

BE International Program

EE340: Introduction to Public Economics, Semester 2/2015

Assignment # 3

Plagiarism Declaration

I confirm that this assignment is my own work, is not copied from any other person's work (published or unpublished). I understand that the consequences for committing any of the acts of academic dishonesty can include a failing grade for the assignment or quiz, failure in the class as a whole, and even expulsion from the university. I will not plagiarize or cheat.

Name _____ **Date** _____

Signature _____

Due Date: Thursday 25 February 2016 (In Class, before lecture begins)

1) Which of the following are public goods? Explain why? Also, discuss their features with respect to the properties of rivalry and excludability?

a) A bicycle race around France during the summer

b) Cable television programs

c) Radio programs

d) Public Schools

e) Scientific discovery

2) Discuss how television technology can turn public good to private good.

3) Consider two consumers with the following demand functions for a public good.

$$P_1 = 10 - (1/10)G.$$

$$P_2 = 20 - (1/10)G.$$

Where P_i is the price that consumer i is willing to pay for quantity G .

- a) What is the optimal level of the public good if marginal cost of the public good is 25 baht/unit
- b) Suppose that the marginal cost of public good is 5 baht. What is the optimal level of the public good?
- c) Suppose that the marginal cost of public good is 40 baht. What is the optimal level of the public good?

4) There are three consumers of a public good. The demands for consumers are as follows:

$$P_1 = 50 - G,$$

$$P_2 = 110 - G,$$

$$P_3 = 150 - G,$$

where G measures the number of units of the good and P_i the price in baht. The marginal cost of the good is 190 baht/unit.

- a) What is the optimal level of the public good? Illustrate your answer with a diagram.
- b) Explain why public good is not supplied at all because of the free-rider problem.
- c) If the public good is not supplied at all, what is the size of deadweight loss arising from this market failure? (a challenge question, you may give it a try or leave it alone.)

No legacy is so rich as honesty

William Shakespeare, English Poet and Playwright (1514-1616)