

Quiz 1

(5 points)

Time: 10 September 2021 at 15:00-15:30 (30 minutes)

There are 2 questions. You need to answer all questions. Please **submit** your answers in a PDF file with a file name “**Quiz1_StudentID_Name**” via BE Moodle class before **15:40**.

Question 1 (3 points)

Case A: The production of a plastic factory ‘K Chemical’ is located nearby a house village ‘Dreamland’. If the production of the plastic factory reaches a certain level at Q_m , it will release air pollutions to the level that destroy clean air around the Dreamland village. However, if the production of the plastic factory does not exceed Q_m , it will create no significant impact for people living in the Dreamland village.

Case B: In Thailand, the CO₂ emissions from oil consumption in transport sector increased from 51 million tons of CO₂ in 2008 to about 63 million tons of CO₂ in 2018.

Please answer the following questions for both Case A and Case B above

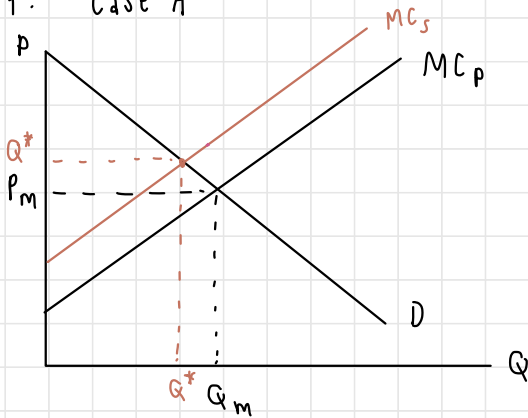
- i. Does an externality exist? If so, classify the externality type (e.g., positive vs. negative, costs vs. benefits) and explain how inefficiency problems could arise in this case.
- ii. If an externality exists, could the Coase Theorem be applied to solve market inefficiencies in this case? Please explain your answer (Hint: is it possible to use property right rules and solve the problem?)
- iii. If the Coase Theorem does not apply, what the government could do to solve the problem?

Question 2 (2 points)

Suppose an investor is considering a wind farm project to produce electricity. The wind farm will create noises that affect people living in a house village Dreamland.

- i. How could you estimate the compensation amount for people living in the Dreamland to approve the wind-farm construction? (Hint: Choose WTP vs. WTA question, methods to estimate WTP and WTA).
- ii. What should be considered in the cost-benefit analysis to decide if the wind farm project should be built or not?

Q1. Case A



i) The externality exists from air pollution is the negative impacts or social cost. The inefficiency problems could arise in this case by the plastic factory has overproduction to maximize their benefit. At the market price, it excludes the external social impacts.

ii) it possible to use property right rules because if it assigned to the plastic company, the cost is borne by village.

iii) the government could launch the policies to solve the problems. - putting a cap, putting a price, establishing rules.

Case B i) externality exists, negative impacts or social cost.
ii) Coase theorem can not applied

Q2 : i) if wind farm have right $\rightarrow$ WTA for $\downarrow$ good
if wind farm have no right $\rightarrow$ WTP for $\uparrow$ good

WTA to measures what compensation people will accept.

- ii) 1. define project or policy
2. identify impact
3. Value impact
4. discount cost and benefit flows to present values.
5. apply the NPV
6. conduct sensitivity analysis