

## Practice problem set 3

### Transactions cost & property rights

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. Consider the following model of a vertical relationship between a buyer and a seller. There are two periods and the two parties can trade one unit of an indivisible good in period 2. Let  $v > 0$  denote the value of the good to the buyer,  $c > 0$  the production cost, and  $p$  the trading price.
  - (a) The manufacturing of the good requires an investment of  $F > 0$  by the seller in period 1. Assume that  $v$ ,  $c$  and  $F$  are commonly known. Does  $v > c + F$  ensure that the trade in period 2 takes place?
  - (b) Assume that the seller can invest  $I \geq 0$  in period 1 (in addition to  $F$ ) to enhance the quality of the product to the buyer. Specifically, let  $v(I) = 11 \ln(I + 1) + 1$ . The level of  $I$  cannot be specified in a contract because it is not verifiable and therefore such a contract would not be enforceable in court. What is the efficient level of investment as a function of  $(c + F)$ ?
  - (c) What is the level of investment chosen by the seller if the ex post surplus is to be divided in proportion  $b:s$  between the buyer and the seller? Hint: set  $\frac{\text{Buyer's ex post surplus}}{\text{Seller's ex post surplus}} = \frac{b}{s}$  to solve for the trading price.
  - (d) Is higher  $b$  or higher  $s$  better from efficiency perspective?

*End-module 1 test – October 2015*

2. Describe the transaction costs-property rights approach to the theory of the firm, including a careful examination of the key elements of this approach and discussion of the basic theoretical predictions. What is the empirical support for this approach?

*UoL: 2004 za/zb #1 / 2008 za #1*

3. A survey has found that small UK firms that produce customized components for UK manufacturers often do not rely on formal contracts for their relationship. Furthermore, over half of the firms claim that the technology used to support the relationship should be upgraded but this investment is not being made. Using the theory of transaction costs, describe why underinvestment often occurs in these relationships.

*UoL: 2015 za 1a / 2015 zb 1a*

4. One of the definitions of firm describes it as a long-term relationship. What is the key reason that makes it important for the relationship of two independent capitalists to be long-term?

*Module 1 Test – 2014*

5. Without defining the two terms, state the key differences between “moral hazard” and “adverse selection”. (6p)

*Module 1 Test – 2014*