Class Plan

1 Price Ceilings

Price ceiling: government regulation that makes it illegal to charge a price higher than a specified level.

Effects of price ceilings:
- Price ceiling set above equilibrium price has no effect (b/c does not constrain market forces).
- Price ceiling set below equilibrium price affects markets by preventing price from regulating quantities demanded and supplied.

Rent ceiling: price ceiling applied to housing market. (Figure Price Ceiling)

Rent ceilings set below equilibrium rent creates:
- Housing shortage: demand exceeds supply (Refer Figure Price Ceiling).
- Increased search activity
  - Search activity: time spent looking for someone with whom to do business
  - Opportunity cost of a good includes both price and search time.
- Black market: illegal market in which equilibrium price exceeds price ceiling (Refer Figure Price Ceiling).

Figure 1: Price Ceiling

When a rent ceiling is in place, people end up paying above the price ceiling, via search costs and/or the black market.
1.1 Inefficiency of a Rent Ceiling

Rent ceiling set below equilibrium rent results in inefficient underproduction of housing services.

- MSB > MSC
- Deadweight loss shrinks producer and consumer surplus

(Figure Price Ceiling Inefficiency)

![Figure 2: Price Ceiling Inefficiency](image)

2 Price Floors

**Price floor**: government regulation that makes it illegal to charge a price lower than a specified level

- Price floor set below equilibrium price has no effect (b/c does not constrain market forces)
- Price floor set above equilibrium price affects markets by preventing price from regulating quantities demanded and supplied

**Minimum wage**: price floor applied to the labor market.

A minimum wage imposed at a level above the equilibrium wage creates unemployment.

- At wage rate above equilibrium wage, the labor supply exceeds the labor demand. This surplus of labor is unemployed.

(Figure Price Floor)

2.1 Inefficiency of a Minimum Wage

- MSB > MSC
- Deadweight loss shrinks worker and firm surplus

(Figure Price Floor Inefficiency)
3 Taxes

Everything you earn and almost everything you buy is taxed. Income taxes and Social security taxes are
deducted from earnings, and sales taxes are added to bills when you buy things.

• Who really pays these taxes?—not as obvious as it first seems

**Tax incidence**: division of the burden of the tax between the buyer and the seller

• If price paid by buyers rises by full amount of tax, then burden falls entirely on buyers.

• If the price paid buy buyers doesn’t change, then the burden of the tax falls entirely on the sellers.

• If the price paid by buyers rises by a lesser amount than the tax, then the burden of the tax falls
  partly on buyers, partly on sellers.

Taxes can be imposed on buyers or sellers. (Figure Equivalence)

The effect of a tax will be the same regardless of whether it is leveraged on buyers or sellers. When a
transaction is taxed, there are two prices:

1. Price paid by buyers, which includes the tax
2. Price paid by sellers, which excludes the tax

Buyers respond to the price that includes the tax and sellers respond to the price that excludes the tax.

- A tax is like a wedge between the price buyers pay and the price sellers receive. The size of the wedge determines the effects of the tax.

3.1 Tax Incidence and Elasticity of Demand

The division of the tax incidence between buyers and sellers depends on the elasticities of supply and demand.

Demand

- Perfectly inelastic demand–buyers pay
- Perfectly elastic demand–sellers pay
- The more inelastic the demand, the larger amount of the tax paid by buyers.

(Figure Tax Demand)

Supply

- Perfectly inelastic supply–sellers pay
- Perfectly elastic supply–buyers pay
- The more elastic the supply, the larger amount of the tax paid by buyers.

(Figure Tax Supply)
3.2 Taxes and Efficiency

A tax drives a wedge between the buying price and the selling price and results in inefficient underproduction. With a tax:

- MSB > MSC
- Creates deadweight loss
- With a tax, the new demand or supply curve does not show marginal social cost. The tax component is not a social cost of production. It is a transfer of resources to the government.
- Only in extreme cases is there no deadweight loss: perfectly inelastic demand and perfectly inelastic supply, since tax does not change quantity bought/sold in these cases

(Figure Tax Inefficiency)

4 Production Quotas

Production Quota: upper limit to the quantity of a good that may be produced in a specified period

- Producers often push for quotas because limiting production increases price.
- Production quota set above equilibrium quantity: no effect (Figure Quota)
- Production quantity set below equilibrium quantity prevents price from regulating supply and demand, resulting in:
– Decrease in supply
– Rise in price
– Decrease in marginal cost
– Inefficient underproduction: deadweight loss because MBC > MSC
– Incentives to cheat and underproduce
  * Quota creates incentive to cheat since MB > MC, so producers must set monitoring system in place, which is costly

Figure 9: Quota

5 Subsidies

Subsidy: payment made by the government to a producer and results in (Figure Subsidy):

- Increase in supply
- Fall in price and increase in quantity produced
- Increase in marginal cost
- Inefficient overproduction; deadweight loss because MSC > MSB

Figure 10: Subsidy