Determinants of Blue Economy in ASEAN Region: Evidence from the MMQR Approach

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Abstract

The blue economy has become a key pillar of sustainable development in the ASEAN region, which collectively represents a highly diverse economic landscape, given that the region contributes a substantial share of global fisheries production while facing increasing pressure from marine environmental degradation. Prior research has tended to examine the determinants of the blue economy in a fragmented manner and assume uniform effects across countries, overlooking the possibility that countries at different levels of fisheries performance may respond differently. This lack of distributional analysis limits the formulation of well-targeted policies under the ASEAN Blue Economy Framework. This study examines the effects of gross fixed capital formation, trade openness, financial development, institutional quality, information and communication technology, and carbon emissions on fisheries production across 10 ASEAN countries during 2010–2023, using the Method of Moments Quantile Regression supported by robustness checks. The results show that capital formation, financial development, and ICT have significant positive effects across all quantiles, while trade openness and emissions have significant negative effects. Institutional quality has a positive effect only at low to medium quantiles, losing significance at high quantiles. This pattern suggests that governance plays its most decisive role among low-quantile countries, whereas capital and financial factors become primary drivers for high-quantile ones. These findings indicate that uniform policies are ill-suited to heterogeneous ASEAN.

Keywords: Blue Economy, Fisheries Production, ASEAN, Sustainable Development, MMQR