Economics of Banking, 8. June 2015

Hints for solution

1. The textbook background is Chapter 5 on the loan contract. In the case described, the lender can observe whether the borrower has type (a) or type (b), but in particular for the latter type the result depends on the effort of borrower, so that there is a moral hazard problem.

If the contracts between borrower and lender can be formulated as the partners may want, one may suggest an incentive contract to the borrower of type (b), whereby repayment is cancelled for sufficiently high levels of outcome, whereas everything is paid back if outcome is small.

In the case where such unusual contracts cannot be applied, it would be natural to include a collateral in the contract. The size of this collateral should be such that it does not pay for the borrower to save the expenses on IT-learning, whereas the interest rate can be adapted so that average payoff to the borrower is acceptable (the BTU model)..

2. The textbook background is Chapter 15 on deposit insurance. As mentioned in the problem there is a rather specialized production sector in the country considered, so that a general economic turndown must be expected to hit the country rather hard

In the first part of the problem there should be a short discussion of fair premium against premium fixed according to options pricing. It should also be mentioned that the cost of a bank default depends on whether it can be taken over by another bank, that is whether the problems hit both banks or only one of them. The premium for deposit insurance might be differentiated depending on the correlation of the banks' engagements.

3. The textbook background is Chapter 11 about competition and risk-taking. The situation described corresponds in rough outline to the Gale-Allen model of oligopolistic banks, where an increasing number of banks leads to a higher level of risk in society. The intuitionen behind this result is that competition between banks leads to higher deposit rates so that banks are forced into more risky investments. It can be argued against the Gale-Allen model, that banks are not investing themselves, rather they lend to entrepreneurs who are investing. In this setup, one may obtain the opposite effect, so the argument that risk comes from competition is not generally valid.

The intuition behind a higher capital ratio is that the bank will we more careful since it risks its own equity. But an increased capital charge which is considered by the authors as an increase in the cost of funding loans, may lead to an increased loan rate and more risky investments made by entrepreneurs-borrowers. It may therefore be doubted that the argument holds in the situation considered.