The effects of regional trade integration and renewable energy transition on environmental quality: Evidence from South Asian neighbors

Muntasir Murshed,Rizwan Ahmed,Chamaiporn Kumpamool,Mohga Bassim,Mohamed Elheddad

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Abstract

Improving environmental quality across South Asia has become one of the utmost important policy agendas of the concerned governments. The susceptibility of the majority of the South Asian countries to multifaceted climate change adversities has motivated the need to identify the factors that can function to ensure environmental sustainability across South Asia. Although several studies have highlighted the importance of globalization and cleaner energy use in tackling the environmental degradaton issues of the South Asian countries, very little is known regarding the impacts of regional trade and renewable energy transition in this regard. Hence, this paper aims to scrutinize the effects of enhancing intra-regional trade integration and undergoing renewable energy transition on per capita carbon dioxide emissions in the context of six South Asian nations between 1990 and 2016. The results from the recently developed cross-sectionally augmented autoregressive distributed lag regression approach, accounting for cross-sectional dependency and slope heterogeneity issues, reveal that facilitating trade among the South Asian neighbors reduces carbon emissions in both the short and long run. Moreover, enhancing the share of renewable energy in the aggregate energy consumption figures is also found to reduce carbon dioxide emissions in both the short and long run. Furthermore, both regional trade integration and renewable energy transition are found to jointly reduce carbon dioxide emissions in South Asia. The results also authenticate the existence of the environmental Kuznets curve hypothesis, while financial development and urbanization are found to boost carbon dioxide emissions only in the long run.