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## Option contract design and supply chain coordination

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Option contract has been regarded as an effective approach to achieve supply chain coordination. Given its increasing adoption in industry, we developed an analytical framework and theoretical models to analyze impacts of options design and the optimal strategies of the parties. In consideration of risk attitudes of the chain parties, we further study coordination of a supply chain with options contract between a risk-neutral supplier that produces short-life cycle products and a loss-averse retailer facing with stochastic market demand. We study the optimal policies for the chain members and the coordination of the supply chain. Among a set of meaningful results, we find no pattern difference in order behavior between a loss-averse retailer and a risk-neutral retailer. We show that the optimal order quantity of a loss-averse retailer increases in retail price and decreases in option price and exercise price, which is different from the case of a risk-neutral retailer. We explore the supply chain coordination and prove existence of the Pareto contract in a coordinated supply chain setting.

### Biography

Hao Gang has obtained her PhD from Katz Graduate School of Business at University of Pittsburgh, USA. She is an Associate Professor at College of Business, City University of Hong Kong. Her research interests cover supply chain optimization, revenue management, enterprise risk management, MCDM, and data science applications. She has been publishing in reputed academic journals, participated in a range of company consulting projects and teaching executive courses at all levels.

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