Decisions on the Risk-averse Competing Firms under Enhancing Environmental Social Responsibility

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Abstract

This paper studies the decisions of two competing firms with the risk-averse behaviors when enhancing environmental social responsibility (ESR). As a benchmark of two firms without investing ESR, we focus on the other case, that is, one of them invests in ESR. A Nash game together with the conditional value at risk (CVaR) to evaluate the risk-averse behavior is built to model the decisions and the optimal equilibrium solutions are compared under the two cases. We find that once the firm invests ESR, his price will be increased no matter how much his risk-averse degree is. Further, we obtain the conditions under which the firm will select to invest in ESR when he has risk-averse behavior and some important parameters, such as the cost and the demand elasticity, will strongly influence the selection of the firm's green investment.

Keywords
Environmental social responsibility (ESR); Decision policy; Conditional value at risk; Game theory

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Biographies

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