

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 (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 CO_2 emissions from oil consumption in transport sector increased from 51 million tons of CO_2 in 2008 to about 63 million tons of CO_2 in 2018.

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

- 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.
- 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?)
- If the Coase Theorem does not apply, what the government could do to solve the problem?

1.) Case A will create positive externality if plastic production does not exceed Q_m point because they create benefit for social cost more than private cost.

Case B is negative externality the air pollution from transportation will harm the population this cause reduce social benefits but increase Thailand private costs.

2.) Case A can use Coase Theorem to interrupt the exceed production conflicts to Case B that need government intervention.

3.) Government have to subsidize value of plastic production in Case A by increase cost of production to reduce number of product. In Case B, government have to subsidize by increase their investment in order to reduce transportation sector to provide transports

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?

1.) WTP and WTA estimate by finding maximum villagers to accept noise pollution also finding their minimum compensation from enough their village area, if the WTA higher than WTP this method could maximize the villagers utilize.

2.) From cost-benefits policy, we have to define what impacts that effects villages, if method or project create less social cost and benefits also in modify section cannot gain benefit or reduce social cost. The project should not be build, in this case the situation that can interrupt the project is the wind power cannot maximize investors profit and create any noise pollution for villagers.