The Analysis of Welfare: Competitive market

Dr. Sanja Samirana Pattnayak

Perfect competition & Efficiency

- How does perfect competition stack up as an efficient user of resources?
- Two concepts of efficiency are used to judge market performance.
- The first called, productive efficiency and it refers to producing output at the least possible cost.

- The second called allocative efficiency and it refers to producing the output that the consumers value the most.
- Perfect competition guarantees both productive efficiency and allocative efficiency.

Efficiency

- An allocation of resources that maximizes the welfare or total surplus (CS+PS) received by members of society.
- Does efficiency necessarily imply equity?
- A social planner also must care about equity or the fairness of the income distribution among the various buyers and sellers. It may intervene in the market.

- Competitive markets are efficient but may not be equitable!

- Any kind of policy interventions, therefore, imposes efficiency cost on the economy.

The Efficiency of a Competitive Market

- Market failure: if the objective is to achieve economic efficiency, a competitive market is better left alone.
- But this not always the case! In some situations, market failure occurs.
- It is so because, unregulated competitive market is sometimes proved inefficient i.e. it does not maximize aggregate consumer and producer surplus.

The Efficiency of a Competitive Market

- Causes of market failure:

- externalities: actions of either consumer or producer result in either costs and benefits that do not show up as part of market price.

The Efficiency of a Competitive Market

- Such benefits or costs are called externalities as they are external to the market.
  - Example: environmental pollution by a producer of industrial chemicals.
  - Without government intervention, such a producer will have no incentive to consider the social cost of pollution.

The Efficiency of a Competitive Market

- Lack of information:

- market failure can also occur when consumers lack information about the quality or nature of product and cannot make utility maximizing purchasing decision. (Adverse selection and Moral Hazard, Incomplete information)

- **(a) Adverse Selection**
- One party (often the seller) knows more than the other before the transaction.
- Example: Used car market (“lemons problem” — sellers know car quality, buyers don’t).
- Buyers, fearing low quality, are only willing to pay an average price.
- High-quality sellers leave the market → only “lemons” remain.
- Market shrinks or collapses.

- Reference: The Market for "Lemons": Quality Uncertainty and the Market Mechanism

- George Akerlof's classic paper **"The Market for Lemons: Quality Uncertainty and the Market Mechanism"**
- **Journal:** *The Quarterly Journal of Economics*,
- **Publisher:** Oxford University Press,
- **Year:** 1970,
- **Volume & Issue:** Vol. 84, No. 3,
- **Pages:** 488–500

- **(b) Moral Hazard**
- One party takes hidden actions after the transaction, because the other cannot observe.

- Example: Health insurance → once insured, people may take less care of their health or overuse medical services.

- **(c) Incomplete Information**
- Consumers may not know the true safety, quality, or side effects of goods.

- Example:
  - Medicines sold without clear information about risks.
  - Packaged food without proper labeling of ingredients.

- This can lead to overconsumption of harmful goods or underconsumption of beneficial goods.

- **3. Real World Examples**
- **Pharmaceuticals:** Patients don’t know the effectiveness or side effects; regulators step in with approvals and labeling.

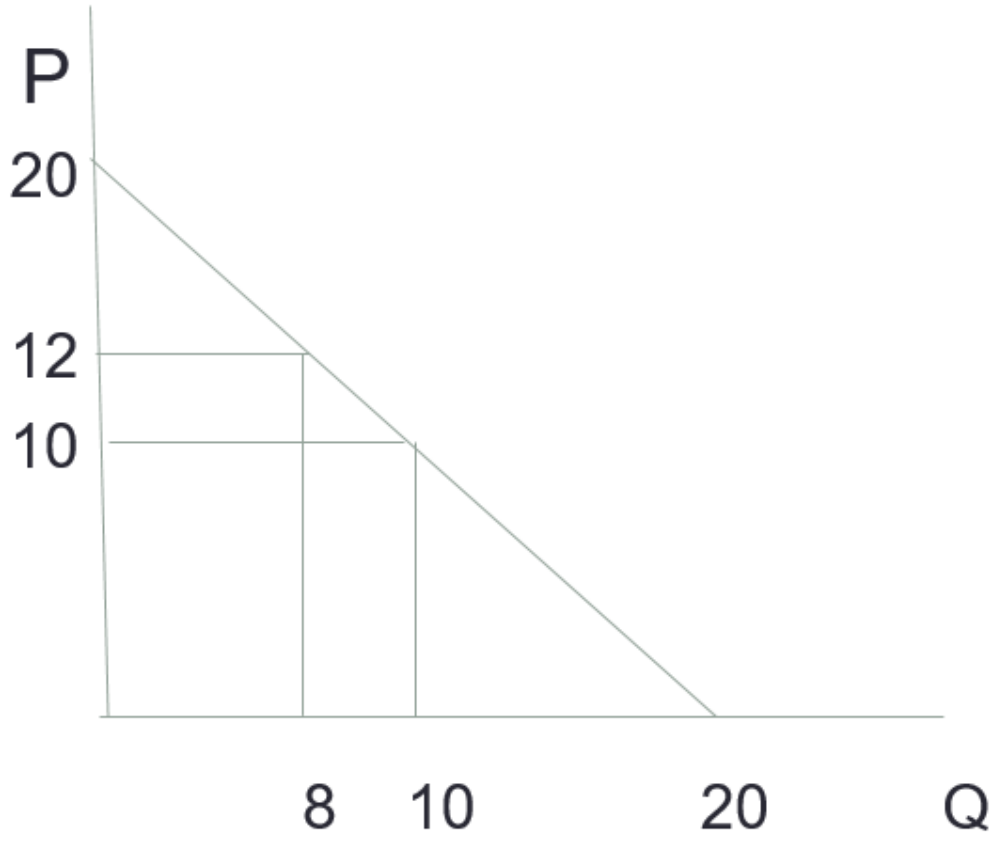
- **Food safety:** Without labeling laws, buyers may be misled.

Consumer Surplus

- Definition: is the difference between a consumer's reservation price and the actual market price. In other words, a consumer may be willing to pay for a good than the price charged for the good.

- Consumer surplus arises because individual's value goods and services differently.

- Technically: CS is the summed difference across all units sold between the price the consumer is willing to pay and the price actually paid.


P
20
12
10
8
10
20
Q

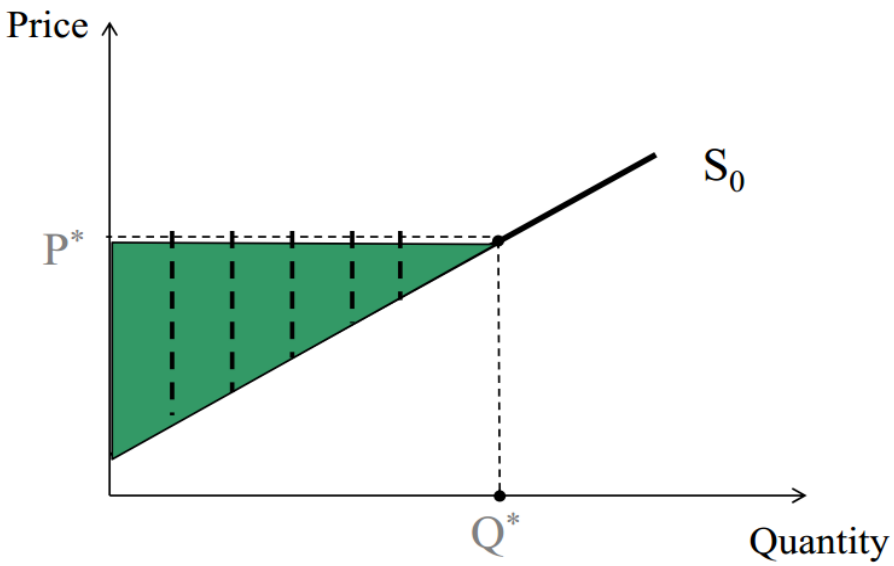
Producer Surplus (PS)

- Definition: it is the difference between a producer's reservation price (which is the lowest price a producer would accept for the good) and the actual market price.)

- In other words, producer may be willing to accept less for a good than the price charged for that good.

- PS arises because firm's value goods and services differently.

Producer surplus is represented by the area above the market supply curve and below the market price.



Price Ceilings and Price Floors

- A Price Ceiling is a legal maximum price
  - Below the competitive equilibrium price it is binding
  - Above the competitive equilibrium price it is non-binding
- A Price Floor is a legal minimum price
  - Below the competitive equilibrium price it is non-binding
  - Above the competitive equilibrium price it is binding

- Why Governments Intervene Despite Welfare Loss?

- **1. Equity (Fairness) Concerns**
- Markets allocate based on willingness and ability to pay.
- Governments sometimes care more about **equity** than efficiency.
- Example: Rent control → ensures low-income families can afford housing, even though it causes shortages.

- **2. Political and Social Stability**

- For essential goods (food, fuel, medicines), sudden price spikes can trigger protests or unrest.

- Price ceilings can be used to maintain **political legitimacy** and avoid social backlash.

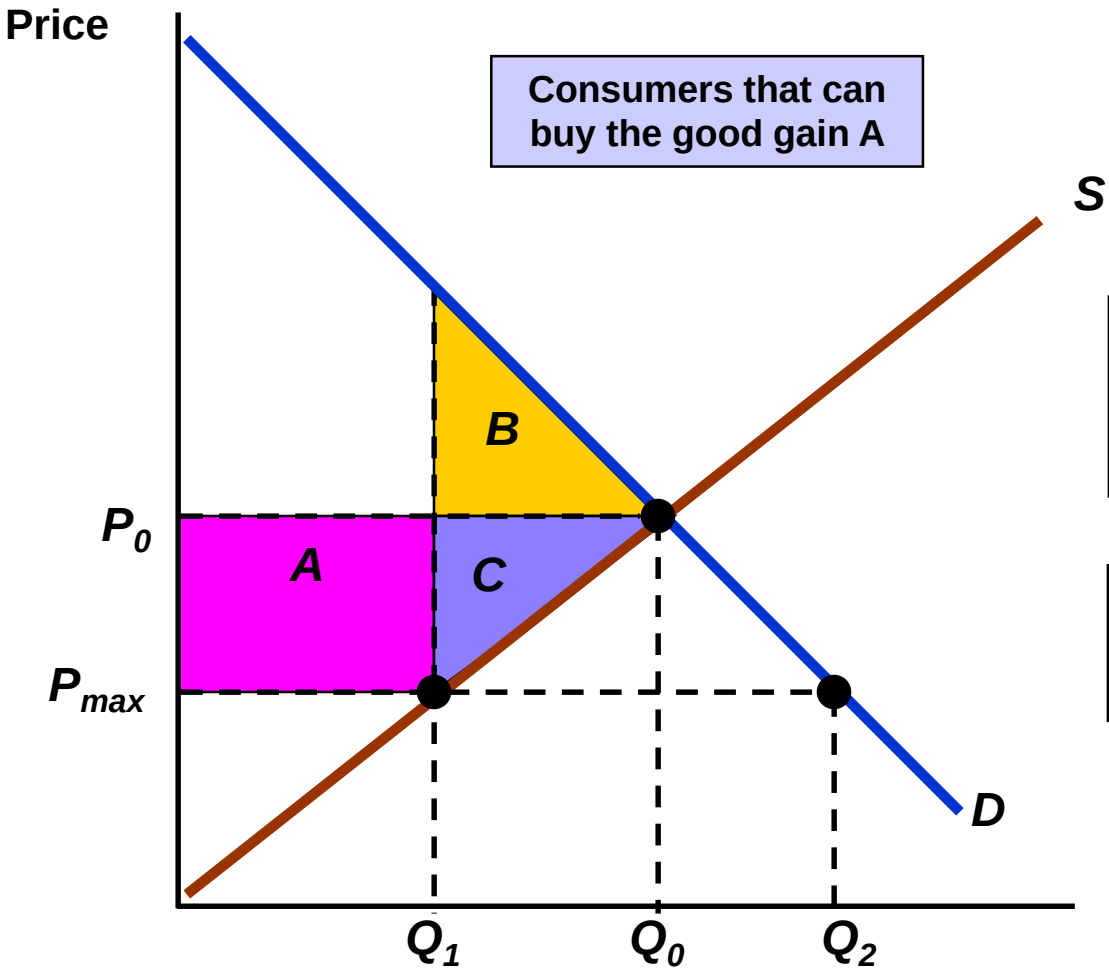
- **3. Correcting Market Failures**
- If the government believes that firms are exploiting market power (like local monopolies), a price ceiling may **counter excessive pricing**.

- **4. Redistribution Objectives**
- By capping prices, governments indirectly transfer welfare from producers (or landlords) to consumers (or tenants).
- Even though total efficiency falls, **distributional goals** might be met.

- **Trade-Off in Policy**
- **Efficiency Loss**: deadweight loss, black markets, reduced supply.
- **Equity / Stability Gain**: protects vulnerable groups, ensures affordability, reduces unrest.

- In economics, we often say:
- **Markets maximize the size of the pie (efficiency).**
- **Governments sometimes care about how the pie is divided (equity).**

Price Control – A Binding Price Ceiling



Consumers that can buy the good gain A

Consumers that cannot buy, lose B

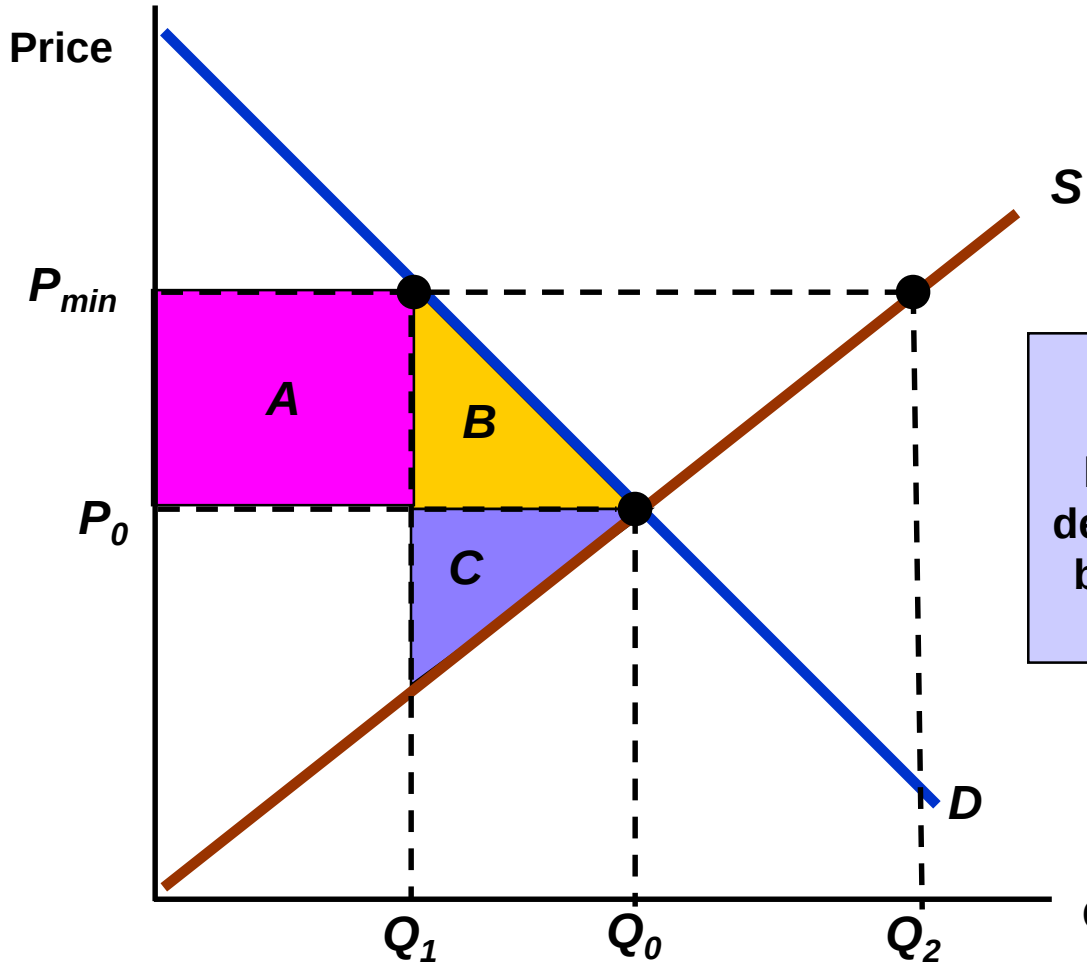
The loss to producers is the sum of rectangle *A* and triangle *C*.

Triangles B and C are losses to society – dead weight loss

Price controls and Welfare Effects

- The total loss is equal to area B + C.
- The deadweight loss is the inefficiency of the price controls – the total loss in surplus (consumer plus producer)

Binding Price Floor and Surplus Changes



When price is regulated to be no lower than P_{min}, the deadweight loss given by triangles *B* and *C* results.

Minimum Wages

- Government policy sometimes seeks to raise prices above market clearing level rather than lower them.
  - Examples: minimum wage law, varieties of agricultural price policies.
- Direct regulation: way to raise prices above market clearing level (make it illegal to charge price lower than a specific minimum level).

Minimum Wages

- Wage is set higher than market clearing wage
- Decreased quantity of workers demanded
- Those workers hired receive higher wages
- Unemployment results since not everyone who wants to work at the new wage can get jobs.

The Minimum Wage