

Multi-period Inventory Model with Uncertain Demand

1. EOQ with Uncertain Demand

Notations:

- set up cost per order
- holding cost per item per time
- lead time (positive, could be constant or stochastic)
- demand (annually, stochastic)
- backorder cost per item
- on-hand inventory at time
- # backordered items at time
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- # backordered items during the lead time with reorder point
- order quantity
- reorder point

is a random variable representing demand during lead time

- *If demand during each period is independent and constant*

- *If demand during each period is independent, as well as*