Universidade Católica Portuguesa
School of Economics and Business
Telecommunications Economics
Mid term exam
03.04.2009

1h45m.

1. What are the payments for telecommunications services, in the following cases:

    a. Subscriber A, at Lisbon, which has pre-selected operator X, makes a voice call to subscriber B, at Funchal, a customer of operator W. Operator X has decided to use the carrier services of operator R between Lisbon and Faro.
    b. Subscriber A is a customer of fixed operator X, after requiring unbundling the local loop of former monopolist Y. Subscriber A calls subscriber B, customer of mobile operator M. Subscriber A also uses ADSL internet access services provided by service provider S.

2. Suggest 3 variables that should be used to evaluate the dominant position of an undertaking in electronic communications markets. Give a rationale for their use. (Note: assume that product and geographical market definition are settled).

3. Suggest 2 types of access to fixed networks and 2 types of access to networks that are part of the regulatory framework for electronic communications. Discuss the differences between them.

4. Assume a natural monopoly with total costs $C = 10000 + 10\ q$. Market demand is $q = 200 - p$. (q and p are quantity and price of voice traffic).

    a. If price is set at marginal cost, and there is no fixed fee, what is the monopolist's profit?
    b. Assume that there are 50 identical consumers and consider two part pricing. If the price of traffic is set equal to marginal cost what is the largest fixed fee a consumer would pay for the right to buy at that price? What fixed fee would permit the monopolist to break even? What is the deadweight loss in this case?
    c. If there were 5 consumers with an individual demand function given by: $p=190-90q$ what would be the deadweight loss if there was an uniform fixed fee of 200?

5. Consider a situation where there is a monopolist with universal service obligations. When there are poor consumers to be connected to the network and price discrimination is not allowed, efficiency losses from uniform pricing are lower when the uniform access fee is equal to the poor consumers producer surplus? Explain. (Note: assume that poor consumers are identical).

6. What was the economic rationale (accepted by the European Commission) for rebalancing prices at the national level before liberalization (that is adjusting each telecommunications service to its costs)? What were the main shortcomings of this approach? Explain.

7. Compare spectrum auctions with comparative bidding as methods of allocating radio electrical spectrum. Consider at least the following:

   a. Information requirements for the government/regulatory agencies.
   b. Government/regulatory discretion.
   c. Government/regulatory credibility.

8. Does the value paid in a spectrum auction have an impact on actual prices of services? Why?

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