

International Master of Science in Business Economics
Economics of Business and Markets

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Exercise 1 (3 points)

“Portuguese Competition Authority decided to investigate the acquisition of the insurance business of *Seguros e Pensões* (MillenniumBCP) by *Caixa Seguros* (CGD). The main concern with this acquisition, in July 2004, was the fact that *Caixa Seguros* would get a dominant position in the market (...).

Assume that the market shares of the largest insurance companies (in the non-life segment), before and after the acquisition, are the following:

<i>Company</i>	<i>Market share before acquisition*</i>	<i>Empresa</i>	<i>Market Share after acquisition*</i>
Seguros e Pensões	21%	Caixa Seguros	43%
Caixa Seguros	20%	Tranquilidade	15%
Tranquilidade	18%	Axa Portugal	4%
Axa Portugal	5%	Totta	2%
Totta	2%	Allianz	1%
Allianz	1%		

- Compute the values of Herfindhal and C4 indexes for each situation and explain the differences you might find.
- Explain the concern of the Competition Authority *vis à vis* this acquisition process. Which arguments could you present in favor of the acquisition?

Exercise 2 (4 points)

- “ATP is a company owned by the major US airlines whose main purpose is to disseminate price information to airlines and to operators such as travel agents, using computer reservation systems. Such information is fed to the ATP by each company, and it contains several elements, such as the fare and the route to

*which the fare is applied, the possible restrictions to this fare (for instance, which type of consumer can buy it, if advance payment is required, if a minimum number of days of stay are required and so on), **first and last ticket dates** (which indicate the period during which the fare can be sold), and **first and last travel dates** (which indicate when the travel for which the fare applies should take place)."*

In Massimo Motta, "Competition Policy", 2004

The Justice Department in the USA accused airlines companies of using ATP to sustain collusive behavior. Explain the argument that sustains this accusation.

- B.** *"Coffee producers agreed to limit supplies in an effort to increase world prices, which have been at the lowest level in the past seven years. The current average coffee price is about 68 cents a pound. According to the plan, producers would hold back 20% of their exports until the price index reaches 95 cents. The plan is backed by the main members of the Association of Coffee Producing Countries, including Brazil and Columbia. This fact has led analysts to believe the plan has some credibility. In fact, future prices rose on reports that an agreement had been reached. Consumers, however, seem more skeptical. "In the short term, it may lead to a price rally, but in the long run there is no alternative to market forces", said B. Hubert of Kraft Jacobs Suchard, one of Europe's largest coffee importers. In Brazil, reactions to the agreement were mixed. While small producers seemed happy with the idea of a price increase, large producers were concerned with the need to reduce exports."*

Make a comment about this text taking into account your knowledge about collusion among firms. In particular, try to explain producers' reactions in Brazil.

Exercise 3 (4 points)

A. "France Telecom SA has lost only a mere 3% of its home market in the first year since the industry was open to competition (1998). (...) France Telecom was probably the incumbent that did the best job at preparing for the arrival of competitors. Already in 1997, they decreased prices by 40%. Later, when entry actually took place, France Telecom made an effort to protect its best costumers, often matching the new entrants' lower prices.

France Telecom's strategy really desmotivated a lot of competitors."

- a) Identify and explain France Telecom strategies.
- b) Are those strategies always credible? Why?

B. *The ReaLemon brand, made by Borden, Inc., dominated the market for many years. When a rival firm, Golden Crown, entered the market with its own lemon juice product it found itself at a real disadvantage relative to ReaLemon, which had advertised heavily during the previous ten years. Even though Golden Crown's product was chemically identical, Golden Crown had to sell at a 15 to 25 percent discount relative to ReaLemon's price. When it did this, substantial price competition broke out between the two firms. As a result, ReaLemon lowered its price. In turn, this forced Golden Crown to reduce its price even further in order to maintain the relative discount necessary for Golden Crown to win any significant market share. After a few further rounds of such price cuts, Golden Crown found that it could barely break even. Were it not for the decision of the courts, Golden Crown would have been forced out altogether. Yet even with Golden Crown in the market, the degree of concentration remained quite high.*

- a) Explain carefully the rationale for the Golden Crown's strategy.
- b) How can you explain the high degree of concentration in the market?

Exercise 4 (5 points)

Suppose you are the only manufacturer of surfboards which are sold in two separate markets: California and Hawaii, each one with fifty consumers. You have one factory that produces an unlimited number of surfboards with the following total cost $TC_i(q_i) = 3q_i + 5$.

Individual demand in each market is: $P_H = 30 - 0,5q_H$; $P_C = 40 - q_C$

- a) Suppose aggregate demand is $Q_C = 3000 - 100P$ in California and in Hawaii is $Q_H = 2000 - 50P$. If you could not discriminate between the two types of demand which price would you charge? Compute your profits in this situation.
- b) Assume that you have two selling stores (one in California and another in Hawaii) and you can practice different prices in each one. Which prices would you chose?
- c) Could your price strategy in b) be compromised if surfboards could be shipped from one place to the other at a unit cost of 4? Explain without making any computation.

- d) Suppose now that the two markets are **completely separated**. Build and specify one possible pricing strategy that allows you to get the maximum possible profit (capturing the entire consumer's surplus).

Exercise 5 (4 points)

Suppose that in a certain region there is a single breakfast cereals producer. Consumers in this region have preferences that are uniformly distributed along a $(0,2)$ segment, where 0 represents the sweetest type of cereals and 2 represents the healthiest type of cereals. In this market there are 1000 consumers that will buy one unit of the product if and only if the total price is lower than their reservation price that is 15 euros. Due to technological restrictions firms can only introduce products at points $\{0, 1 \text{ or } 2\}$ of the segment.

The firms in this market have negligible marginal costs and they want to cover the entire market.

Each consumer buys a single unit and incurs in a "disutility cost" that is equal to $(v-x)^2$, where v is the firm's location in terms of its product variety and x is the consumer location in terms of its preferences.

Two firms are considering to enter in this market. Assume that firm A is the first deciding to enter and deciding about the products variety she will sell. Firm A can choose to sell one or two products. After firm A entry, firm B decides if she wants to enter or to stay out and, in case of entry, firm B must choose the variety of its product. In the picture you can find the profits that both firms get in all possible cases.

- a) Compute the equilibrium prices in order to find the values X and Y in the figure.
- b) Consider that firm B, when making the entry decision, only knows the number of products firm A decided to introduce in the market but it does not know which product variety firm A will choose. Firm B knows the following:
 - If firm A enters with one product, she will choose location 0 with 40% probability and location 1 with 60% probability;
 - If firm A enters with two products, will choose locations 0 and 1 with probability 40% and locations 0 and 2 with probability 60%.

Assuming that firm B is risk neutral, determine the equilibrium of this game.

(Note: if you did not find an answer to the previous question assume that $X=700$ e $Y=1300$.)



