Midterm Examination of Managerial Economics  
Fall Term 2013, IMBA, NCCU

Part I: Short Answer Questions (12 questions, 60 points)

1. Compare the following companies in terms of both horizontal boundary and vertical boundary. (i) Taiwan's HTC, (ii) America's Apple, and (iii) Korea's Samsung.

2. The following figure shows Jack's demand curve for mobile telephone calls.

![Demand Curve Diagram]

Identify his buyer surplus if the price of mobile telephone calls is 10 cents a minute, and he buys 200 minutes a month. If you were the manager of a mobile phone company, how would you use both package deal and two-part pricing to reduce Jack's buyer surplus and to raise its own revenue?

3. Why is the long-run demand for a non-durable item more income elastic than the short-run demand? Why might the same rule not apply to the demand for a durable item?

4. True or False? Explain why.
"WalMart learns that demand for private-label cola is less elastic than the demand for Coca Cola. Therefore, WalMart should set a higher price for private-label cola".
5. Complete the following table.

<table>
<thead>
<tr>
<th>Q</th>
<th>TR</th>
<th>TC</th>
<th>TVC</th>
<th>ATC</th>
<th>AVC</th>
<th>TFC</th>
<th>AFC</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>4000</td>
<td>3600</td>
<td>2.2</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Q: Quantity; TR: Total Revenue; TC: Total Cost; TVC: Total Variable Cost; ATC: Average Total Cost; AVC: Average Variable Cost; TFC: Total Fixed Cost; AFC: Average Fixed Cost; P: Price.

6. A perfectly competitive firm currently faces conditions shown in the above table. At its current quantity level of production, the AVC (Average Variable Cost) of the firm is minimized, suggesting that its MC (Marginal Cost) equals its AVC (Average Variable Cost). If you were the consultant hired by the firm, would you suggest the firm manager to change the production level in the short run? Explain why?

7. Please analyze the impacts of the following simultaneous events on the equilibrium price and equilibrium quantity in the sugar market: (i) Development of a new zero-calorie sweetener, and (ii) A cut in the wages of farm workers. Both graphical and descriptive analyses are required.

8. True or False? Explain why.
"Deadweight losses from rent controls will be larger if demand is more elastic and if supply is more elastic". Both graphical and descriptive analyses are required.

9. Use worker's marginal benefit curve and worker's marginal cost curve to compare the following ways of paying a salesperson in terms of the incentive for effort. (i) A fixed monthly wage, and (ii) Commission based on performance. Both graphical and descriptive analyses are required.

10. What is the difference between network effect and network externality? Does the presence of network effects cause demand to be more or less price elastic? Explain why.

11. The market for telephones is competitive. Demand is very inelastic, while supply from factories in Asia is very elastic. Suppose that the government were to impose a tax on the manufacturers of telephones. How much will this affect a manufacturer of telephones (ex: the change size of sale quantity and the change size of price)? Both graphical and descriptive analyses are required.
12. The most significant cost in family medicine practice is human resources. To treat twice as many patients, a clinic will probably need twice as many doctors, nurses, and other professional staff. Does this business have **economies of scale**? Explain why.

**Part II: Discussion Questions (4 questions, 40 points)**

1. Between 2001 and 2003, China Mobile’s number of subscribers grew from 90.6 to 141.6 million as the company added subscribers and acquired service providers in the poorer inland regions of China. However, over the same period, its average revenue per user (APRU) fell from 141 to 102 yuan per month and its proportion of subscribers using pre-paid service rose from 48% to 64%.
   (A) How would the entry of China Unicom affect the demand for China Mobile service?
   (B) How would China Mobile’s provision of pre-paid service affect the demand for its post-paid (contract) service?
   (C) Compare the demand for pre-paid service in the inland regions with that in the wealthier coastal regions.
   (D) Relate your discussion in (b) and (c) to China Mobile’s decline in ARPU.

2. For many years, the NBA had a monopoly over basketball and, consequently, monopsonized the market for players. This monopsony over players began to erode in 1967 with the formation of the ABA. Finally, in 1983, basketball team owners agreed to allow free agency, which removed the restrictions against players moving between teams. An analysis of earnings showed that a player who scored 10% more points would have earned 2.05% more salary between 1968 and 1975, but 3.21% more salary between 1984 and 1988.
   (A) Explain the connection between having a monopoly over basketball and a monopsony over basketball players.
   (B) Compare the wage rate when the demand side of the market is a monopsony with the perfectly competitive wage.
   (C) Explain the differences in player earnings between 1968-75 as compared with 1984-88.
   (D) When the ABA and NBA proposed to merge, the basketball players opposed the proposal. Explain why.
Barrick Gold owns the Bulyanhulu mine in Tanzania and the Karlgoolie mine in Australia. Table 1 reports information on selling prices and costs for the two mines. Barrick’s selling price of gold differs from the spot price as some production is sold through long-term contract and also owing to the company’s use of hedging. The “average cash cost” (average variable cost) includes operating cost, royalties, and taxes, while the “average cost” includes the cash cost as well as amortization.

(A) Suppose that the Bulyanhulu mine always produces at the scale where its marginal cost equals the selling price of gold. Its marginal cost curve, however, shifts with changes in electricity prices, wages, and other factors. Using the data from table 1, illustrate the shifts in Bulyanhulu’s marginal cost curve, the selling price, and profit-maximizing scale of production between 2002 and 2004.

(B) In 2003, Barrick continued to produce from the Bulyanhulu mine even though the selling price of gold, $366 per ounce, was less than its average production cost of $369 per ounce. Was this a mistake?

(C) Use Barrick’s 2004 data to compare the (i) short-run break even conditions for Bulyanhulu and Karlgoolie; and (ii) the long-run break even conditions for the two mines.

Table 1: Barrick Gold

<table>
<thead>
<tr>
<th></th>
<th>Bulyanhulu</th>
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<tbody>
<tr>
<td></td>
<td>2002</td>
<td>2003</td>
<td>2004</td>
<td>2004</td>
</tr>
<tr>
<td>Production (thousand ounces)</td>
<td>356</td>
<td>314</td>
<td>350</td>
<td>444</td>
</tr>
<tr>
<td>Selling price ($ per ounce)</td>
<td>339</td>
<td>366</td>
<td>391</td>
<td>391</td>
</tr>
<tr>
<td>Average cash cost ($ per ounce)</td>
<td>198</td>
<td>246</td>
<td>284</td>
<td>234</td>
</tr>
<tr>
<td>Average cost ($ per ounce)</td>
<td>300</td>
<td>369</td>
<td>384</td>
<td>278</td>
</tr>
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</table>

Source: Barrick Gold Corporation, Annual Reports
4. The demand for most new films is highest in the first few days after opening, then tapers off. Two key factors affecting potential demand are the season (the Summer and Christmas vacation periods are the best times) and the timing of other releases. Suppose that both Studio Luna and Moonlight Movies are producing major action movies.

(A) The two studios simultaneously must choose between release on December 11 or 18. If both films open on December 11, each will sell 200,000 tickets. If one opens on December 11 and the other on December 18, then the early release will sell 350,000 tickets, while the later release will sell 150,000. If both open on December 18, each will sell 100,000 tickets. Construct a game in strategic form to illustrate the situation and identify the equilibrium or equilibria.

(B) Now suppose that the publicity surrounding one movie will increase the demand for the other film. Specifically, each studio will sell 70,000 more tickets if both open on the same day. Adjust the data in (A) according to this new information. How does this affect the equilibrium or equilibria?