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**Supply chain coordination with an option contract under vendor-managed inventory.** (English) [Zbl 1349.90010](#)

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**Summary:** In this paper, we propose an option contract for a two-echelon supply chain operating under vendor-managed inventory (VMI). We find that the supply chain coordination and Pareto improvement can be achieved synchronously. As a comparison, a subsidy contract is introduced to coordinate the supply chain. The paper further considers the influence of a replenishment tactic on the performance of the supply chain. After introducing a replenishment tactic, the supply chain can replenish the products to satisfy unmet demand during the selling season. We further use an option contract to coordinate the supply chain, and a Pareto improvement can be gained. All our findings are numerically illustrated.

**MSC:**

**90B05** Inventory, storage, reservoirs

**Keywords:**

supply chain management; inventory theory; option contract; coordination; vendor-managed inventory

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