The Effects of Stock Market Reaction on Firms' Inventory Operations

by

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Abstract:
Inventory management is one central problem of operations. The classical inventory theories typically focus on the operational tradeoffs to optimize the inventory decisions. In practice, however, many firms are public that often have short-term interests in their market value. In this research, we aim to understand two possible effects of stock market reaction on firms' inventory operations in the presence of asymmetric information. First, a firm's ordering decision can signal information of its demand prospect to which investors might react strongly in specific events. As a consequence, our equilibrium analysis finds that under the conventional supply contracts, a firm with high demand expectation may over-order to credibly signal its information. This however can lower the firm's true profitability and might also cause unnecessary product returns in the supply chain. We discuss an operational mechanism to restore the operational efficiency as well as to facilitate information signaling. Second, a firm's inventory level can also influence its reported earnings, as more inventory can stimulate the short-term sales and might also deflate the reported cost of goods sold. On the other hand, the investors often do not observe the true demand or cost as the reported information contains noises. Our analysis reveals that in such a situation, a firm that has a short-term interest in its stock price may install more inventory in equilibrium to inflate its earnings. We discuss the determinants of such an effect and also some empirical evidence based on the financial data of the U.S. listed public companies.

Bio:
Guoming Lai is an Associate Professor of Operations Management at the McCombs School of Business, the University of Texas at Austin. He has been interested in the research problems in the areas of supply chain management, Operations/Finance, Operations/Marketing, and healthcare. He has published 22 articles in the journals of Management Science, Operations Research, MSOM, POM and several others. Guoming received his PhD degree and master's degree in Operations from Carnegie Mellon University. He also earned a master's degree and a bachelor's degree in Control Engineering from Tsinghua University in China.

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All are welcome!