

2022
February 18-19
Webinar**14th International Conference on
Biofuels and Bioenergy****Gbenga Daniel Akinsola**

Grine American University, Northern Cyprus

Can CO₂ emissions and energy consumption determine the economic performance of South Korea? A time series analysis?

Following the United Nations Sustainable Development Goals (UN-SDGs), which place emphasis on relevant concerns that encompass access to energy (SDG-7) and sustainable development (SDG-8), this research intends to re-examine the relationship between urbanization, CO₂ emissions, gross capital formation, energy use, and economic growth in South Korea, which has not yet been assessed using recent econometric techniques, based on data covering the period between 1965 and 2019. The present Study utilized the autoregressive distributed lag (ARDL), dynamic ordinary least square (DOLS), and fully modified ordinary least squares (FMOLS) methods, while the gradual shift and wavelet coherence techniques are utilized to determine the direction of the causality. The ARDL bounds test reveals a long-run linkage between the variables of interest. Empirical evidence shows that CO₂ emissions trigger economic growth. Thus, based on increasing environmental awareness across the globe, it is necessary to change the energy mix in South Korea to renewables to enable the use of sustainable energy sources and establish an environmentally sustainable ecosystem.

Conclusion: The current study adds to the previously existing literature by assessing the linkage between economic growth, CO₂ emissions, energy usage, urbanization, and gross capital formation in South Korea using yearly data stretching between 1965 and 2019. To accomplish the stated objectives, the ARDL bounds test, the gradual shift causality test, and the novel wavelet coherence test are utilized. Furthermore, the outcomes of the ARDL long-run and short run estimations show that energy usage, urbanization, and CO₂ emissions enhance the economic performance of South Korea, while gross capital formation exerts an insignificant impact on the economic performance of South Korea. Furthermore, the wavelet coherence test outcomes provide further support for the ARDL, FMOLS, and DOLS tests. The gradual shift causality test outcomes provide intuition and credibility to the linkage among economic growth and urbanization, energy usage, gross capital formation, and CO₂ emissions.

Keywords "CO₂ emissions" "Economic growth" "Urban population" "Energy consumption" "Gross capital formation" "South Korea"

Biography

Gbenga Daniel Akinsola was born in the 1980s. He received a BSc in Computer Engineering in 2012 from European University of Lefke in Northern Cyprus. He also received his MBA in Business Administration from Cyprus Science University in 2018, and also MSc in Management Information system from Cyprus International University in 2020. He is currently writing his thesis for his PHD degree in Business management at Grine American University.

gbengadan@yahoo.co

Received: January 02, 2022 | **Accepted:** January 15, 2022 | **Published:** February 19, 2022