Module 9 – Key Concepts

Chapter 10: Externalities

Perfect Competition and Market Failures

In theory, **perfectly competitive markets** maximize total economic surplus

However, there are **two problems**:

1. **Perfect competition rarely exists** in reality.
2. Even when it does, **supply and demand may not capture all costs and benefits**.

These unaccounted costs or benefits are called **externalities**, and they cause **market failures**.

Externalities

Negative Externalities

- **Definition:** Costs imposed on others (social cost > private cost).
- **Effect on the market:**
  - The market **overproduces** relative to the efficient quantity.
  - The **socially efficient outcome** occurs at a *lower quantity* than the market equilibrium.

Positive Externalities

- **Definition:** Benefits received by others (social benefit > private benefit).
- **Effect on the market:**
  - The market **underproduces** relative to the efficient quantity.
  - The **socially efficient outcome** occurs at a *higher quantity* than the market equilibrium.

Fixing Externalities

1. Direct Regulation

- The government sets **specific limits** on production or pollution.
- Effective but can be **inflexible** and **inefficient** if applied uniformly.

2. **Corrective (Pigovian) Taxes**

- Taxes on activities that generate negative externalities.
- Example: Carbon taxes on pollution.
- Aligns **private costs** with **social costs** by "internalizing" the externality.

3. **Assigning Property Rights – The Coase Theorem**

- If property rights are clearly defined and transaction costs are low,
  private parties can **negotiate** efficient outcomes without government intervention.
  Example:
- A factory pollutes a river, reducing the catch for a fisherman downstream.
- If the **factory has the right to pollute**, the fisherman can pay the factory to reduce emissions if it's worth it to him.
- If the **fisherman has the right to clean water**, the factory can pay him for permission to pollute a little.
- Either way, as long as they can bargain and enforce agreements easily, the **efficient level of pollution** is achieved.
  Limitations: Works poorly with large numbers of people or high negotiation costs.

4. **Tradable Pollution Permits ("Cap and Trade")**

- The government sets a **cap** on total pollution and issues permits.
- Firms can **trade permits**, creating a **market price** for pollution rights.
- Encourages firms to reduce pollution where it is **cheapest** to do so.

Public Goods

Definition

Public goods are:

- **Nonrival**: One person's consumption does **not** reduce/interfere availability for others.
- **Nonexcludable**: People **cannot be prevented** from using them.