

Factors Affecting Co₂ Emission in BRICS Nations: An Empirical Study

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Abstract

This study investigates the factors influencing Co₂ emissions in BRICS nations. This research paper studies the panel data from 1990 to 2022 years and a panel model is used to establish a relationship between the variables. Co₂ emission serves as the dependent variable, while independent variables include urbanisation, net inflow of foreign direct investment (FDI), exports of goods and services, energy consumption, and the share of coal in power generation. To ensure model adequacy, the study employs cross-sectional dependence tests, unit root tests, and the Breusch Pagan Godfrey (BPG) Heteroskedasticity Test. Furthermore, the study employs Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) to assess the robustness of results. The study suggests that urbanization, the share of coal in power generation, and energy consumption per capita exhibit a strong relationship with Co₂ emissions. BRICS, one of the fastest-emerging groups globally, plays a significant role in the world order. This study contributes to the debate on unplanned urbanisation and the use of coal in power generation, both of which contribute to Co₂ emissions. Thus, the study argues that effective policies addressing coal usage in power generation and promoting planned urbanisation can mitigate Co₂ emissions in emerging nations. The findings of this study are valuable for policymakers, researchers, and government bodies in formulating effective policies. Additionally, other emerging economies can utilise this study to assess the impact of similar variables on Co₂ emissions.

Keywords: Co₂ emission, Share of Coal in Power Generation, Energy consumption per capita, FDI net inflows, Sustainable Development Goals, Urbanisation