

## Microeconomics Test 2 Notes

### **Chapter 7: Consumers, Producers & the Efficiency of Markets**

Economic Welfare: benefits consumers and firms receive by participating in the market (buying and selling).

Consumer Surplus: every buyer in an economy is only willing to pay up to a certain amount for a good or service. Occurs when buyer actually pays less than he/she is willing to pay, they enjoy a benefit. The buyers willingness-to-pay minus the amount that the buyer actually pays. The market demand curve depicts the various quantities that buyers would be willing and able to buy at certain prices. Furthermore, it depicts consumers' willingness-to-pay and how much consumers value the good. It is the area under the demand curve above the selling price.

Willingness-to-pay: the maximum amount that a buyer will pay for a good. It measures the value the buyer places on the good. Also called "reservation price".

Producer Surplus: every seller in an economy has a bottom line, a least amount of money it is willing to take in order to produce and offer a good for sale. Occurs when a seller actually receives more than he/she is willing to take, they enjoy a benefit. It is the area below the selling price and above the supply curve.

Willingness-to-sell: the lowest price a supplier will take to produce a good and offer it for sale.

Consumer surplus is related to the demand curve, whereas, producer surplus is closely related to the Supply curve.

Total Surplus=CS+PS Total Surplus is maximized at equilibrium.

Free Markets do Three Things:

1. Allocate the supply of goods to buyers who value them most highly.
2. Allocate the demand for goods to producers who can produce them at least cost.
3. Produce the quantity of goods that maximizes total surplus

Deadweight Loss: a loss in total surplus happens when the quantity traded is less than what would be traded when the market is in competitive equilibrium. Whenever the quantity traded in a market is less than equilibrium quantity, there will be a deadweight loss in total surplus.

### **Chapter 8: Externalities**

Externalities: benefits and costs that arise in the market that go uncompensated.

Positive Externality: is a benefit that is enjoyed by society, but the society doesn't pay to perceive it. Example: I enjoyed the shade from my neighbours tree, and it didn't cost me anything. Positive externalities lead markets to produce less than is socially desirable.

Negative Externality: is a cost suffered by society, and the instigator isn't made to pay for the damage they do. Example: My neighbour's dog barks all night and keeps me awake, and my

neighbour doesn't compensate me for lost sleep. Negative externalities lead markets to produce more than is socially desirable.

### Negative Externality

- the socially optimal level of output is less than market equilibrium level of output
- in other words, if we don't account for the costs of pollution, we end up producing too much of the good
- "bad" pollution takes away from the benefits of buying and selling steel
- it takes away from total surplus in the market for steel
- this loss of surplus is a deadweight loss due to the externality

The government can internalize an externality : taxing offenders to reduce negative externalities, it can regulate behaviour (command-and-control policy), regulate the amount of pollution a firm may produce,

### Positive Externality

- the provision of university education has a positive externality because it benefits all of society by creating an educated, more productive population
- social value: includes not only the value of education to those who actually go to university, but also the value to rest of society who all benefit.
- the socially desirable level is more than the market equilibrium level of people who received education
- So, the government can internalize the externality by subsidizing the production of the good- get goods to supply more
- in the case of education the government does in fact subsidize the Canadian universities so that more programs and more facilities are available to accommodate even more students

Sometimes government action isn't always necessary. Problems can be solved by moral codes and sanctions, charities, and contracts between parties.

### The Coase Theorem

- supports no government intervention
- if private parties can bargain without cost over the allocation of resources, they can solve the externalities problems on their own
- but property rights must be defined: the exclusive authority to determine how a resource is used, whether that resource is owned by government or individuals.
- owners have the right to determine the use of the resource and the right to the services of the resource
- Problems with Coase theorem are it is unclear who has the rights to a resource, how can we determine how to allocate it or who decides how to allocate it? Additionally, how can you bargain over any compensation for incurring a negative externality if it's unclear who is responsible?

- Transaction cost: the costs of bargaining (which could be so high that private agreements arent possible)
- If in any case, government intervention will be undertaken if problem cannot be solved

## **Chapter 6 and 8: Supply, Demand and Government Policies**

Price Controls: the government will freeze prices at a predetermined level that they feel will make members of society better off. Usually occurs when policymakers believe the market price is unfair to buyers or sellers.

Price Ceilings: is a legal maximum on the selling price of a good. It is effective if set below equilibrium price, leading to a shortage. And not effective if set above equilibrium price. Can lead to:

- shortages that worsen over time
- inefficient allocation of sales ( those who really want the good may not get it)
- wasted resources
- inefficiently low quality (landlords may not spend money to maintain existing apartments)
- illegal activities (bribes to landlords)

Price Floor: is a legal minimum on the selling price of a good. Is binding if set above equilibrium, leading to a surplus. And not binding if set below equilibrium. Can lead to:

- Surplus Production: surpluses cant be sold on the market, put downward pressure on the floor price which is not allowed
- surpluses have to be stored, destroyed, exported, given away
- Inefficient allocation of sales: least cost producers may not be the ones who get to sell the good
- wasted resources: spend a lot of time, money trying to sell the good
- inefficiently high quality: fancy packaging
- illegal activities: offering to sell for prices below the floor price

Tax: government levy/impose taxes to raise revenue for public projects. Tax incidence is the distribution of a tax burden.

To summarize: taxes on consumers and taxes on suppliers are equivalent—the end result doesnt matter on whom the tax is levied. taxes reduce the quantity traded, increase the price consumers pay and lower price suppliers receive.

**THE SIDE OF THE MARKET WHICH IS MORE INELASTIC (STEEPER CURVE) BEARS A LARGER BURDEN OF THE TAX)**

Why Inelastic?

- less responsive to change
- cant adjust to compensate to any great extent

- you get stuck with a larger share of the tax

The Deadweight Loss of Taxation: tax reduce quantity traded, increase price consumers pay and decrease price suppliers receive compared to the non-tax equilibrium quantity, so there will be deadweight loss. Tax reduces consumer and producer surplus.

Determinants of the DWL due to Tax

- price elasticity's of demand and supply and the size of the tax determine the size of the deadweight loss from a tax
- the greater the elasticity of demand and supply, the larger the decrease in equilibrium quantity and the greater the DWL from a tax

### **Chapter 13: The Costs of Production**

The economic goal of every firm is to maximize its profits.

Total Revenue: the amount a firm receives for the sale of its output.

Total Cost: the market value of the inputs a firm uses in production.

Profit is the functions total revenue minus its total cost.

A Firms cost of production includes all the opportunity costs of making its output of goods and services.

Explicit Costs: require a direct outlay of money (receipt available).

Implicit Costs: no outlay of money (no receipt).

Economist measure economic profit as total revenue minus total cost including both explicit and implicit costs like total opportunity costs.

Accountants measure the accounting profit as firms total revenue minus the firms explicit costs.

Production Function: shows the relationship between quantity of inputs used to make a good and the quantity of outputs of that good.

Marginal Product: the increase in total output from increasing the amount used of an input by 1. It is the rate of change in total product from a small change in inputs. The slope of the total product function.

$MP = \text{change in total output} / \text{change in \# of inputs}$

Diminishing Marginal Product: the MP of any input will decrease as the quantity used of that input increases if there are fixed inputs. Often called diminishing returns. Total production is maximized when  $MP=0$ .

Average Product =  $Q / \# \text{ of inputs}$   $MP=AP$  at max AP

Fixed Costs: do not vary with the quantity produced.

Variable Costs: do vary with the quantity produced.

Short Run: the period of time in which at least one input into production is fixed.

Long Run: the period of time in which all inputs can vary.

$$TC = TFC + TVC$$

$$Q = \text{QUANTITY}$$

$$ATC = TC/Q$$

$$AFC = TFC/Q$$

$$AVC = TVC/Q$$

$$ATC = AFC + AVC$$

Marginal Cost: the addition to total cost from producing one more good. Slope of total cost function. Measures rate of change in total costs as total product changes.

$$MC = \text{change in total cost} / \text{change in total output}$$

MC increases as MP decreases

MP is at maximum while MC is at minimum

MC is inverse of MP : the more productive workers are, the less each unit of their output contributes to total costs

Costs start to increase faster due to diminishing MP

MC intersects AVC at min AVC

MC intersects ATC at min ATC

When firm is producing such that ATC is minimized, the firm is operating at efficient capacity.

ATC curve is U-shaped because:

- At very low levels of Q, ATC is high b/c fixed costs is spread over a few units of output
- ATC decreases as Q increases
- ATC starts to increase b/c AVC increases due to diminishing MP

The level of output Q which minimizes LRAC is the point of efficient scale.

Scale Economies in the LR: different levels of output place firms on different points on their LRAC curve. Increasing production can have different impacts on cost.

Economies of Scale: LRAC decreases as Q increases. Also called increasing returns to scale or scale economies. Occur when increasing production allows greater specialization: workers are more efficient. More common when Q is low to begin with.

Diseconomies of Scale: LRAC increases as  $Q$  increases. Also called decreasing returns to scale. Are due to coordination problems in large organizations. For example, management becomes stretched and can't control costs. More common when  $Q$  is high.

Constant returns to scale: LRAC stays the same over a range of  $Q$ .

IRS: if you increase inputs by some factor  $X$ , you get more than an  $X$  increase in output.

CRS: if you increase inputs by some factor  $X$ , you get exactly an  $X$  increase in output.

DRS: if you increase inputs by some factor  $X$ , you get less than an  $X$  increase in output.

If firm is experiencing IRS, it can lower its average costs by producing more output.

If firm is experiencing DRS, it can lower its average costs by cutting back on production.