

ECONOMIC DEVELOPMENT, CO₂ EMISSIONS AND FOSSIL FUEL CONSUMPTION IN TURKEY: AN ARDL BOUNDS TESTING APPROACH

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Abstract

Turkey has experienced a significant increase in energy consumption and carbon emissions in recent decades. The country is a candidate for full membership to the European Union and likely to face significant pressures to decrease her emission of carbon dioxide. This paper examines the long run Granger causality relationship between economic growth, carbon dioxide emissions and energy consumption from 1971 to 2007 in Turkey, controlling for capital stock and employment. Our finding from using autoregressive distributed lag bounds testing approach of cointegration suggest that in the long-run energy consumption, CO₂ emission and capital formation Granger causes economic growth in the long run, while the results from error-correction model shows that in the short run only capital formation Granger causes economic growth. The results suggest that while controlling for carbon emissions is likely to have desirable effect on the real output growth of Turkey, the energy conservation policies will have adverse effect on economic growth in the long run.

Keywords: Carbon dioxide emission, economic development, fossil fuel consumption, causality.

JEL classification codes: O40, Q40, Q43, Q50.