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面向社会经济发展水平的钢铁生产效率DEA动态评价

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Dynamic evaluation of iron & steel production efficiency for the level of socio-economic development ba on DEA approach

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- 摘要
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摘要 提出将钢铁生产对环境造成的负外部性纳入钢铁生产效率评价,且在不同社会经济发展水平下环境负外部性的参与程度不同的评价思想.在此基础上,构建了面向社会经济发展水平的考虑环境负外部性的钢铁生产相对有效性DEA动态评价模型.算例分析表明,不同的社会经济发展阶段会令钢铁生产系统呈现不同的相对有效性,并且不同的环境污染物在相同的社会经济发展阶段对钢铁生产系统的相对有效性有着不同程度的影响.说明该钢铁生产效率评价思想是可行而且有意义的.

关键词: 外部性 社会经济发展水平 钢铁 相对有效性 数据包络分析

Abstract: The negative externalities to the environment in the iron & steel production process should be brought into the efficiency evaluation of the iron & steel production, and the participation level of undesirable outputs should be determined by the level of socio-economic development. Then the dynamic DEA model on the level of socio-economic development-oriented iron & steel production relative efficiency with negative externalities to the environment was constructed. The numerical example demonstrated that different phases of social economic development would make iron & steel production systems present different production relative efficiency, and different environmental contaminants would exert different influences on the relative efficiency of iron & steel production systems in the same social economic development phases, which figured that the method was available and meaningful.

Key words: externality level of socio-economic development iron & steel relative efficiency DEA (data envelopment analysis)

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