

# Practice problem set 11

## Collusion & detection

This problem set constitutes recommended material for the relevant lab. The choice of tasks to be presented instructionally in every lab is in the discretion of the individual teacher. Students are expected to work on practice problems, however, are not required to submit written solutions. It is non-negotiable policy in this course to not provide hand-outs with the solutions of practice problem sets.

1. Describe an econometric study of collusive behavior, including a discussion of the link between theory and econometric modeling. What are the limitations of this type of empirical work?

*UoL: 2005 zb #3 / 2010 za #2*

2. Explain why cartels tend to be unstable. How might the members of a cartel try to increase its stability?

*UoL: 2015 za 2a /2015 zb 2a*

3. A cartel in the wholesale market of cement (wholesale means that the minimum transaction is 100 tons) will be more difficult to sustain than a cartel in the consumer retail market of cement. True or false and why?

*End of 2<sup>nd</sup> Module Examination – 2012*

4. Many Hollywood movies depict conflicts between crime organizations in the US. Reality is not far away from the pictures. Based on FBI investigation, different mafia organizations are engaging into collusive agreements in order to exploit the underground markets of drugs, prostitution, stolen goods and weapons. Officials from the US Attorney General office mentioned on the subject: “These agreements do not last long, however. It is a matter of time a war of retaliation to begin and that’s when all hell breaks loose”. Provide a well justified economic reason explaining why collusion is not viable in the mafia world.

*End of 2<sup>nd</sup> Module Examination – 2013*

5. The following equation is coming from Porter’s econometric model on the detection of collusion.

$$\ln p_t = \beta_0 + \beta_1 \ln Q_t + \beta_2 S_t + \beta_3 I_t + u_{2t}$$

- (a) What is  $S_t$  and what is  $I_t$ ?
- (b) Why did he use logarithms for the price and quantity?
- (c) What does the equation above represent?
- (d) The model assumes that the analyst knows  $I_t$ . But if you know  $I_t$  why do you need a model to detect collusion in the first place???

*End of 2<sup>nd</sup> Module Examination – 2013*

6. This question refers to tacit collusive behavior by oligopolistic firms.

- (a) What is tacit collusion?
- (b) Provide an example of tacit collusion.
- (c) Explain how a prosecutor can prove the intent to collude when two firms charge prices way beyond the marginal cost but there is no proof that the two firms have an explicit agreement.

*End of 2<sup>nd</sup> Module Examination – 2013*

7. Two firms consider engaging in a collusive agreement. They both know that they will interact for at least 4 rounds. After the completion of the fourth round a fair coin is tossed. If it sits on heads another round is played, if it sits on tails the interaction is terminated forever. Explain if collusion is possible.

*End of 2<sup>nd</sup> Module Examination – 2013*

8. In the lecture, we mentioned that one of the factors that affect the potential of collusion is the “portion of the market that colludes”. In this case, the market should be analyzed by the ‘dominant-firm-model’. Describe the steps we follow in that model.

*End-module 2 Exam – December 2016*