

## 市场信息缺失下的订货与利率稳健决策模型

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## Two-stage online distribution strategy of emergency material

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**摘要** 订货和利率决策是企业 and 金融机构运营活动中的关键决策内容. 考虑市场信息缺失的情形, 构建了由供应商和零售商所组成的供应链系统, 其中, 零售商存在资金约束且通过银行获得融资服务, 利用 Stackelberg 博弈理论和极大极小方法建立了订货和利率的稳健决策模型, 获得了最优的订货量和保证收回本息时的最优利率. 最后数值仿真发现订货和利率决策具有较强的稳健性, 且银行要有意识的防止零售商提供虚假的期望和方差信息, 为信息缺失下的订货和利率决策问题提供了科学参考和管理启示.

**关键词:** 市场信息缺失 资金约束 订货和利率决策 稳健性

**Abstract:** Order and interest rate decisions are the key contents in the operational activities of financial institutions and companies. Considering the lack of market information, this paper established a supply chain system composed of one manufacturer and one retailer, who was budget-constrained and could get financial service from the bank. Using the Stackelberg game theory and maximin approach, the robust decisions model of order and interest rate was set up. The results include the optimal order quantity and optimal interest rate at the promise of the payment of the original investment plus interest. In addition, numerical simulation founds that order and interest rate decisions are robust to a certain extent, and the bank should consciously prevent the retailer from supplying false mean and variance. All of these offer some scientific reference and managerial enlightenment for order and interest rate decisions problem under lack of information.

**Key words:** lack of market information financial constraint order and interest rate decisions robustness

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