

Problem Set 5

Econ 250

1

After several years of severe price competition that damaged Boeing's and Airbus's profits, the two companies pledged not to have another price war. However, Boeing made an unusual offer to sell 100 small aircraft to a leasing corporation at special discount prices. Boeing's move follows a similar one by Airbus. Based on the analysis of section 9.1 in your book, why do you think it is so difficult for aircraft manufacturers to collude and avoid price wars?

2

"Price wars imply losses for all of the firms involved. The empirical observation of price wars is therefore proof that firms do not behave rationally." True or false?

3

a) In the US, when shipping firms were forced to announce all prices, prices actually increased suggesting that collusion was easier to sustain. Suggest a reason why.

b) Suppose that firms play a modified tit for tat strategy whereby if another firm cheats, each other firm prices at marginal cost for T periods. Suppose that the discount factor is sufficient to ensure that firms do not cheat on collusion. Suppose also that you observe that price wars still happen but only in situations of unexpected demand shocks. Provide a hypothesis to explain your observation.

c) In 2005, the two biggest Canadian Airline producers Air Canada and West Jet, faced competition from a new entrant, Jetsgo. By Christmas time of 2005, prices were remarkably low and Jetso was finally driven out of the industry leaving many travellers stranded and unable to get their money back. Low prices might be explained due to the breakdown of collusion. Provide two possible explanations.

d) How does market structure affect the ability of firms to collude?

e) Is collusion legal? Is collusion always bad for society? Discuss.

4

Consider a price-setting oligopoly with n firms, all with constant marginal cost c . Suppose market demand is given by $D(p)$ and the discount factor is $.8$. Determine the maximum number of firms such that there exists an equilibrium with collusive monopoly pricing.