

Economics of Banking, Exam 2007I

21. December 2006

Hints for solution

1. The problem is related to credit rationing, and the background literature is Freixas & Rochet chapter 5. It is stated that the banks cannot follow up on the way in which borrowers use the loan, meaning that we are in a situation of moral hazard, but it may also be a case of adverse selection, since the ability of the borrowers to get a good result from the investment, even when it is used as agreed upon, is not known in advance. Any type of asymmetric information is acceptable provided that it is followed by an argumentation.

It is expected that an explanation is given of the way in which moral hazard (or adverse selection) leads to a negative relation between nominal and expected payoff, and that this results in a backward bending supply of credit.

Suggestions for solution of the problem should start with the chosen explanation of the phenomenon. If the latter is adverse selection, it may be improved information about local business conditions. It may also be possible to relate to the possibility of formation of coalitions of borrowers which can reduce risk and thereby get a better access to credit.

2. We are dealing with two types of borrowers, a topic which is discussed in Freixas & Rochet chapter 4 and again in more detail in chapter 5. Although it is possible in principle for the lender to observe types, it may still be reasonable to try to separate the types by suitably tailored offers consisting of interest rate plus collateral.

It is expected that a brief sketch is given of the basic model of pricing under these circumstances. If there is competition among banks, there can only be equilibrium in the market under suitable additional conditions which should be indicated graphically.

3. The situation described points to the discussion in Freixas & Rochet chapter 7 about market risk for banks in a CAPM world. The answers should comment on the assumptions in CAPM and the main result used, namely that all portfolios chosen are proportional.

In this situation a computation of solvency ratios using suitable weights for different types of assets will be useful in the sense that the probability of failure is a decreasing function of the solvency ratio, but regulating using solvency ratios will lead to inefficiencies in the market except if the weights used are the same as those emerging in a market equilibrium, something which can hardly be expected to be the case.