dumitrescu-Hurlin panel Granger causality test for the period 1971-2014 in New Emerging-Market Countries( Colombia, India, Indonesia, Kenya, Malaysia, and Mexico). Bivariate and trivariate panel Granger causality analyses which detect joint causality effect from two series to another are applied. According to the bivariate analysis, there is panel Granger causality from economic growth to energy consumption, and from urbanization to energy consumption and economic growth. According to the trivariate analysis, there is panel Granger causality from energy consumption and urbanization to economic growth, from economic growth and urbanization to energy consumption, and from energy consumption and economic growth to urbanization.

Keywords: Energy consumption; Urbanization; Economic Growth; Dumitrescu-Hurlin panel Granger causality test; Carrion-i Silvestre panel stationarity test

## 1. Introduction

The purpose of this article is to examine the relationship between energy consumption, urbanization, and economic growth in new emerging-market countries. These “lucky six” countries are Colombia, India, Indonesia, Kenya, Malaysia, and Mexico. The concept of “New Emerging-market Countries” is suggested by some academic analysts such as Bremmer[1]. It is claimed that these six countries can replace BRICS because these markets seem good governance and sustainable growth and also because these are tipped to provide some of the most exciting growth opportunities for consumer goods manufacturers. In this context, we used the alleged concept of “New Emerging-market Countries”. Beyond these, according to BP[2], “ world GDP is expected to double over the next two decades driven by fast-growing emerging economies, as more than 2 billion people will be lifted from low incomes”.

In macroeconomic context, while urbanization turns out specialization in economy, industrialization and acceleration in economic development is dependent upon this; urbanization enhances both residential and industrial energy consumption. It is a fact that high urbanization ratio is positively related to high income level. This is because while urbanization provides a shift in production structure from agricultural sector to tertiary and industrial sectors, it also reveals a tendency to a technology-oriented production structure. Therefore, it brings about an acceleration process of increase in energy consumption. In this context, phenomena of economic development and growth generate both urbanization and a structure in which energy consumption increases as a result of the structure of consumption and production that urbanization leads. For this reason, we examine whether or not they have this structure.

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