

Title: Links between technological innovation, financial efficiency and environmental quality using quantile regressions: The role of foreign direct investment, institutional quality and natural resources

Author: Rashed Al Karim, Mohammad Rokibul Kabir, Md Karim Rabiul, Sakia Kawser & Abdus Salam

Abstract: Policymakers and academics are interested in identifying mechanisms that promote environmental sustainability due to their relationship with climate change. This research evaluates the channels that transmit the effect of technology and financial efficiency on environmental quality. The relationship is moderated by real production per capita, foreign direct investment, natural resource rents, and institutional quality in the context of the Environmental Kuznets Curve. The research covers the 1996–2021 period for a sample of 88 economies classified into three groups according to the World Bank Atlas Method. We use second-generation cointegration techniques with structural breaks and quantile regression models. The findings offer sufficient evidence to conclude that the impact of technology and financial efficiency on environmental quality is heterogeneous throughout the distribution. Our findings suggest that technology is more associated with maximizing production than mitigating or restoring environmental deterioration. A policy implication derived from our research is to encourage the generation of carbon-free technology and promote financial efficiency in upper-middle-income countries to achieve environmental sustainability.

Keywords: Technology, Financial efficiency, Environmental quality, Cointegration, MMQR

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