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Unravelling the Determinants of Economic and Environmental Sustainability in China: New Insights from Aggregated and Disaggregated Data

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ABSTRACT

The sustainability decoupling challenge in China involves how to separate the rapid economic growth from massive energy consumption and severe carbon dioxide (CO2) emissions. This challenge persists because economic expansion has not aligned effectively with environmental quality despite the substantial investment in environmental governance. Hence, the need to attain the desired synergy between economic and environmental objectives motivated this study to unravel the underlying determinants of economic growth and environmental quality at the national and provincial levels. To account for cross-sectional dependence, it deploys the Augmented Mean Group (AMG). The results show that energy consumption promotes economic growth but also intensifies CO2 emissions in China and most Chinese provinces. It further reveals that CO2 emissions contribute to economic growth in China and some Chinese provinces, reinforcing the trade-off between the two variables. Although innovation enhances economic growth, it has a tenuous impact on environmental quality. Notably, investment in environmental governance has an insignificant impact on economic and environmental sustainability, implying inefficiency of government intervention in sustainable economic development. These findings offer insights into the factors underpinning sustainability decoupling in China, and provide vital policy recommendations for attaining effective pathways to sustainable development.

Keywords: Economic growth; Environmental sustainability; Energy consumption; Government intervention; Sustainable development

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