

Pooling in Inventory and Service Systems

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Risk-pooling, or statistical economies of scale, is at the heart of many human activities, like insurance and banking. In IE and Operations Management it is manifested in the pooling of inventories, either directly or through delayed differentiation, assemble-to-order and other strategies. The pooling of servers and queues is also based on the same philosophy. We discuss the determinants of inventory pooling benefits and consequences. We also look at decentralized systems, i.e., horizontal supply chains, where firms may cooperate according to notions of cooperative games. The pooling of decentralized queueing systems is also discussed.