

Introduction to Microeconomics

Introduction to Microeconomics – Study Notes

1. What Is Microeconomics?

- **Definition:** The branch of economics that examines the behavior of individual economic agents—households, firms, and markets—and how they make decisions about allocating scarce resources.
 - **Scope:**
 - Consumer choice and demand
 - Firm production and supply
 - Market equilibrium and price formation
 - Welfare analysis (efficiency & equity)
 - Market failures and government intervention
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2. Core Concepts & Terminology

Concept	Meaning	Typical Example
Scarcity	Limited resources vs. unlimited wants	Land, labor, capital
Opportunity Cost	Value of the next best alternative forgone	Choosing to study economics instead of working
Marginal Analysis	Decision based on the additional (marginal) benefit vs. cost	Hiring one more worker
Elasticity	Responsiveness of quantity to changes in price/income/etc.	Price elasticity of demand for gasoline
Utility	Satisfaction or happiness derived from consumption	Utility from a cup of coffee
Profit Maximization	Goal of firms: maximize the difference between total revenue and total cost	A bakery deciding how many loaves to bake
Market Equilibrium	Point where quantity demanded = quantity supplied	Price where buyers and sellers agree on a product quantity

3. The Consumer – Demand Side

Introduction to Microeconomics

1. Preferences & Utility

- Represented by indifference curves (higher curves ? higher utility).
- Assumption: More is better (non-satiation).

2. Budget Constraint

- ($p_x x + p_y y = I$)
- Shows all affordable bundles given prices ((p_x, p_y)) and income ((I)).

3. Deriving the Demand Curve

- **Utility Maximization:** Choose (x) and (y) to maximize utility subject to the budget constraint.
- Result: **Marshallian demand functions** $(x(p_x, p_y, I))$.
- Plotting (x) against its own price (p_x) while holding other factors constant yields the **individual demand curve**.

4. Key Determinants of Demand

- Price of the good
 - Income (normal vs. inferior goods)
 - Prices of related goods (substitutes & complements)
 - Tastes & preferences
 - Expectations about future prices/income
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4. The Firm – Supply Side

1. Production Theory

- **Production Function:** $(Q = f(L, K))$ – output $((Q))$ as a function of labor $((L))$ and capital $((K))$.
- **Diminishing Marginal Returns:** Adding an extra unit of a variable input eventually yields smaller increases in output.

2. Cost Concepts

- **Total Cost (TC):** $(TC = TFC + TVC)$ (fixed + variable).

Introduction to Microeconomics

- **Average Cost (AC):** $(AC = TC/Q)$.
- **Marginal Cost (MC):** $(\Delta TC / \Delta Q)$.

3. Profit Maximization

- Condition: **(MR = MC)** (where MR = marginal revenue).
- For perfectly competitive firms, $(MR = P)$? produce where **(P = MC)**.

4. Supply Curve

- The upward-sloping portion