

**SECTION A**

*Answer one question from this section.*

**Microeconomics**

1. (a) Explain how the price mechanism allocates resources in an economy. [10 marks]  
(b) Examine the possible consequences of governments imposing a price ceiling in the market for rented housing. [15 marks]
2. (a) Explain that when producer surplus and consumer surplus are maximized, allocative efficiency is achieved. [10 marks]  
(b) Discuss the consequences of the introduction of an indirect tax on gasoline (petrol) for consumers, producers and the government. [15 marks]

Jerry Jiang. 66%

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Sheet One

20/25

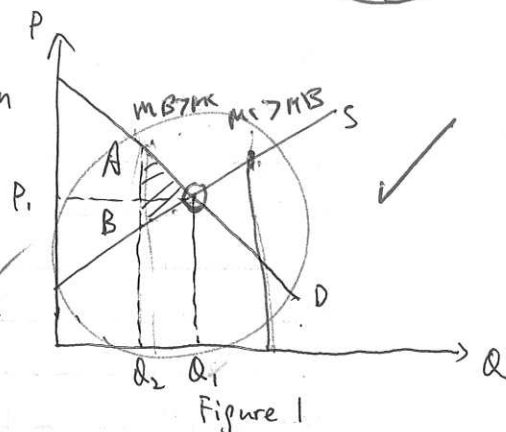
2. (a).

Producer surplus is the ~~price~~ price difference between the market price and what the producer is expecting to receive, which is area B in Figure 1.

Consumer surplus is the price difference between what consumer is expecting or willing to pay for the good and the market price, which is area A in Figure 1.

Community surplus is the combination of producer surplus and consumer surplus, which is A plus B in figure one.

Allocative efficiency is the state that the market is at its equilibrium. Quantity demanded equals to quantity supplied and ~~every~~ resources are allocated efficiently.



In Figure 1, we can see that when quantity is at  $Q_1$  and price at  $P_1$ , the community surplus is maximized as a big triangle. Since the quantity don't usually go to the ~~left~~ right of the  $Q_1$ , (because they might go bankrupt), when another quantity is at  $Q_2$ , a little <sup>shaded</sup> triangle which is known as welfare loss is removed from community surplus, which indicate the decrease of both producer and consumer surplus.

An example can be the car industry. If the quantity is not at optimal level, then there's a loss of welfare taken away from both producer's and consumer's side.

cost > Price consumers are willing to pay

real life?

— marginal benefit, marginal cost? A

7/10

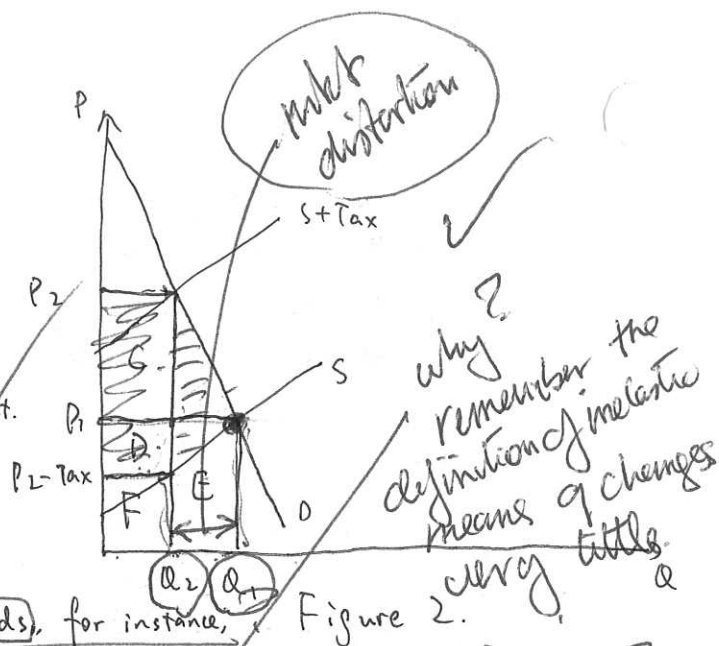
- ① Max community surplus ✓
- ② SOE - do they give int'l solution? (55%)  
40%

(b).

Please refer to the definition of producer surplus, consumer surplus and community surplus in (a).

Stakeholders are parties that share the community surplus, including consumers, producers and the government.

An indirect tax is tax that's not ~~When an indirect tax imposed directly~~ to customers, but instead, imposed to customers by producers through methods, for instance, a rise in price. Incorrect definition - why is it called indirect?



When an indirect tax is imposed on gasoline, the quantity will drop from  $Q_1$  to  $Q_2$  while the price will ~~decrease~~ increase to  $P_2$  from  $P_1$ .  $P_2 - \text{Tax}$  is the price producers get after paying the tax to the government. In Figure 2, you can see the change. Area C is the part of tax that is taken from consumer surplus, which is called consumer's share; Area D is the part of tax that is taken from producer surplus, which is called the producer's share.

all demand curves have a negative slope  
As an inelastic good, gasoline's demand curve's slope in ~~the~~ the diagram is really negative as you can see in Figure 2. This will cause consumer's share to be much bigger than producer's share. This ~~illustrate that most of the tax's influence will be on the consumer's side~~ This will lead to a dramatic decrease in quantity demanded of gasoline, thus triggering the decreasing demand of its complement: the gasoline cars, and the increasing demand of its substitute: electricity and the substitute's complement: the electric cars. It's quite obvious that this policy really benefits the government: it increases its income, and decrease potential pollution to the environment since electric cars are much more environmentally friendly than the gasoline cars.

As for the producers, they're not happy as well. Their original revenue is  $P_1$  times  $Q_1$ , which is  $D + E + F$  in Figure 2; but now, after the removal of producer's share (CD), and the loss caused by market distortion (E), the only remaining revenue for the producer is  $(P_2 - \text{Tax})$  times  $Q_2$ , which is F. This is a sad fact to producers.

13/15  
- welfare loss  
- real life example?