

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?

Question 1 ↘

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i) For case A, there are negative externalities because the company releases pollution in the air. Even though it doesn't affect the people in Dornland it doesn't produce exceed em, but the environment factors are not considered. (negative production)

For case B, there are negative consumption externalities because the consumption has increased over the past years, creating more pollution. This create more costs for the people breathing the polluted air.

ii) For case A, the Coase theorem could be applied because both parties could negotiate and there is no wealth effect. Also because the transaction cost are small, they can negotiate.

For case B, I think that the Coase theorem cannot be applied because there is wealth effect. When people consume more, more wealth will be created for the transport sector. They will continue to bring in more oil and create emissions. The benefit such as clean air doesn't give them the incentive.

iii) If the Coase theorem doesn't apply, the government can put a cap of imports to the oil or impose tax on oil. This could decrease the consumption because the price of oil would increase and there will be more cost occur to supplier, thus the supply decreases.

Question 2:

- i) We could use the CVM method to estimate the willingness to accept the wind farm construction. We could create a survey if they want to bid or not or how much they are willing to accept directly. But there are some drawbacks.
- ii) The NPV should be considered. If the NPV more than 0. They should also consider the time value of money, values and also the benefits to society.