

Examining the Missing Feedback Link in Environmental Kuznets Curve Hypothesis

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Abstract : The inverted U-shaped Environmental Kuznets curve (EKC) demonstrates (pollution-income relationship) that initially the pollution and environmental degradation surpass the level of income per capita; however this trend reverses since at the higher income levels, economic growth initiates environmental upgrading. However, what effect does increased environmental degradation has on growth is the missing feedback link which has not been addressed in the EKC hypothesis. This paper examines the missing feedback link in EKC hypothesis in Indian context by examining the casual association between fossil fuel consumption, carbon dioxide emissions and economic growth for India. Fossil fuel consumption here has been taken as a proxy of driver of economic growth. The casual association between the aforementioned variables has been analyzed using five interventions namely 1) urban development for which urbanization has been taken proxy 2) industrial development for which industrial value added has been taken proxy 3) trade liberalization for which sum of exports and imports as a share of GDP has been taken as proxy 4) financial development for which a) domestic credit to private sector and b) net foreign assets has been taken as proxies. The choice of interventions for this study has been done keeping in view the economic liberalization perspective of India. The main aim of the paper is to investigate the missing feedback link for Environmental Kuznets Curve Hypothesis before and after incorporating the intervening variables. The period of study is from 1971 to 2011 as it covers pre and post liberalization era in India. All the data has been taken from World Bank country level indicators. The Johansen and Juselius cointegration testing methodology and Error Correction based Granger causality have been applied on all the variables. The results clearly show that out of five interventions, only in two interventions the missing feedback link is being addressed. This paper can put forward significant policy implications for environment protection and sustainable development.

Keywords : environmental Kuznets curve hypothesis, fossil fuel consumption, industrialization, trade liberalization, urbanization

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