

Short Answer Problems

- 1.1 Intel responded to publicity over a flaw in an early version of its Pentium chip by announcing that the problem was unlikely to affect most users, that Intel would not distinguish chips with and without the flaw in its future sales, and that it would not exchange chips with the flaw unless a customer could demonstrate that the flaw "significantly" affects his or her work outcomes. What might models of asymmetric information on product quality imply about the effects of this response on the overall demand or speed of diffusion of Intel's next generation chip? Be specific but brief!
- 1.2 In some industries, manufacturers operate their own distribution networks, marketing their products directly to retail outlets. In others, manufacturers use independently-owned wholesalers or manufacturing representatives to market their products. What factors are likely to influence the choice of distribution method for a particular product?
- 1.3 "Patents generate monopolies, and monopolies generate dead-weight loss. Society would be better served by eliminating patent protection for innovations." True, False, or Uncertain? Briefly explain your answer.
- 1.4 When Peter Pan replaced American Coach Lines on the New York - Washington, D.C. bus route in June 1992, it offered an introductory fare of \$9.95 "to gain publicity and [build] customer loyalty." Greyhound, the remaining incumbent, responded by lowering its fare to \$7 and then to \$5. Peter Pan matched each reduction. The \$5 fares for both firms were pre-announced to be valid until mid-August. Operating costs (labor and fuel) per bus-trip are estimated at \$475; a bus can carry about 50 passengers. What arguments would you make to support or refute a charge of predatory pricing against Greyhound?

Essay:

1. The Department of Justice has hired you to evaluate the market for rental cars. A survey of customers of the top 5 car rental firms (which account for approximately 85 percent of all rentals) at 20 large airports reveals substantial variation in the rental rates charged to different customers of the same firm. Rates vary considerably across a large number of dimensions: across different airports, across days of the week (with week-end rentals substantially lower than daily rental Monday - Thursday), over rental periods (one-day v. week-end v. weekly v. monthly), and across car models. In addition, there appear to be a large number of promotional rates used by different customers (AAA discounts, corporate discounts, advertised specials, advance reservation rates, etc.), so that rentals that appear to have identical characteristics (day of week, location, length of rental, model of car) often entail different prices.
 - a) What are possible explanations for non-uniform pricing in a market?

- b) Assess the plausibility of each explanation in (a) for the pattern of pricing observed in the rental car market. Include in your assessment any pre-conditions that attach to each explanation and whether they are likely to be satisfied in this market. If you need additional information, describe what that information is and how it would affect your conclusion. Be specific but brief!

Numeric problems: See the odd problems at the end of the Church and Ware chapters assigned on the reading list. Answers in the back of the text.

Final ExamShort Answer Problems:

- 1.1) Models of asymmetric information suggest that Pentium's response could lower the perceived quality of Pentium chips since the consumer may be unable to detect the flaws from cursory examination in a store. Lower quality would shift the demand curve inward. Speed of diffusion might also slow if customers await early users of next-gen chips to properly test the viability of the chip.
- 1.2) This boils down to vertical integration. The decision to integrate depends on both the balance of costs which include:
- > cost savings by reducing interfirm transaction costs
 - > cost increases due to managers no longer being residual claimants.
- If the upstream firm is an oligopoly/monopoly as is the downstream firm, vertical integration can have efficiency gains by charging the effective monopoly price only once (reducing DWL created at multiple layers). If downstream firms are strategic complements and investment makes them soft, then vertical disintegration (not owning retail/wholesale) could be beneficial to oligopolistic/monopolistic manufacturers.
- 1.3) Uncertain. Patents do allow for monopoly rents, but they also encourage innovation. Patentable technologies are often pure public goods which mean that competing firms have an incentive to not invest without patent protection. The benefit to society is whether the cost of monopoly rents + regulatory/litigation costs is less than the opportunity cost of lost innovation.
- 1.4) Average cost for a passenger (per bus) is \$9.50, however marginal cost could be nearly zero. If bus drivers are unionized and routes/fleets are unchangeable in the short-term then even a \$5 fare is still profit maximizing. This makes predatory pricing unlikely as:
- 1) The promotional length was short-term (~2 months) which casts doubt that Greyhound could eliminate buses/routes/drivers.
 - 2) A new competitor undercharging would directly rob Greyhound of customers, and its prices were still above short-term marginal cost.

Long Answer Question

The varied pricing scheme used by rental car companies is likely reflective of price discrimination to capture greater consumer surplus. Nonlinear pricing is a tool available to oligopolistic competitors (as is evidenced by the 80% concentration of the top 5 rental firms). This also explains the difference in price for the same product, since different customers have different reservation prices for the same product. Corporate discounts could be seen as a form of two-tiered pricing with companies paying flat rates as well as individual rates per use.

Another possible explanation is simply that demand varies heavily based on location, day of the week, etc. If more people prefer to rent on weekdays than weekends, this would create a different price, even if firms had no market power (and therefore could not charge above marginal cost) because supply would be more limited. This explanation does not, however, account for the variation in price to different customers for the same product.

Another explanation could be that rental agencies have differentiated products (as in preference for the same car, day, place, etc. is not indifferent to different rental agencies because of brand, service, etc.) This could result in rental agencies extracting rents from customers who prefer to rent from them. This requires more information about the degree of perceived difference in rental agencies.

In conclusion, the most likely explanation is demand variations for products themselves and nonlinear price discrimination of customers. The former is consistent with low cross elasticities of demand in location, model, day of the week and the latter is consistent with a market structure implying market power and the ability to sell above marginal cost.