

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?

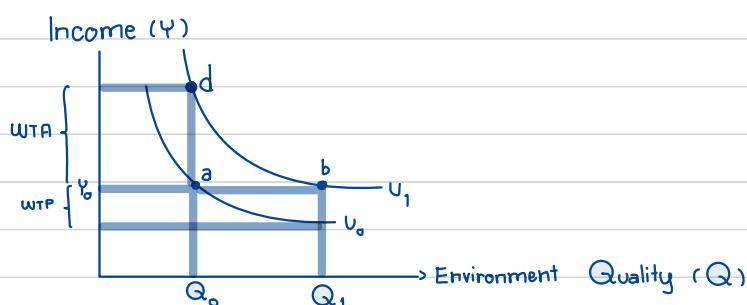
Question 2 (2 points)

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?**

- ① i.) In both case A & B, it can create negative effect to externality as
 in case A, if the factory produce plastic above Q_m , it will certainly destroy the air pollution which will affect the household near there significantly. However, If gov. can control amount of production, it won't be problem
 In case B, this is certainly negative to society as this will create pollution like PM2.5 in later on
 For both case, if they use over consumption it will decrease 1. social welfare
 2. economy in long term
- ii.) we can use both methods: property rules or liability rules; negotiate with producer about this problem
- iii.) gov. can impose tax or even set the maximum amount of production in order to control quantity of what their production that cause pollution

②



- i.) In order to provide compensation amount to household it requires a high amount to trade off in order to keep their utility as same as before
 * must provide higher value for what they lost

- ii.) identify the outcome; effect of defining the windfall which we need to consider about how gov. or any org. can deal with it or not
 eg. any policy? , any compensation?
 which they have to analyse the marginal cost & marginal benefit as well

$$\Delta \text{Net Social Welfare} = \text{Benefit} - \text{Cost}$$