Voluntary assignment 1

Hints for answers

This is *not* a standard version of answers to the assignment. Actually, no such standard exists, since the assignment – and the exam – is formulated in such a way that there can be many different ways of answering it, all of which are equally good provided that an argumentation is given. Therefore, the following gives only a few hints as to what an answer *could be.*

Problem 1

We are dealing with a problems of the loan contract (Chapter 5 in the textbook). In the first question, the lender has insufficient information about the borrower, and we are not told whether there is any (possibly costly) ways of getting this information. If the lender knows that the success of the new business is connected with the actions of the borrower (acquiring necessary skills, possibly at a cost), the moral-hazard contract (where the outcome is paid back to the lender if below a certain threshold, and otherwise nothing is paid) might be considered.

In the second part, we may consider the courses as an additional effort which should be chosen by the borrowers without necessary skills. The loan contract may support this if it contains provisions for a collateral which provides the necessary incentives. If there is a simple way of checking whether the potential borrowers already have the necessary skills (for example by presenting a course certificate), then such borrowers may have a contracts without collateral (in accordance with the BTU model in Chapter 5).

Problem 2

This problem can be seen as one of setting up a special type deposits on behalf of investors who may need their money before the projects yield the scheduled payoffs, as considered in the Diamond-Dybvig model of Chapter 1. The contracts should give the investors the possibility of withdrawing funds before the investment matures, and if the economic conditions of the investors are reasonably well known (probability of withdrawals) then the repayments can be set up correspondingly, with a small interest payment even in the case of early withdrawal.

The availability of alternative investment opportunities at some point in the future means that the probability of withdrawal will increase since investors will want to change to these alternatives. To avoid this, the original deposit contracts must be set up in such a way that the repayment at early withdrawals is made dependent

on the payoffs of the alternative investments, so that withdrawing and investing alternatively is no better than staying with the first investment. (Incidentally, this reintroduces risk into the contract which originally was set up to reduce investors' risk.)

Problem 3

We are here back in Chapter 5 on the loan contract. In the first part, we have full information, and the contracts will deal only with risk sharing, so that the repayment will depend on the attitudes towards risk of both lender and borrower (if lender is risk neutral and borrower risk averse, the lender will pay a fixed amount to the borrower independent of the payoffs of the underlying securities, otherwise they will share this payoff, typically in some fixed proportion).

After the restructuring, information about investment payoffs is not as easily accessible as before, so we have moved to asymmetric information. It seems reasonable that borrowers' payoffs can be checked at some additional cost, and this suggests that the loans would be set up following the standard contract.