**Imperfect Competition**

**Questions and Problems**

**Questions:**

1. Compare monopolistic competition to perfect competition with regard to the following market characteristics:
   1. Number of sellers.
   2. Homogeneity of the good or service being sold
   3. Ease of entry into or exit from the industry
   4. Ability to earn an economic profit in the long run
2. Product differentiation is an important feature of monopolistic competition. What is product differentiation and what forms does it take?
3. Advertising is an expense that adds to a monopolistic competitor’s total cost and shifts its Long Run Average Total Cost (LRAC) curve upward.

* 1. Make an argument that the net effect of advertising could actually be to lower a firm’s long run average cost.
  2. What is the counter-argument to the argument you just made?

1. Imagine that an industry transforms itself from a perfectly competitive industry to a monopolistically competitive industry over a short period of time. Considering the differences between the two market structures, what would society lose and what would it gain in this transformation? Explain.
2. Compare oligopoly with perfect competition with regard to the following market characteristics:
   1. Number of sellers.
   2. Homogeneity of the good or service being sold
   3. Ease of entry into or exit from the industry
   4. The ability to earn an economic profit in the long run.
3. Define mutual interdependence. Explain why it is important in oligopoly but not important in perfect competition or monopoly.
4. Why are oligopolistic firms tempted to collude? What forms can collusion take and what are the dangers of colluding?
5. Both Coke and Pepsi are bottling a new cola that contains herbal ingredients that have been shown to increase mental acuity. Both companies plan to advertise their new colas and are considering whether to go with a big ($50 million per year) or a small ($15 million per year) advertising budget. The payoff matrix below shows the projected 3-year profits to be earned from the new cola under the two budget assumptions.

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| --- | --- | --- | --- |
|  |  | **Coke’s Advertising Options** | |
|  |  | **Big Budget** | **Small Budget** |
| **Pepsi’s Advertising Options** | **Big Budget** | Coke’s Profit = $5 m  Pepsi’s Profit = $5 m | Coke’s Profit = $2 m  Pepsi’s Profit = $10 m |
| **Small Budget** | Coke’s Profit = $10 m  Pepsi’s Profit = $2 m | Coke’s Profit = $8 m  Pepsi’s Profit = $8 m |

* 1. What is the dominant strategy? Explain why.
  2. What is the best joint strategy for both companies?
  3. What are the difficulties Coke and Pepsi would face in trying to implement the best joint strategy?

**Answers:**

1. …
   1. A monopolistically competitive market consists of numerous small sellers who sell differentiated but similar products. A perfectly competitive market includes many sellers, none of whom is large enough to affect market price or quantity.
   2. A monopolistically competitor’s good or service is differentiated but faces good substitutes. The perfect competitor’s good or service is identical to other sellers’ offerings and therefore a perfect substitute.
   3. Entry (and exit) into a monopolistically competitive market is relatively easy (barriers to entry are low). This is similar to a perfectly competitive market.
   4. Neither the monopolistic competitor nor the perfect competitor can earn an economic profit in the long run. They earn a normal profit which means their revenue is coving all costs, including opportunity costs (profits). Their inability to earn an economic profit in the long run stems from the ease of entry into the market.
2. Products can be differentiated by various means. These include their physical attributes (a down jacket has different qualities than a synthetic fill); their location (the dry cleaner in your neighborhood offering identical services to the dry cleaner across town is preferred because of its location); intangible aspects (a money-back guarantee or free delivery makes one product different from another); and customer perceptions of differences whether they’re real or not (blind taste tests often reveal that consumers can’t detect the difference between their strongly-preferred brands and competitors’ offerings).
3. …
   1. If advertising is successful in increasing sales it may lead to greater economies of scale in production thereby lowering the firm’s total average cost.
   2. The counter argument is that advertising by monopolistic competitors is likely to be offsetting so an increase in advertising costs will simply result in the firm maintaining its market share and not expanding production.
4. Such a transformation would cost us both allocative and production efficiency. Price would no longer equal marginal cost but would be higher and long term production would no longer occur at the minimum point on the LRAC curve. What we would gain is variety which may be hard to value but it very important to consumer satisfaction. .
5. …
   1. An oligopoly market consists of a small number of sellers some of whom are big enough relative to the market o affect market price. A perfectly competitive market includes many sellers, none of whom is large enough to affect market price or quantity.
   2. Oligopoly exists in consumer goods markets such as automobile and food manufacturing where product differentiation is an important form of nonprice competition as well as commodity-type industries such as steel and aluminum that produce homogenous products.
   3. Entry (and exit) into an oligopolistic model is difficult due mostly to economies of scale which may exist not only in production but also in areas like distribution or advertising. There are no barriers to entry in a perfectly competitive market.
   4. Due to the considerable barriers to entry (and despite the presence of price competition), oligopolists are able to earn an economic profit in the long run. Perfect competitors can only earn a normal profit in the long run.
6. Mutual interdependence is defined as a market situation in which the actions of one firm have an impact on the price and output of its competitors. It’s an important “fact of life” in oligopoly precisely because oligopoly is characterized by a small number of large firms each of whom has an impact on the market. It’s not applicable to perfect competition where firms are small and numerous and it’s not applicable to monopoly which consists of a single firm.
7. Oligopolists are tempted to collude in order to avoid costly price and nonprice competition and to act as a monopolist and reap monopoly profits. Collusion can be explicit, meaning it’s accomplished with formal agreements, or implicit, meaning it’s done by other means such as price or nonprice leadership. The main danger with explicit collusion is that it’s illegal and could result in fines and even jail time for company executives if discovered. Even if not discovered colluders may cheat given that the formal agreement itself is not legally binding. The danger with implicit collusion is that it’s unenforceable and therefore, subject to cheating.
8. …
9. Looking at strategy from Coke’s perspective, determine Coke’s highest payoff regardless of what Pepsi does. If Pepsi goes big, Coke is better off going big and if Pepsi goes small, Coke is still better off going big. Therefore, Coke’s dominant strategy is to go big. The matrix is symmetrical so Pepsi’s dominant strategy is also to go big.
10. The joint payoff is greatest is both Coke and Pepsi choose a small budget. Both earn $8 m compared to $5 m with the dominant strategy.
11. A formal agreement to fix their advertising budgets at a certain level would constitute explicit collusion and likely run afoul of the U.S. Justice Dept. An informal agreement, achieved perhaps by one firm announcing its advertising plans and the other following suit would be no guarantee of compliance. An additional problem in the case of advertising is that it’s hard to predict the effectiveness of advertising.