

HS201 - Economics

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# Chapter 1

## Managerial Economics and Theory

Managerial economics applies microeconomics theory to business problem? For example, how to use economic analysis to make decision to achieve firm's goal to profit maximization.

- **Microeconomics**  
Study of behaviour of individual economic agents.

### 1.1 Economic Cost of Resources

**Opportunity cost** of using any resource is what the firm owners must give up to use the resource.

There are two kinds of resources

1. **Market-supplied resources**  
Resources owned by other and hired/rented/leased by the firm.
2. **Owner-supplied resources**  
Resources owned and used by the firm.

### 1.2 Economic Costs

Total economic cost is the sum of opportunity costs of both market-supplied resources and owner-supplied resources.

$$\text{Total economic cost} = \text{Explicit cost} + \text{Implicit cost}$$

1. **Explicit Costs**  
It is the monetary payments to owners of market-supplied resources.
2. **Implicit Costs**  
Non-monetary opportunity costs of using owner-supplied resources.
  - **Equity Capital**  
Opportunity cost of cash provided
  - Opportunity cost of using land or capital owned by the firm
  - Opportunity cost of owner's time spent managing or working for the firm

### 1.3 Profit

$$\begin{aligned}\text{Economic profit} &= \text{Total revenue} - \text{Total economic cost} \\ &= \text{Total revenue} - \text{Explicit cost} - \text{Implicit cost}\end{aligned}$$

$$\text{Accounting profit} = \text{Total revenue} - \text{Explicit cost}$$

The objective is to maximize **economic cost**.

## 1.4 Demand

The amount of a good or service consumers are willing and able to purchase during a given period of time is called demand.

The *demanded quantity* is represented by  $Q_d$ .

### 1.4.1 General Demand Function

The six variables that influence the *demanded quantity* ( $Q_d$ ) are

| Factor                               | Symbol         |
|--------------------------------------|----------------|
| Price of good or service             | $P$            |
| Income of consumers                  | $M$            |
| Prices of related goods and services | $P_R$          |
| Taste patterns of consumers          | $\mathfrak{T}$ |
| Expected future price of product     | $P_e$          |
| Number of consumers in market        | $N$            |

Table 1.1: Factors affecting demand function

#### General demand function

$$Q_d = f(P, M, P_R, \mathfrak{T}, P_e, N)$$

#### Linear demand function

$$Q_d = a + bP + cM + dP_R + e\mathfrak{T} + fP_e + gN$$

The magnitude of  $b, c, d, e, f$  and  $g$  shows the effect on  $Q_d$  on changing the respective factor. The sign of  $b, c, d, e, f$  and  $g$  shows the relationship of the factor with  $Q_d$

- Positive sign indicated direct relationship.
- Negative sign indicated inverse relationship.

Table 1.2 shows common dependence.

### 1.4.2 Direct Demand Function

Direct demand function shows how  $Q_d$  is related to product price  $P$  when all other variables are held constant.

$$Q_d = f(P)$$

#### Law of Demand

When all factors other than  $P$  are constant,  $\frac{\Delta Q_d}{\Delta P}$  must be negative. In other words, if price increases, demand will decrease.

| Variable       | Relation                   | Sign of slope parameter |
|----------------|----------------------------|-------------------------|
| $P$            | Inverse                    | Negative                |
| $M$            | Direct for normal goods    | Positive                |
|                | Inverse for inferior goods | Negative                |
| $P_R$          | Direct for substitutes     | Positive                |
|                | Inverse for complements    | Negative                |
| $\mathfrak{I}$ | Direct                     | Positive                |
| $P_e$          | Direct                     | Positive                |
| $N$            | Direct                     | Positive                |

Table 1.2: Commonly observed pattern of dependence

### 1.4.3 Inverse Demand Function

Traditionally, price ( $P$ ) is plotted on the vertical axis and quantity demanded ( $Q_d$ ) is plotted on the horizontal axis.

Inverse of the demand function is *Inverse demand function*.

$$P = f(Q_d)$$

### 1.4.4 Graphing Demand Functions

Demand function can help us in knowing two things:

1. Maximum quantity of goods that can be purchased at a given price.
2. Maximum price consumers would pay for the goods.

# Bibliography