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Impact of financial structure on environmental quality: evidence from panel and disaggregated data

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ABSTRACT

This paper examines two unresolved issues regarding the nexus between financial system development and environmental quality. (i) Does the structure of the financial system matter? (ii) Is there a nonlinear relationship? We employ the newly developed dynamic common correlated effect (CCE) and the dynamic panel generalized method of moments (GMM) estimators in order to address potential endogeneity, heterogeneity and cross-sectional dependence in a panel of 58 countries. The panel data analysis reveals that the structure of the financial system matters in safeguarding environmental quality. More precisely, bank-based financial development enhances environmental quality, whereas the impact of market-based financial development is tenuous. We find some evidences of a nonlinear relationship between financial system development and environmental quality. The disaggregated data reveals the countries where financial structure matters for environmental quality, and countries where a nonlinear relationship exists between the variables. Therefore, countries that want to maintain environmental quality should strengthen the development of bank-based financial system. Moreover, effort to develop and reposition the stock markets should be prioritized in countries' environmental policies with a view to sustaining environmental quality.

KEYWORDS

Economic growth; environmental quality; financial structure; panel data

1. Introduction

An investigation into the main determinants of environmental quality has increased in recent years because of the growing concentration of carbon emissions and other greenhouse gases in the atmosphere. These are largely accentuated by human activities such as energy consumption, economic activities, agricultural production, industrial processes, and urbanization (Charfeddine and Khediri 2016). Thus, Moghadam and Dehbashi (2018) posited that the environmental problems associated with the quest to attain higher economic growth have become a controversial issue in recent years due to the undesirable environmental changes that may accompany such activities. It is important to ensure environmental quality because of the potential dangers of such emissions and gases to the atmosphere and global warming. This could disrupt the functioning of the ecosystems, and ultimately undermine the necessary conditions for human welfare. Environmental quality could be influenced by financial development because of its effect on economic growth and energy consumption that aggravate the environment (Beck and Levine 2004; Ehigiamusoe and Lean 2019; Kakar 2016; Topcu and Payne 2017).

The development of the financial system could influence environmental quality by enabling firms to adopt advanced energy-saving and cleaner technologies or renewable energy that are environmental friendly. As the economy expands, the financial system also develops and assumes greater importance. Financial development could also enhance the funding of environmental projects at

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