June 27, 2000

UCLA Department of Economics

Industrial Organization Comprehensive Examination
Spring 2000
(4 hours)

Answer all six questions. Each question has equal weight.

I. In his article "Why Regulate Utilities?", Demsetz argues that it is difficult to use the structure of a market to infer the degree to which price is or is not competitive, and he demonstrates this point by invoking the concept of competition for the field and applying it to natural monopoly cost conditions.

1. There is an implied role to be played by the controlling governmental entity in making competition for the field a practical process by which to establish a competitive equilibrium price in the context of natural monopoly conditions. What is this role? How would equilibrium price be established if the governmental entity does not become involved?

2. Suppose the case is one in which the advantage of having just one firm to serve all customers is due to network economies rather than from traditional natural monopoly cost conditions. Is there a role for a government entity to play in making competition for the field a practical process if network economies create the potential for a single firm to prevail in the relevant market? If there is a role, is it the same as government should play if this potential arose from traditional natural monopoly conditions? How would the process of competition for the field work in this case if the governmental entity does not become involved?

II. Consider the Berle and Means' problem of a separation between ownership and control in the modern corporation. The typical perception of the problem is that of thousands of independent shareholders, none of whom owns a large fraction of the corporation's shares; these investors are thought of as having purchased these shares directly through the stock market; however, this need not be the case. Suppose an open-end mutual fund has purchased these shares after first securing the funds for doing so from investments made in it by these same thousands of persons.

1. Does this affect the severity of the separation between the ownership and control problem? If so, in what way? If not, why not?

2. Would you answer 1. the same way if the mutual fund were closed-end rather than open-end? Explain.

3. Only one or two mutual funds have a policy of making a large investment in a single corporation. Overwhelmingly, mutual funds severely limit the fraction of shares they own in a single corporation. What does this fact tell you, if anything, about the importance of the problem of a separation between ownership and control?

III. A recent commentator claimed that Bill Gates' behavior in the computer industry was analogous to the behavior of J. D. Rockefeller in the kerosene refining industry and that, just as Standard Oil was finally broken up to the advantage of consumers and competitors, Microsoft must also be broken up.

1. One analogy drawn in the commentator's analysis is that, just as Standard's monopoly of refining was based on illegal railroad rebates that placed competing refiners at a disadvantage, Microsoft Windows' monopoly is based on Microsoft providing discounts to PC manufacturers and others (such as ISPs) in return for favored treatment of Microsoft products that placed competing operating system suppliers (and potential operating system competitors such as Netscape) at a disadvantage. Analyze this argument comparing the contrasting Standard Oil's and Microsoft's behavior.

2. Describe why the forced divestiture of the Standard Oil Trust (the break-up of the company into separate refining companies and the spin-off of the pipeline network into separate companies) provided benefits to consumers.

3. Would the break-up of Microsoft into an operating system and applications company (assuming that browser software is considered an application) provide similar benefits to consumers? Why or why not?

IV. Block pricing amounts to average pricing of parts of a package of products.

1. Present two alternative theoretical explanations for why a manufacturer would want to average price the elements of a package.

2. Explain the block pricing in each of the following examples in terms of these two explanations (or a third explanation if necessary).

   a) DeBeers' marketing of rough gem quality diamonds.

   b) Paramount's marketing of films for theatrical distribution during the 1920s through the 1940s.

   c) Loew's marketing of films to TV stations during the 1950s.

3. An alternative to ex ante average pricing may consist of ex post contingent pricing. Describe how ex post pricing could serve as a substitute to block pricing. Why was such an ex post pricing arrangement not used to replace block pricing in each of the three cases?

V. Consider a discrete-choice model of individual demand in which consumer i purchasing a single unit of product j obtains utility

$$U_{ij} = x_j\beta - \alpha p_j + \xi_j + \varepsilon_{ij}$$

x_j: observed product characteristics

p_j: price

ξ_j: unobserved product characteristics (or mean unobserved quality)

ε_{ij}: unobserved consumer tastes

α, β: parameters to be estimated

1. Ignoring issues of endogeneity and the specific implementation, could this model in principle be estimated using aggregate data (market-level shares instead of individual consumers' purchase decisions) from a single market at a single point in time? Explain your answer.

2. In Berry's RAND paper he shows how we could estimate such a model with aggregate data and using instruments for endogenous right-hand side variables. As best you can, explain the general method. (There is no need to be highly detailed, or to detail any logit case, for example. Just explain the general approach in which you may find it helpful to introduce some notation, or not.)

3. A well known weakness of the above specification is the so-called "independence of irrelevant alternatives." Explain this problem intuitively. You may wish to explain it in terms of the specification above, or not. Include in your answer an explanation for how "random coefficients" helps solve the problem.

4. Provide three examples of instruments for price in demand estimation, and briefly explain in economic terms why each may be a valid instrument in a particular setting of your choosing (it does not have to be the same setting each example).

VI. In their paper on the radio industry, Berry and Waldfogel ask the question: what is the difference between welfare under free entry, collusion and a social planner in the radio broadcasting industry?

1. Why is this an interesting question to examine?

2. What data do Berry and Waldfogel use to answer this question? If you are unfamiliar with their study, you should suggest some data that you think would help to answer this question. Either approach to answering it is equally acceptable.

3. Intuitively, how are they able to use the data to answer the question? Or how would you use the data you suggested in 2. to answer the question?

4. What is a Markov perfect Nash equilibrium? (This is of course unrelated to Berry and Waldfogel's study.)