IDX G10 S1 Midterm Econ N Level
Study Guide Issue 2
By Amy, Edited by Isabella

Contents:

Chapter 6 Supply, Demand, and Government Policies

- Price controls

1. Price ceiling

- a legal maximum on the price of a good or service
- Eg: rent control

(1) Price ceiling above equilibrium price: not binding

- Has no effect on the market outcome

(2) Price ceiling below equilibrium price: binding constraint on the price (effective)

- Government set the price below P_E
- Causes a shortage
- Supply and demand are more price-elastic in the long run, so the shortage is larger

- With a shortage, sellers must ration the goods among buyers
  - Some rationing mechanisms:
    - (1) Long lines: first come first serve
    - (2) Discrimination according to sellers' biases
    - (3) Informal/Black market: price illegal here

These mechanisms are often unfair, and inefficient: the goods do not necessarily go to the buyers who value them most highly.

In contrast, when prices are not controlled, the rationing mechanism is efficient (the goods go to the buyers that value them most highly) and impersonal (and thus fair).

2. Price floor

- ✧ A legal minimum on the price of good and service

(1) Price ceiling below equilibrium price: not binding

- ❖ Has no effect on the market outcome

(2) Price ceiling above equilibrium price: binding constraint on the price (effective)

- ❖ Government set the price above P_E
- ❖ Causes a surplus, eg: unemployment
- ❖ **Minimum wage laws**
  - ✓ do not affect highly skilled workers
  - ✓ do affect teen workers

One of the Ten Principles from Chapter 1:

Markets are usually a good way to organize economic activity.

Prices are the signals that guide the allocation of society's resources. This allocation is altered when policymakers restrict prices. Price controls often intended to help the poor, but often hurt more than help.

➢ Taxes

- ✧ The government can make buyers or sellers pay a specific amount on each unit bought/sold
- ✧ The govt can make buyers or sellers pay the tax.
- ✧ The tax can be a % of the good's price, or a specific amount for each unit sold.

⬇️ ⬇️

Percentage tax x%=Ad valorum tax **per unit tax $x each**

- ✧ **Direct taxes:**
  - ❖ Cannot be passed on to the final consumers
  - ❖ Eg: income taxes
- ✧ **Indirect taxes**
  - ❖ taxes imposed on the consumption, sale, or use of goods and services

- ❖ typically collected by intermediaries, such as businesses, at the point of purchase or consumption.
- ❖ Are shared by consumers and producers
- ❖ These taxes might then be passed on to the final consumer as part of the overall price of the goods or services.
- ❖ Most are either specific taxes or ad valorem taxes
- ❖ Eg: Value-Added Tax, Goods and Services Tax

✧ **A Tax on Buyers**

- ❖ shifts the D curve down by the amount of the tax
- ❖ Price would have to fall to an amount to make buyers willing to buy same quantity as before

✧ **A Tax on Sellers**

- ❖ shifts the S curve up by the amount of the tax
- ❖ Sellers will supply same amount of goods only if Prise rises to an amount compensate for this cost increase

✧ **Incidence of a Tax**

- ❖ how the burden of a tax is shared among market participants(buyers and sellers)
- ❖ Divided by the original equilibrium point
- ❖ P_B always above P_S, wedge= tax per unit
- ❖ Tax Rev = (P_S -P_b) x quantity traded
- ❖ Tax burden on consumers: (P_B -P_E)x quantity traded
- ❖ Tax burden on sellers: (P_S -P_E) x quantity traded

✧ **The Outcome Is the Same in Both Cases! The effects on P and Q, and the tax incidence are the same whether the tax is imposed on buyers or sellers!**

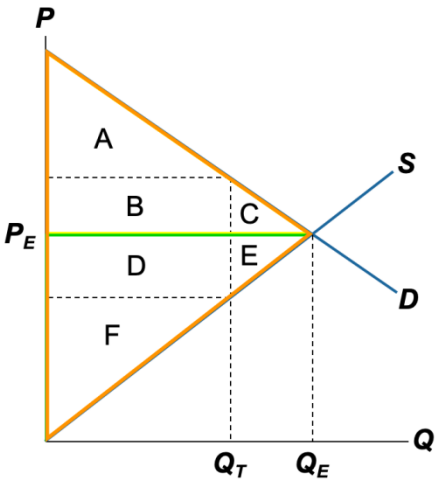
A tax drives a wedge between the price buyers pay and the price sellers receive.

✧ **Elasticity and Tax Incidence**

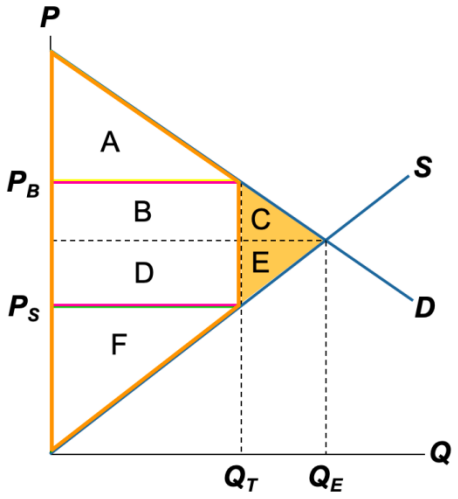
- ❖ CASE 1: Supply is more price elastic than demand (PES>PED)
  - ✓ Sellers are more responsive to change in price
  - ✓ It's easier for sellers than buyers to leave the market
  - ✓ So buyers bear most of the burden of the tax
- ❖ CASE 2: Demand is more price elastic than supply (PED>PES)
  - ✓ Consumers are more responsive to change in price
  - ✓ It's easier for buyers than sellers to leave the market
  - ✓ Sellers bear most of the burden of the tax

Chapter 8 Application the cost of taxation

- **Tax Revenue**
  - = $Tax x QT
  - Can fund beneficial services (e.g., education, roads, police) so we include it in total surplus
- The Effects of a Tax
  - Without a tax,
    - CS = A + B + C
    - PS = D + E + F
    - Tax revenue = 0
    - Total surplus = CS + PS = A + B + C + D + E + F



  - With the tax,
    - CS = A
    - PS = F
    - Tax revenue = B + D
    - Total surplus = A + B + D + F
    - **Deadweight loss (DWL) of the tax =** C + E
      - ✓ the fall in total surplus that results from a market distortion, such as a tax.
      - ✓ Because of the tax, the units between Q_T and Q_E are not sold.
      - ✓ The value of these units to buyers is greater than the cost of producing them, so the tax prevents some mutually beneficial trades.



- **Determinants of the Size of the DWL**
  - price elasticities of supply and demand
    - Supply
      - ✓ When supply is inelastic, it's harder for firms to leave the market when the tax reduces PS. So, the tax only reduces Q a little, and DWL is small.
      - ✓ The more elastic is supply, the easier for firms to leave the market when the tax reduces PS, the greater Q falls below the surplus-maximizing quantity, the greater the DWL.
    - Demand
      - ✓ When demand is inelastic, it's harder for consumers to leave the market when the tax raises PB. So, the tax only reduces Q a little, and DWL is small.
      - ✓ The more elastic is demand, the easier for buyers to leave the market when the tax increases PB, the more Q falls below the surplus-maximizing quantity, and the greater the DWL.

- Which goods or services should govt tax to raise the revenue it needs?
  - those with the smallest DWL = low PED or low PES

- How Big Should the Government Be?
  - A bigger government provides more services, but requires higher taxes, which cause DWLs.
  - The larger the DWL from taxation, the greater the argument for smaller government.
  - The tax on labor income is especially important; it's the biggest source of govt revenue.
  - Economists hold different views about the elasticity of labor supply.

- ❖ Economists who argue that labor taxes do not greatly distort market outcomes believe that labor supply is fairly inelastic. Most people, they claim, would work full time regardless of the wage. If so, the labor supply curve is almost vertical, and a tax on labor has a small deadweight loss.
- ❖ Other economists believe labor taxes are highly distorting because some groups of workers have elastic supply and can respond to incentives:
  - ✓ Many workers can adjust their hours, e.g.: by working overtime.
  - ✓ Many families have a 2nd earner with discretion over whether and how much to work.
  - ✓ Many elderly choose when to retire based on the wage they earn.
  - ✓ Some people work in the "underground economy" to evade high taxes.

Chapter 10 Externalities

- ➢ **Government action can sometimes improve upon market outcomes**
  - ✧ Why markets sometimes fail to allocate resources efficiently
  - ✧ How government policies can potentially improve the market's allocation
  - ✧ What kinds of policies are likely to work best

- ➢ **Externality**
  - ✧ The uncompensated impact of one person's actions on the well-being of a bystander
  - ✧ Market failure
  - ✧ Don't use arrow for externality! All curve exists at same time

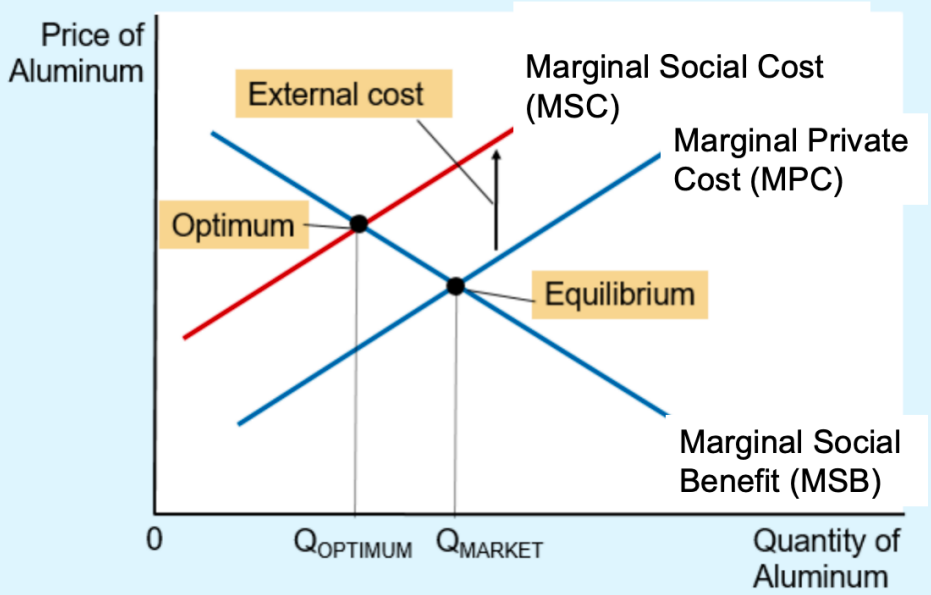
1. Negative externality

- ❖ Impact on the bystander is adverse
- ❖ Eg：Exhaust from automobiles

  Barking dogs
- ❖ Cost to society (of producing a good)
  - ✓ Larger than the cost to the good producers
- ❖ Social cost
  - ✓ S = MPC(Marginal private cost) = cost to suppliers = Private costs of the producers (supply)
  - ✓ MSC(Marginal social cost) = MPC+EC(external cost) = Plus the costs to those bystanders affected adversely by the negative externality

- ❖ Social cost curve is above the supply curve
  - ✓ Takes into account the external costs imposed on society

Figure 2 Pollution and the Social Optimum



In the presence of a negative externality, such as pollution, the social cost of the good exceeds the private cost. The optimal quantity(**allocative efficiency**), $Q_{OPTIMUM}$, is therefore smaller than the equilibrium quantity, Q_{MARKET}.

- ❖ Optimum quantity produced
  - ✧ Maximize total welfare
  - ✧ Smaller than market equilibrium quantity
- ❖ Government (correct market failure)
  - ✧ Internalizing the externality
    - ✓ Altering incentives so that people take account of the external effects of their actions

➢ Command-and-control policies

- ❖ Regulate behavior directly
- ❖ Regulation
  - ✧ Regulate behavior directly: making certain behaviors either required or forbidden
  - ✧ Cannot eradicate pollution
  - ✧ Environmental Protection Agency (EPA)

- Develop and enforce regulations
- Dictates maximum level of pollution
- Requires that firms adopt a particular technology to reduce emissions

- Market-based policies
  - Provide incentives so that private decision makers will choose to solve the problem on their own
  - Corrective taxes and subsidies
    - Corrective taxes (Pigovian taxes)
    - Induce private decision makers to take account of the social costs that arise from a negative externality
    - Places a price on the right to pollute
    - Reduce pollution at a lower cost to society
    - Raise revenue for the government
    - Enhance economic efficiency
    - The ideal corrective tax = external cost
    - Other taxes and subsidies distort incentives and move economy away from the social optimum.
  - Tradable pollution permits

- Corrective Taxes vs. Regulations
  - Different firms have different costs of pollution abatement.
  - Efficient outcome: Firms with the lowest abatement costs reduce pollution the most.
  - A pollution tax is efficient:
    - Firms with low abatement costs will reduce pollution to reduce their tax burden.
    - Firms with high abatement costs have greater willingness to pay tax.
  - In contrast, a regulation requiring all firms to reduce pollution by a specific amount not efficient.

Subsidy

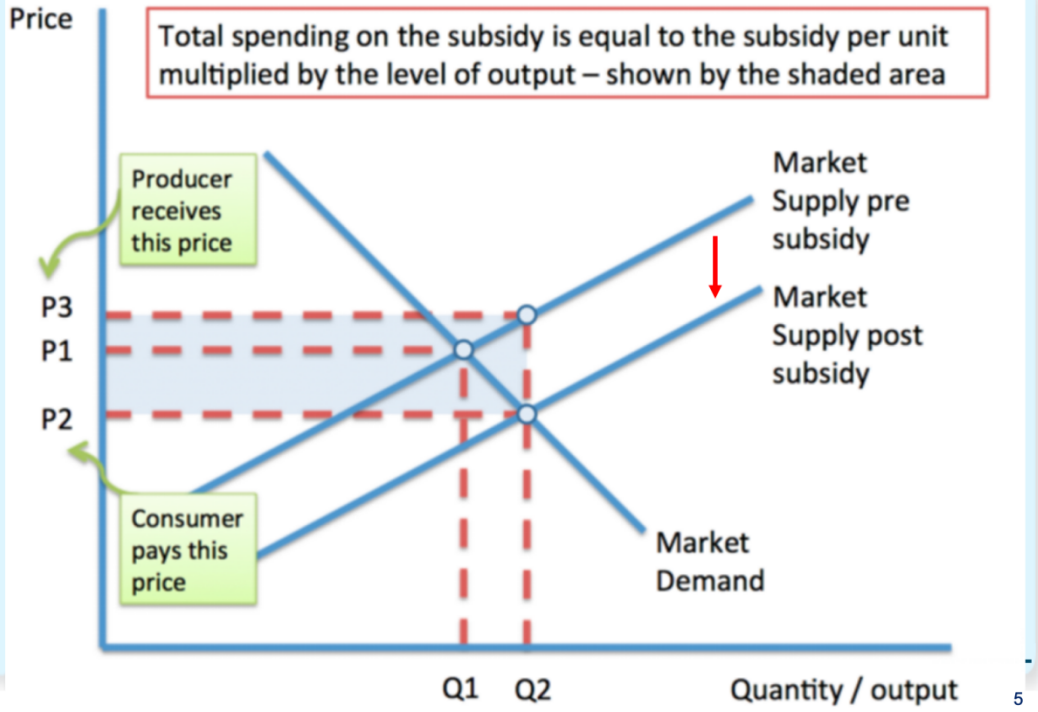
- **Subsidy**
  - A subsidy is a payment from the government to an individual(demand side subsidy) or firm(supply side subsidy) for the purpose of increasing the purchase or supply of a good.
  - Demand side and supply side subsidy's diagram would be the same
- **Why the government imposes this subsidy?**
  - to increase revenues for producers (fluctuating agricultural market)
  - to support a particular industry by helping with production cost (e.g. steel)

    ⬇️

    Could be an infant industry= emergence industry or
  - make goods more affordable for low-income households (usually necessities and basic food) e.g. crops
  - to increase the consumption and production of some goods by lowering the price.

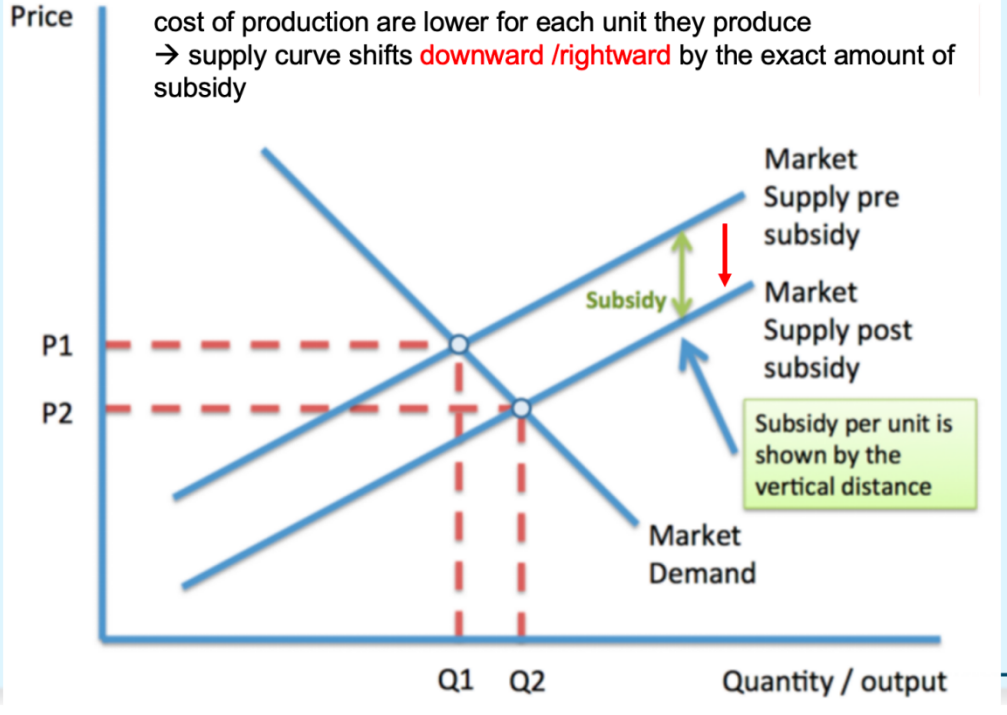
    Merit goods address positive externality which benefits both buyers and sellers) like vaccines, green cars, health care, education
  - to increase export revenue by making a good more competitive in the world (export subsidy) e.g. cotton

Diagram of a subsidy



5

Diagram of a subsidy



4