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PERFORMANCE ANALYSIS WITH CARBON FOOTPRINTS IN CHINA: CONSIDERING THE INDUSTRY HETEROGENEITY

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Abstract

Environmental pollution is an anthropogenic phenomenon as a consequence of the industrialization process. Therefore, the balance among energy-economy-pollution performance becomes increasingly important. However, industry heterogeneity exists in the economic system, which makes industry performance differences. This paper focuses on the industrial performance evaluation in China based on the green input-output accounting. For the industrial heterogeneity, a four-stage dynamic Malmquist model is used to identify the different industrial transformation paths of energy conservation and emissions reduction. Furthermore, isolated and unilateral performance evaluation leads to over-incentive in the short periods and under-incentive in the long periods. Considering the intertemporal effect, this paper analyzes the dynamic model by incorporating carry-over activities of fixed assets. Hierarchical clustering is conducted to reveal the bottleneck of industrial performance in China. First, the intertemporal utility of fixed assets is gradually ignored. This implicates the industrial performance development gives up long-term growth opportunities for the special benefit of short-term performance. Next, the genuine managerial performance is contained by the uncontrolled industrial resources endowment. Then, attention should be paid on the active vigilance of the tertiary industry while focusing on the performance improvement of high pollution industries. Last, technical corporation and communication among industries should be encouraged.

Key words: accounting industrial performance, energy conservation, emissions reduction, four-stage Malmquist, green input-output

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