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The Influence Of Ict Over Sustainable Development: A Fresh Approach

Abstract: In the era of development, the world is facing severe challenges, and environmental degradation is one of them. However, the globe has tried to introduce several initiatives to fight for environmental sustainability, such as the Sustainable Development Goals. The leading role of the proposed goals is to balance development and environmental anxiety. Therefore, to these issues, artificial intelligence and technological advancements play a vital role in the natural resource economy in the digital age. Policy analysts are always looking for solutions and have come up with several viable remedies to this problem. Consequently, information & communication technology (ICT) plays a significant role in sustainability in the digital era. However, under the theme of natural resource sustainability, the effectiveness of ICT has a significant impact on sustainability. Accordingly, the current study investigates the long-run effect of income per capita, tourism, natural resources rents, urbanization, and ICT on environmental sustainability in 36 OECD economies from 2000 to 2018. The current research employs an Augmented Mean Group (AMG) and two-step GMM to investigate the study's objectives. Results show the positive contribution of urbanization, natural resources, and tourism to CO₂ emissions, while ICT reduces emissions. An inverted EKC curve is also validated for selected economies. In addition, the moderate effect of ICT on urbanization, natural resources, and tourism shows a significant decline in CO₂ emissions. In light of the findings, this study recommends several crucial measures for environmental sustainability.

Keywords: Augmented Mean Group (AMG); two-step GMM; urbanization; natural resources; tourism; CO₂ emissions; ICT

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At the academic and research level, Daniel Balsalobre is an expert in public finance, energy economics, economic growth and environment, tourism, and innovation and globalization. In recent years I have published more than 100 studies in journals and book chapters of reputed prestige and international scientific impact, including Energy Economics, Energy Policy, Resources Policy, Technological Forecasting and Social Change, Journal of Cleaner Production, Sustainability, Environmental Science and Pollution Research, Energies, and Journal of Public Affairs, among others. Prof Balsalobre currently serves as editor-in-chief of Evaluation Review (SAGE) and associate editor at Heliyon (Elsevier) and Environment, Development and Sustainability (Springer). I am also a guest editor for Renewable Energy (Elsevier), Utilities Policy (Elsevier), Energy Sources Part B (Taylor), Sustainability (MDPI), Energies (MDPI), among others; also being an expert reviewer of more than 300 articles for highly indexed journals and handbooks. As a result of his academic career, he currently accumulates around 11000 citations in google scholar and h-index 45 and has entered the International Ranking elaborated by Stanford University for those top2% Researchers and 2022 Clarivate Highly cited authors. I've received some Awards as Regional Best Researcher in Social Sciences in Castilla La Mancha