Management of Inventory

Nature of Inventory

- **Stocks of manufactured products and the material that make up the product.**
- **Components:**
  - raw materials
  - work-in-process
  - finished goods
  - stores and spares (supplies)

Objectives of Inventory Management

- To maintain a large size of inventories of raw material and work-in-process for efficient and smooth production and of finished goods for uninterrupted sales operations.

- To maintain a minimum investment in inventories to maximize profitability.

An effective inventory management should:

- ensure a continuous supply of raw materials, to facilitate uninterrupted production
- maintain sufficient stocks of raw materials in periods of short supply and anticipate price changes
- maintain sufficient finished goods inventory for smooth sales operation, and efficient customer service.
- minimize the carrying cost and time, and
- control investment in inventories and keep it at an optimum level.

Inventory Management Techniques

- **Economic order quantity (EOQ)**
  - ordering costs: requisitioning, order placing, transportation, receiving, inspecting and storing, administration
  - carrying costs: warehousing, handling, clerical and staff, insurance, depreciation and obsolescence
  - ordering and carrying costs trade-off:

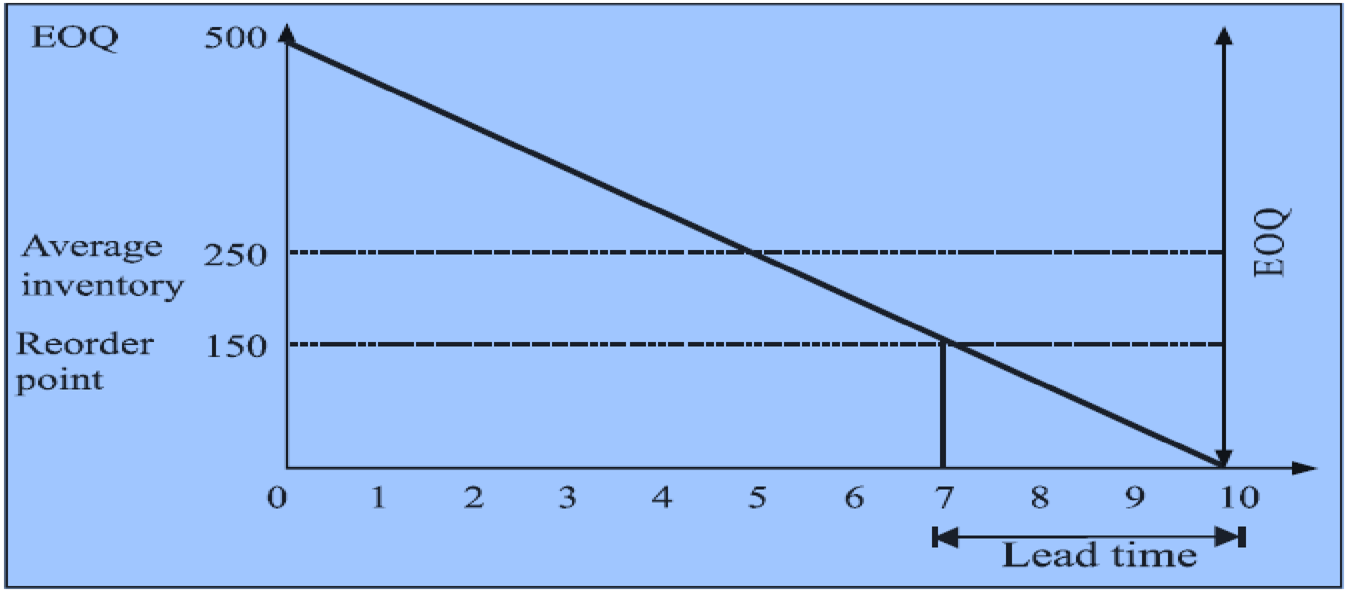
$$\text{EOQ} = \sqrt{\frac{2AO}{c}}$$

Ordering Costs	*Carrying Costs*
• Requisitioning • Order placing • Transportation • Receiving, inspecting and storing • Clerical and staff	• Warehousing • Handling • Clerical and staff • Insurance • Deterioration and obsolescence

Inventory Management Techniques

- **Reorder point under certainty**
  - lead time
  - average usage

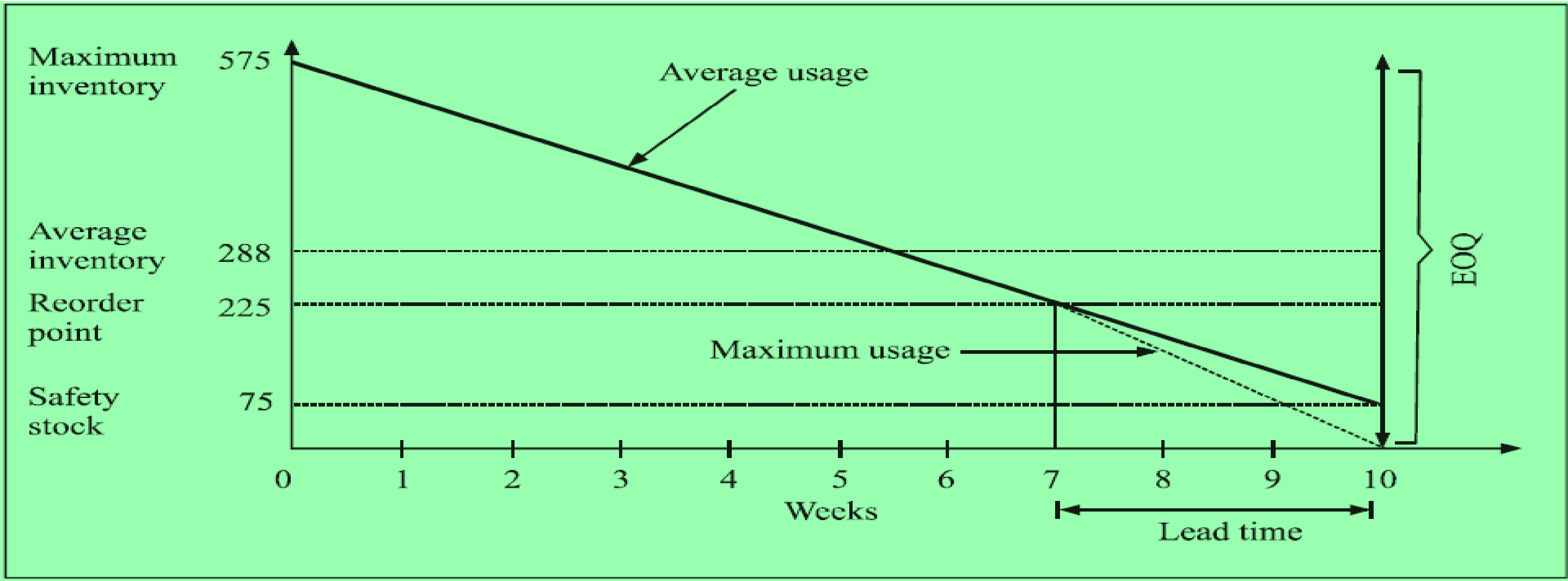
  Reorder point = Lead time x average usage



Cont…

- **Reorder point under uncertainty**
  - safety stock

Reorder point = (Lead time x average usage) + safety stock



Inventory Investment Analysis

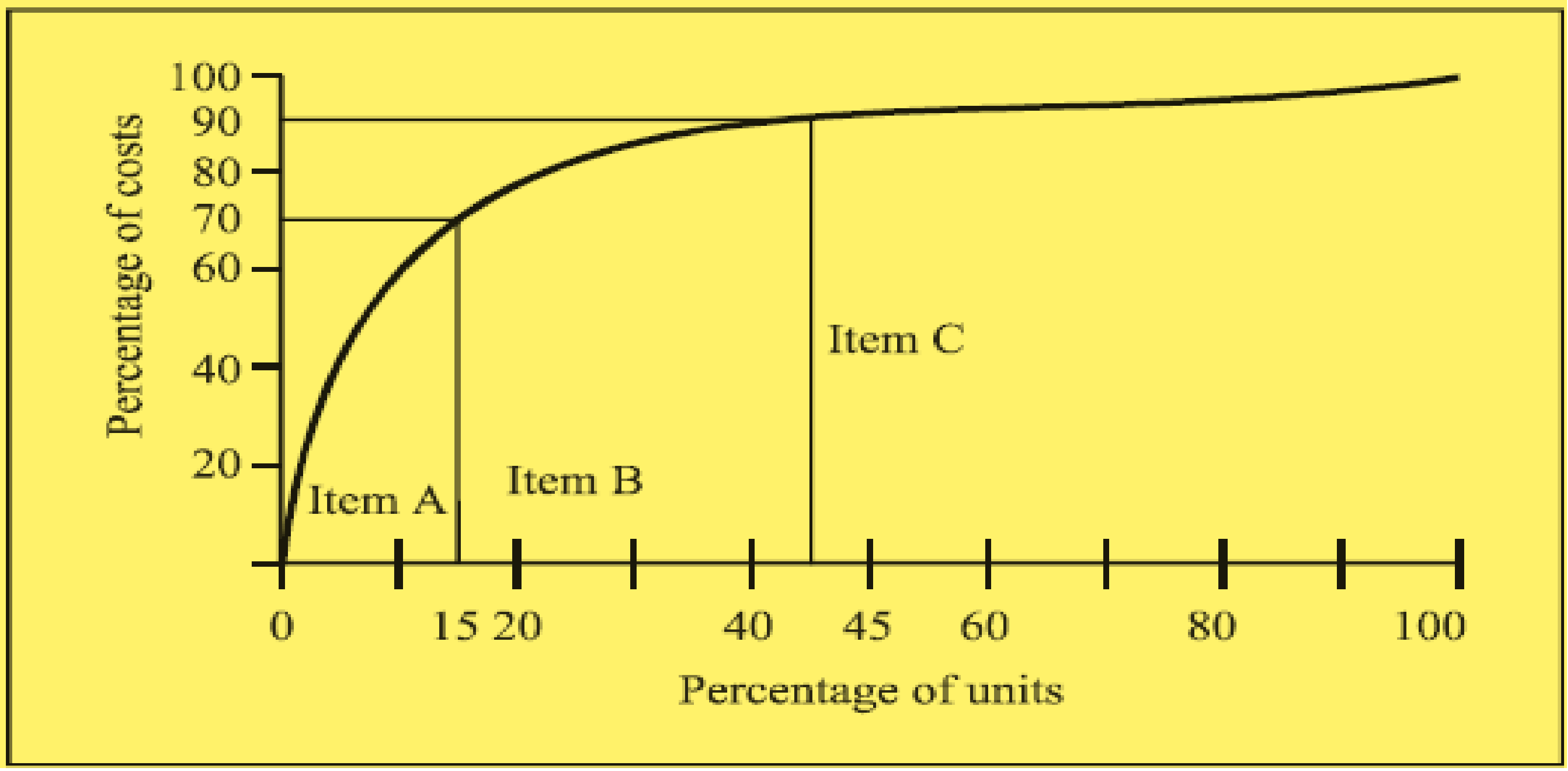
- Estimation of incremental operating profit
- Estimation of incremental investment in inventory
- Estimation of the incremental rate of return (IRR)
- Comparison of the incremental rate of return with the required rate of return (RRR)
- Optimum inventory:

  IRR = RRR

INVENTORY CONTROL SYSTEMS

- ABC Inventory Control System
- Just-in-Time (JIT) Systems
- Out-sourcing
- Computerized Inventory Control Systems

Graphic Presentation of ABC Analysis



Inventory Management Process

- Explicitly state the inventory policy
- Create an inventory monitoring cell
- Management group for controlling purchases
- Periodic meetings between purchase, materials planning and production executives
- Monthly reviews of total inventory at plant/corporate level
- Dovetail inventory control to the total budgeting system
- Identify critical inventory items for closer scrutiny

Management of Debtors / Receivables

INTRODUCTION

- Trade credit happens when a firm sells its products or services on credit and does not receive cash immediately.

- **A credit sale has three characteristics:**
  - First, it involves an element of risk that should be carefully analyzed.
  - Second, it is based on economic value.
  - Third, it implies futurity.

Nature of Credit Policy

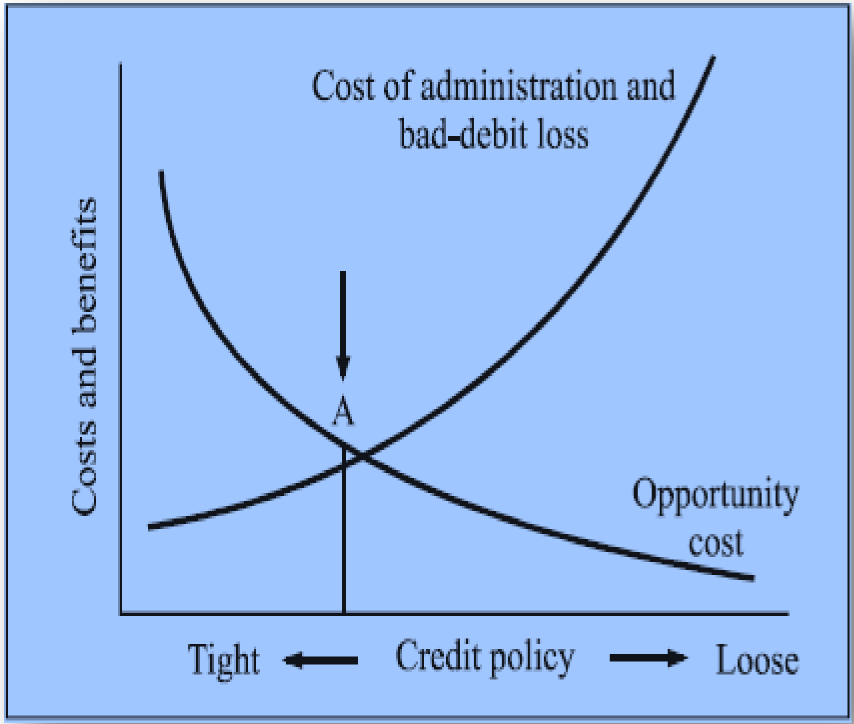
- **Investment in receivable**
  - volume of credit sales
  - collection period
- **Credit policy**
  - credit standards
  - credit terms
  - collection efforts

Goals of Credit Policy

- **Marketing tool**
- **Maximisation of sales Vs. incremental profit**
  - production and selling costs
  - administration costs
  - bad-debt losses

Optimum Credit Policy

- Estimation of incremental profit
- Estimation of incremental investment in receivable
- Estimation of incremental rate of return (IRR)
- Comparison of incre-mental rate of return with required rate of return (RRR)
- Optimum credit policy: IRR = RRR



Costs of Credit Policy

Credit Policy Variables

- Credit standards and analysis
- Credit terms
- Collection policy and procedures

Credit Standards

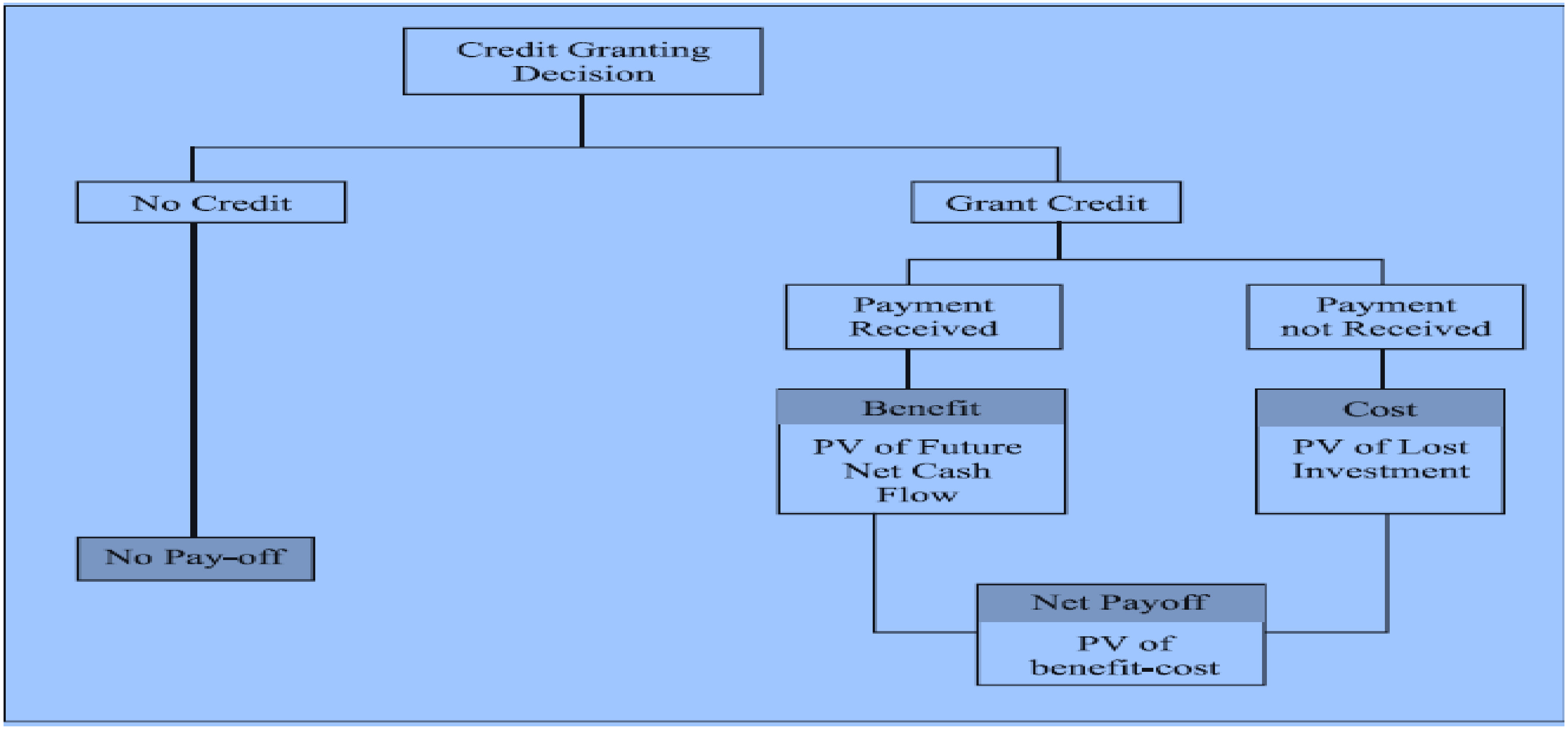
- Credit standards are the criteria which a firm follows in selecting customers for the purpose of credit extension.
- The firm may have tight or loose credit standards.

- **Credit analysis**
  - Average collection period (ACP)
  - Default rate

Cont…

- **Customer categories**
  - good accounts
  - bad accounts
  - marginal accounts
- **Numerical credit scoring**
  - *ad hoc* approach
  - simple discriminant approach
  - multiple discriminant approach

Credit-granting Decision



Credit terms

- Credit period
- Cash discount

Collection policy and procedures

- regularity of collections
- clarity of collection procedures
- responsibility for collection and follow-up
- case-by-case approach
- cash discount for prompt payment

CREDIT EVALUATION OF INDIVIDUAL ACCOUNTS

- **Credit Information**
  - Financial statement
  - Bank references
  - Trade references
  - Other sources
- **Credit Investigation and Analysis**
  - Analysis of credit file
  - Analysis of financial ratios
  - Analysis of business and its management
- **Credit Limit**
- **Collection Efforts**

MONITORING RECEIVABLES

- **Average Collection Period**
- **Aging Schedule**
- **Collection Experience Matrix**

FACTORING

- Factoring may be defined as 'a contract between the suppliers of goods/services and the factor under which
  - (*a*) the supplier and its customers (debtors) other than those for the sale of goods bought primarily for their personal, family or household use;
  - (*b*) the factor is to perform at least two of the following functions
    - (*i*) finance for the supplier, including loans and advance payments;
    - (*ii*) maintenance of accounts (ledgering relating to the receivables);
    - (*iii*) collection of accounts (ledgering relating to the receivables) and
    - (*iv*) protection against default in payment by debtors;
  - (*c*) notice of assignment of the receivables is to be given to debtors'.[18]

Factoring Services

- Credit administration
- Credit collection and protection
- Financial assistance
- Other services

Benefits of Factoring

- Factoring provides specialized service in credit management, and thus, helps the firm's management to concentrate on manufacturing and marketing.

- Factoring helps the firm to save cost of credit administration due to the scale of economics and specialization.