Price Theory

Assignment 2 – Market Power

Suppose that there are two firms competing in the market for taxi services. *Big Ben Taxis* has the marginal cost $MC_B = \$9$ per trip, and the fixed cost $FC_B = \$3,000,000$. While *Whitehall Taxis* has the marginal cost $MC_W = \$15$ per trip, and the fixed cost $FC_W = \$1,000,000$.

Inverse demand for taxi trips in the market is given by the function,

$$P = 75 - \frac{Q}{10,000}.$$

In this equation, P is the price of a taxi trip, and Q is the total quantity of taxi trips supplied by the two taxi companies.

Question 1: Find the equilibrium price and quantities for the case in which the two taxi companies engage in Cournot (quantity) competition. What profits will *Big Ben Taxis* and *Whitehall Taxis* earn. (11 Marks)

Question 2: Using your answers to question 1, determine which firm has the greater market power. (4 Marks)

Question 3: Now suppose that a firm can only supply taxi services if it purchases a licence from the government. What is the highest fee that the government can charge for a license, if the government wants both *Big Ben Taxis* and *Whitehall Taxis* to purchase a license? (Note: A licence does not place a limit on the number of taxi trips a company can supply. You should assume that both firms are charged the same fee.) (2 Marks)

Question 4: If, instead, the government wants to maximise the revenue it receives from taxi license fees, how many licenses should it sell, and what fee should it charge? (8 Marks)