Written Exam for the M.Sc. in Economics 2008-I
Monetary Economics: The Economics of Banking
Master's Course
20.December 2006
(4-hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title, which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.
If you are in doubt about which title you registered for, please see the print of your exam registration from the students' self-service system.

Problem 1

A country has an independent organization taking care of deposit insurance, thus securing the short term deposit of ordinary bank costumers, and a central bank which is entitled to assist in the case that a bank experiences a run. In addition, there is an established practice according to which the private banks solve their problems collectively, either by offering short term loans or by mergers and takeovers of banks in trouble.

When a bank has liquidity problems, this may be a sign of more fundamental problems in the bank, so that it might be relevant to terminate the activities of the bank and liquidate its assets and liabilities. Give a discussion, from the point of view of society, of whether it is best to let the decision on liquidation of a bank be taken by (1) the central bank, (2) the deposit insurer, or (3) the other private banks.

Does the solution depend on whether one of the three mentioned parties has better access to information about the situation of the troubled bank, and if so, how?

Problem 2

A financial institution is specialized in offering credits to firms engaged in extraction of precious metals from well-known deposits in third world countries. Production and sales are by and large not subject to uncertainty, but there is a risk that firms that have obtained credits will be nationalized by the governments in the countries of operation, in which case the borrowed amount must be considered as lost.

Traditionally, the desirability of such credit arrangements has been assessed in the bank by looking at the difference between the loan rate and the interbank rate of interest. Give a sketch of a theoretical framework where this approach is correct, and apply it to give a lower bound for this difference for a given loan contract.

Eventually it turns out nationalization of resource extracting firms usually occurs in cycles, so that periods with few nationalizations are followed by periods with many nationalizations. What are the implications of this for the overall risk of the financial institution, measured as VaR for the whole credit portfolio?

Problem 3

In a developing country most payments have traditionally been done using cash, but it is considered as desirable that payment card are used more frequently. There are already some systems which are at work, and they are financed by fees paid by buyers and sellers to their banks as well as interchange fees between banks, but there is no surcharge at the seller for using card, and this is also not wanted in the future.

A questionnaire among card users has shown that on one hand they are very satisfied with the system, which they see as convenient and advantageous, but on the other hand they complain that there are only few sellers that accept cards.

Sketch a model of card payments and give on the basis of this model a suggestion of a regulation that could solve the problems indicated.