

工程与应用

不对称信息和风险规避下的能力期权契约模型

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摘要 针对物流服务供应链中物流能力订购与投资决策问题提出一种基于能力期权契约的协调机制, 建立不对称成本信息和存在风险规避者情形下的双效规划模型, 并通过优化方法研究Stackelberg主从博弈结构下的最优契约设计。研究结果表明: 物流集成商提供的能力期权契约既能揭示物流分包商的真实成本信息, 又能使自身有效规避市场风险, 从而实现物流服务供应链效率的Pareto改进, 但其效果取决于集成商抵抗市场风险的能力。进一步通过仿真算例说明了该能力期权契约的有效性。

关键词 [物流服务供应链](#) [物流能力](#) [能力期权契约](#) [供应链协调](#) [不对称信息](#) [风险规避者](#)

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Capability-option contract model under asymmetric information and risk adverse buyer

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Abstract

A capability-option contract is proposed as a coordination mechanism to solve logistics capability reservation and investment decision problem in Logistics Service Supply Chain (LSSC). Two-constraint programming model is established under the circumstance characterized by asymmetric cost information and risk adverse party coexisting, and the optimal contract based on Logistics Service Integrator (LSI)-led Stackelberg game is designed through optimization method. Results show that not only Logistics Service Subcontractor (LSS)'s true cost information can be revealed, but also LSI's demand risk can be controlled effectively through capability-option contract given by LSI as buyer. Thus it can achieve a Pareto improvement subject to two constraints given above. However, the improvement efficiency depends on the anti-risk capability of LSI. Furthermore, a numerical simulation analysis is given to verify the validity of capability-option contract.

Key words [logistics service supply chain](#) [logistics capability](#) [capability-option contract](#) [supply chain coordination](#) [asymmetric information](#) [risk adverse party](#)

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