

THE IMPACT OF TRADE OPENNESS AND FOREIGN DIRECT INVESTMENTS ON CO₂ EMISSIONS: THE CASE OF SMALL AND LARGE EMITTER ECONOMIES IN SOUTH ASIA

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This research aims to investigate the relationship between trade openness, FDI, and carbon dioxide (CO₂) emissions in South Asia, distinguishing between small and large emitter economies. Utilizing the Autoregressive Distributed Lag (ARDL) model, this study seeks to provide empirical insights into the dynamics of these interactions. An autoregressive distributed lag (ARDL) econometric method is employed to explore the relationships between these variables. Descriptive statistics were computed for Sri Lanka, a small emitter country, India, a large emitter in the region, and South Asia facilitating comparative analysis. The results show a positive relationship between trade openness and CO₂ emissions for Sri Lanka, while it is negative for India and South Asia implying the differences in technological efficiency and environmental practices that affect the carbon intensity of production. The statistical significance of trade openness is confirmed for CO₂ emissions in Sri Lanka ($p < 0.05$) however, it is not significantly evident for India and South Asia. FDIs exhibit a significant ($p < 0.05$) negative relationship with CO₂ emissions in Sri Lanka, while it is positive for India and South Asia. More stringent environmental regulations and encouraging environmentally responsible practices for foreign investors in Sri Lanka may cause a negative relationship between FDIs and CO₂ emissions. Clean energy shows a significant negative relationship with CO₂ emissions in Sri Lanka implying the importance of diminishing reliance on fossil fuels for electricity generation and adoption of technologies like hydroelectric, solar, and wind power. Urbanization shows a significant negative relationship with CO₂ emissions for Sri Lanka while it is positive for India and South Asia. A lesser urban population with smaller urban geographical areas in Sri Lanka compared to India and South Asia enables the country to have effective urban planning policies in prioritizing sustainability aiming mitigation of CO₂ emissions in those areas.

Keywords: Clean energy, Economic growth, Environmental kuznets curve, Sustainability, Urbanization,