PRINCIPLES OF MICROECONOMICS, SEMESTER 1, 2016

Tutorial 6 (Due end of Week 8)

Perfect Competition

Q1. We have a perfectively competitive market with the following demand and supply functions:

$Q_D = 10 - P$ $\quad\quad Q_S = 3P - 6$

a. Now consider a single firm in this market. What price does this firm face? What is its marginal revenue? What is its average revenue?

Now ignore the equations above (they are no longer relevant to the questions below):

b. We are told that the firm (and other firms like it) are making supranormal profit. What is supranormal profit? Draw a firm-level diagram of a firm experiencing supranormal profits.

c. Given the supranormal profits in the market, what will be the effect on the market over time? What will the long-run position be? Illustrate your answer using both market-level and firm-level diagrams, labelling the areas of profit/losses as necessary.

d. Assume that the market is in long-run equilibrium. The government places a tax on the market. What will be the effect on the market? Illustrate your answer using both market-level and firm-level diagrams, labelling the areas of profit/losses as necessary.

e. How big would the tax have to be to cause the firms in this market to shut-down temporarily? What about permanently?

f. What are the advantages to consumers in a perfectly competitive market? What are the disadvantages?

Monopoly

Q2. PNG Power is the sole distributor of electricity in Port Moresby. The market is composed of the following functions:

$$Q_D = 300 - P \qquad MC = 20$$

The ATC curve intersects the demand curve at a cost of 50 per unit, and touches the MC curve where Q = 310.

a. Would PNG Power be a natural monopoly? Why / why not? What makes a monopoly a 'natural' monopoly?

b. What is the supply curve in this market?

c. What will be the equation for PNG Power's MR curve?

d. Graph this market and label the area of profit. What will be the profit maximising quantity and price in this market?

e. Shade the areas of consumer surplus, producer surplus and dead weight loss in the market.

f. The government chooses to regulate the price as if the market were perfectly competitive. What price will they set? Critically assess the government's policy.

g. The government is still keen to regulate the price. What advice would you provide them, and why?