

Nexus Between Energy Consumption and Economic Growth: Empirical Evidence From India

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Abstract

Energy consumption has assumed an indispensable importance in the modern era as it plays a significant role in national production and human development. In particular, the importance of electricity consumption in socio-economic development of a nation cannot be overemphasized. The shortages in the electricity supplies retard the economic growth as most of the economic activities can't be undertaken altogether due to power outages. In this context, this paper examines the nexus between electricity consumption and economic growth of India for the period 1971 to 2014 by incorporating the energy as measured by electricity consumption in the Mankew-Romer-Weil empirical model of economic growth. The use of Toda-Yamamoto Granger non-causality test lends to support the conservation hypothesis that economic growth is the driver of energy consumption. Thus, the implication is that the energy conservation policy can be adopted without having adverse effects on economic growth of India.

Key Words: *Energy, Electricity, Energy Conservation, Economic Growth, India.*

1. Introduction

In this globalized modern era, energy resources are regarded as the important pillars of economic growth and energy in the form of electricity is universally recognized as one of the most important catalysts for economic growth and human development. Electricity provision is always expected to lead to the higher economic growth and its shortage retard the growth process in any economy as most of the industrial activities can't be undertaken altogether due to power outages (Siddiqui, 2004). The social life comes to halt, e.g., electronic gadgets like computer, television, A.C, cooler, refrigerators and other amusement devices altogether stop working during the few moments of power outages. Electricity consumption has become indispensable in all major activities of health and education. Thus, there is no doubt that electricity is one of the most basic materials of the global economy, which plays an important role in national production and human development (Wei & Gang, 2012). Globally, the countries with large per capita income are the ones with high per capita energy consumption. Wealthy economies show stronger correlation between electricity use and wealth creation (Ferguson *et al.*, 2000). The rapid energy consumption and economic growth experienced in most of the East Asian countries since the

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