

Introduction to Microeconomics

Introduction to Microeconomics

Key concepts, models, and tools for understanding individual economic behavior

1. What Is Microeconomics?

Aspect	Description
Scope	Study of how households, firms, and markets make decisions and interact.
Focus	Individual units (consumers, producers, workers, firms) rather than the whole economy.
Goal	Explain how resources are allocated, prices are determined, and welfare is affected.
Contrast with Macro	Macro?economics looks at aggregate variables (GDP, inflation, unemployment).

2. Fundamental Economic Agents

Agent	Primary Decisions
Consumers	What to buy, how much to consume, how much to save.
Firms	What to produce, how much to produce, which production techniques to use.
Workers	How much labor to supply, which jobs to accept.
Government (in micro models)	Taxation, subsidies, regulation that affect market outcomes.

3. Core Concepts

3.1 Scarcity & Choice

- **Scarcity:** Limited resources ? need to prioritize uses.
- **Opportunity Cost:** Value of the next best alternative foregone.

Introduction to Microeconomics

3.2 Preferences & Utility

- **Preferences:** Ranked tastes over bundles of goods.
- **Utility:** Numerical representation of satisfaction; used to model choice (e.g., $U = f(x_1, x_2, \dots)$)).

3.3 Budget Constraint

$$[p_1x_1 + p_2x_2 + \dots + p_nx_n \leq I]$$

- Shows all affordable consumption bundles given prices $((p_i))$ and income $((I))$.

3.4 Production & Costs

- **Production Function:** $(Q = f(L, K, \dots))$ – relationship between inputs and output.
- **Cost Curves:**
 - **Total Cost (TC)** = Fixed Cost (FC) + Variable Cost (VC)
 - **Average Cost (AC)** = TC/Q
 - **Marginal Cost (MC)** = $(\Delta TC / \Delta Q)$

3.5 Market Structures

Structure	Number of Sellers	Product Differentiation	Price?Setting Power
Perfect Competition	Many	Homogeneous	None (price taker)
Monopolistic Competition	Many	Differentiated	Some (downward?sloping demand)
Oligopoly	Few	Either	Strategic (game theory)
Monopoly	One	Unique	Full (price maker)

3.6 Supply & Demand

- **Law of Demand:** Higher price ? lower quantity demanded (ceteris paribus).
- **Law of Supply:** Higher price ? higher quantity supplied.
- **Equilibrium:** Intersection of supply and demand curves; determines market price and quantity.

Introduction to Microeconomics

3.7 Elasticities

- **Price Elasticity of Demand (PED):** $\left(\displaystyle \frac{\% \Delta Q_d}{\% \Delta P}\right)$
- **Income Elasticity of Demand (YED):** $\left(\displaystyle \frac{\% \Delta Q_d}{\% \Delta I}\right)$
- **Cross-Price Elasticity (XED):** $\left(\displaystyle \frac{\% \Delta Q_{d,1}}{\% \Delta P_2}\right)$
- **Price Elasticity of Supply (PES):** \