

September 27, 2000

UCLA Department of Economics

Industrial Organization Comprehensive Examination

Fall 2000

(4 hours)

Answer all six questions. Each question has equal weight.

I. Recent studies seeking to explain variations in performance across firms have used Tobin's Q , or an approximation to it, as a measure of firm performance. Tobin's Q , you will remember, is the ratio of the market value of the firm's assets to the present cost of replacing these assets. Several of these studies use the ratio book value of debt to the book value of total assets as an explanatory variable (among others). Various reasons are given for using this, among which are:

- (A) The tax advantages of debt (since interest payments are tax deductible to the firm),
- (B) The signaling capability of debt (since debt burden taken on by a firm indicates management's assessment of the firm's future),
- (C) The effect of debt on the amount of a firm's revenue that is available for use at the discretion of the firm's management.

From the perspective of economic theory, assess the validity of a causal connection that runs from this ratio to firm performance. On the basis of your assessment, stipulate the sign (+, -, 0) you expect this ratio to take in an empirical investigation that controls for other variables that might affect firm performance. (Included in these other control variables are (a) size of the firm, as measured by the book value of its assets, (b) systematic and firm-specific risk associated with the firm, and (c) a measure of the ownership structure of the firm.)

II. There have been a variety of studies of the relationship between variation in profit rates across different markets and variation in the structure of these markets. These studies have resulted in explanations based on collusion, inability to quickly and easily imitate success, and indivisibilities that yield significant downward sloping portions of U-shaped firm cost curves. Discuss the evidence pertaining to each of these explanations. In doing this, please discuss whether the evidence in support of one explanation also rules out the other explanations.

- III.
- a) Define what is meant by a “hold-up”.
 - b) Does the possibility of a hold-up require an imperfect long-term contract?
 - c) Because the likelihood of an ex post hold-up is taken into account by transactors in their ex ante contract terms (including contract price), transactors should not be concerned about hold-up potentials if they are risk neutral. Evaluate.
 - d) If a hold-up of a buyer is taken by a seller increasing the price (rather than in a lump sum payment), does this imply that the seller is setting a greater than profit-maximizing price (since it was presumably setting a profit-maximizing price before the hold-up)?
 - e) Because we observe market contracts between independent firms, rather than vertical integration, where the parties have made large relationship-specific investments, avoiding the hold-up potential is an unlikely explanation for vertical integration. Evaluate.

IV. The FTC is currently investigating the merger of AOL (the nation’s largest Internet access provider accounting for about 40 percent of the U.S. market) and Time-Warner (a company that, among other assets, has the monopoly cable TV franchise for about 20 percent of the nation’s households). Time-Warner is upgrading its cable lines so that consumers can receive broadband Internet service (a faster service that, in addition, gives Time-Warner the ability to provide new services, such as video, over the Internet).

The FTC is concerned that, after the merger, Time-Warner cable systems will enter into exclusive agreements with AOL, preventing competing broadband Internet access providers from supplying services to Time-Warner cable customers. The FTC claims that in this way Time-Warner could extend its monopoly from cable to broadband Internet access services.

- a) Does this make economic sense? Under what conditions would such an anticompetitive analysis make sense?
- b) What pro-competitive/efficiency reasons would motivate Time-Warner’s exclusive contracts?
- c) What aspects of Time-Warner and AOL behavior should the FTC consider regulating to implement their “open access” policy?
- d) What would be the likely economic effects if the FTC prevented Time-Warner from entering exclusive AOL agreements (i.e., required “open access”) in the way outlined in c)?

- V. John Sutton's pioneering research on sunk costs and market structure highlights the differing roles of exogenous and endogenous sunk costs.
- a) Explain the term "endogenous sunk costs". You should be as precise as possible in your answer.
 - b) How does Sutton relate endogenous sunk costs to market structure, market size and the strength of price competition? Again, be as precise as possible in your answer.
 - c) In a series of studies into isolated geographic markets, Bresnahan and Reiss examine the relationship between market size and market structure. What data do they use to investigate this relationship? Does their analysis lead to the identification of causal effects or simple correlations?
 - d) In the dynamic oligopoly analysis by Pakes and McGuire, they simulate industry evolution under collusion, among other things. In the case of collusion, they find, on average, the fewest number of firms exist in the market at any one time, relative to Cournot competition. But in Sutton's framework, collusion defines the lower bound of concentration, so that under collusion the maximum number of firms endogenously exist in the market. Explain these apparently inconsistent results.

- VI. 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 (logit error term)

α, β : parameters to be estimated

- (A) 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.
- (B) Provide three distinct 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.
- (C) Suppose you have estimated a BLP demand system for the U.S. automobile industry. There are some economic issues for which it is hard to imagine undertaking a sensible empirical analysis without such demand system in hand. What is an example of such an issue? You should include in your answer a brief explanation of why the issue is interesting as well as why it is important to use a BLP-like demand system to help analyze the issue.