

Inventory control

- When to order?
- How much to order?
- Demand
 - external or internal
 - deterministic or stochastic
 - constant or variable



Why to hold inventories?

- Economies of scale
 - Uncertainties
 - Speculation
 - Transportation
 - Smoothing
 - Logistics
 - Control costs
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- Types of inventories: raw materials, components, work-in-process, finished goods





Relevant issues

- Demand / Excess demand
- Lead time
- Review time
- Changing inventory
- Costs
 - Holding cost
 - Order cost
 - Penalty cost



The EOQ model

Assumptions:

- Demand is known and constant, d units per unit time
- Shortages are not allowed
- Lead time is zero
- Costs
 - Order cost is $K+cx$ for x units
 - Holding cost is h per unit per unit time
- Initial inventory is zero