

Micro-Machines Snake Eyes Lazy
 10+1 9+ 7+11

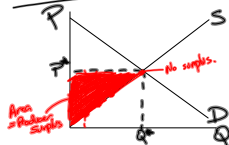
Disequilibrium

- Surplus - price is above equilibrium price
 - $Q_D > Q_S$
- Shortage - price is below equilibrium price
 - $Q_D < Q_S$

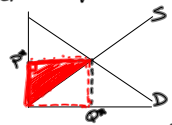
Today

- Measures of welfare
 - ↳ Producer surplus
 - ↳ Consumer surplus
- Taxation

Consumer & Producer Surplus

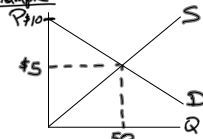


Producer Surplus - the difference between the price a producer is willing to sell and the actual market price.



$$\text{Producer Surplus} = \frac{P^* \times Q^*}{2}$$

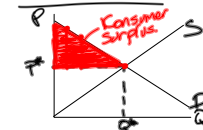
Example



What is producer surplus?
 $Ps = \frac{\$5 \times 50}{2} = \frac{\$250}{2} = \boxed{\$125}$

What is total revenue?
 $TR = \$5 \times 50 = \boxed{\$250}$

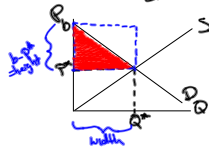
Consumer Surplus



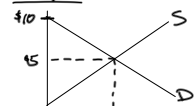
Consumer Surplus - difference between what you are willing to pay and the actual price.

Recall: $y = Mx + b$ where M is slope, x is variable, and b is intercept (value of y when $x=0$)

$$\text{Consumer Surplus} = \frac{(b - P^*) \times Q^*}{2}$$



Example



$$CS = \frac{(\$10 - \$5) \times 50}{2} = \frac{5 \times 50}{2} = \boxed{\$125}$$

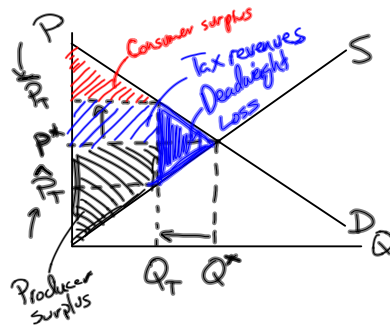
$$\text{Total Surplus} = PS + CS$$

Taxation

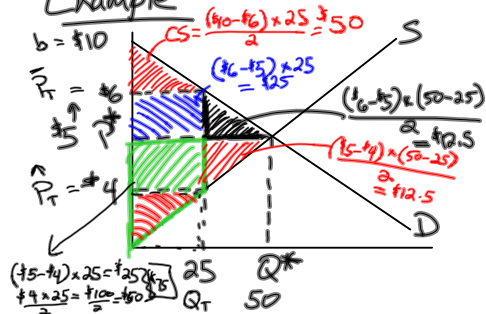
- Changes behavior
 - ↳ Taxes raise prices \rightarrow less is bought & sold.
- Raises revenue
 - ↳ Used by government to pay for services
 - ↳ Used to redistribute wealth.

Types of taxes

- Excise tax → fixed amount
 - ↳ A "per item" tax
 - ↳ eg. sales tax
- ↳ Tariffs
 - ↳ Taxes on imported goods
- ↳ Income tax



Example



What is:

- Consumer Surplus \$125
- Tax revenues? \$25
- Producer surplus? \$25
- Deadweight loss for consumers? \$125
- Deadweight loss for producers? \$12.5

Who has the greater tax burden?

- ↳ Demand is inelastic and supply is inelastic → Consumers
- ↳ Supply is inelastic & demand is elastic → Suppliers
- ↳ Both elastic → Both

Tax burden on consumers: $\frac{E_s}{E_d + E_s}$

Tax burden on suppliers: $\frac{E_d}{E_d + E_s}$

