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ENVIRONMENTAL REGULATION AND MARINE ECONOMIC EFFICIENCY: A PANEL DATA ANALYSIS OF CHINA'S COASTAL AREAS

Abstract:

The question of how environmental regulation affect economic efficiency has long been controversial and widely debated. The traditional view held by neoclassical economists argue that (strict) environmental policies are damaging to businesses by imposing unnecessary administrative and compliance costs on the targeted industries, which can adversely affects productivity and competitiveness with possible adverse implications for economic growth and jobs. However, Porter (1991) and Porter and van der Linde (1995) challenged the conventional wisdom and had an alternative view, known as 'Porter Hypothesis' (PH). They commented that studies should not just focus on static cost impacts and further argued that well-designed environmental regulations can actually trigger innovation that may partially or more than fully offset compliance costs and enhance firms' productivity.

Today, especially in many developing countries like China, this debate attracts much attention and entails significant policy ramifications. As a large country with a long coastline, China has abundant maritime resources and a vast ocean territory, and the Chinese government has attached great importance to the development of its marine economy. However, policies focusing on the development of marine economy unavoidably face a dilemma. This paper aims to test the Porter Hypothesis in China's marine economy using data from 11 provinces (or municipalities) in China's coastal areas. The Super-Efficiency Slacks-Based Measure (SE-SBM) model is used to illustrate the marine economic efficiency considering undesired outputs. The results of the system Generalized Moment Method (GMM) regression support a U-shaped relationship between the two variables, with one threshold effect of the environmental regulation intensity. It is also verified the implementation of the environmental regulation policy has a time-lag effect. The paper concludes with detailed explanation for the effects of environmental regulation and policy on the development of marine economy in China, offering data support for policy recommendations.

Keywords:

Environmental regulation, Porter Hypothesis, economic efficiency, SE-SBM model, panel data

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