Economics 380: Homework 1

28 September, 2005

1. Complete the "five" forces analysis of Haagen Dazs in the slides for week 1.

2. You are in charge of pricing the "Pirates of the Caribbean" DVD. How should the market be defined? Suggest four possible definitions.

3. What is the difference between horizontal and vertical differentiation? Classify the following examples with a brief explanation.
(a) Conventional CRT monitor vs. Flat panel monitor.
(b) Playstation vs. XBox.
(c) Cheap inkjet printer vs. Expensive laserjet printer.

4. North American car makers often lose money on their smallest cars. Why do they offer them?

5. Suppose Ford bargains with Hunts, a supplier of crankshafts. Hunts has cost $100 per crankshaft; Ford has value $200 per crankshaft and requires 100 crankshafts.
(a) The Ford–Hunts relationship is worth $100 per crankshaft. Suppose the firms split this surplus 50:50. What price will Ford pay? What are the profits of Ford and Hunts? (Think of Ford's profits as their value minus the price they pay).
(b) Suppose Hunts can invest in a Wundermaschine which costs $3000 and lowers the cost per crankshaft to $50. If Hunts buys the Wundermaschine and subsequently bargains with Ford (again splitting the surplus 50:50), what price will Ford pay? What are the profits of Ford and Hunts? Should Hunts buy the Wundermaschine?
(c) Suppose Ford and Hunts bargain *before* Hunts buys the Wundermaschine. The two firms agree that Hunts will pay for the Wundermaschine and then split the remaining surplus 50:50. What price would we expect Ford to pay? What are the profits of Ford and Hunts?

6. Consider the following regression of digital cameras:

$$\text{Price} = 50 + 47 \times \text{Megapixels} + 56 \times \text{Digital Zoom} + 86 \times \text{AA batteries}$$

Interpret this regression. What do the coefficients represent? Is there anything a little odd about it? What might be going wrong?

7. Your firm makes red and blue bikes. To make any bikes the fixed cost is \$100. The demand for blue bikes is $p = 20 - q$, while the demand for red bikes is $p = 10 - q$. The marginal cost for both bikes is zero.

(a) If you produce both types of bikes, how many should you produce of each?

(b) Your accountant states that the shared overhead that should be attributed to the red bike production line is \$50. He then points out that the red bike production line is losing money and should thus be closed down. Is he correct?