Lecture 3:
Types of financial intermediation; risk management

Having discussed the various core competences of banks in the previous week, we now move on to Chapter 2, which is more easily read, and we leave some of it to the reader (whenever this happens – as it will from time to another – it means that what is in the text should be read, but that it will *not* be needed explicitly at the exam).

The introductory part of the chapter stresses that there are many types of financial intermediators, and some of those that we do not consider may actually be quite important. Anyway, there is no need for memorizing this, if we need some particular financial institutions later, we describe them in detail at that point. There is also a brief treatment of the different branches of a contemporary bank, the eight fields of banking activity lined up here will show up again later in our discussion of risk management.

Following that, we turn to some aspects of financial intermediation which has received some attention in later years, so it reflects what was in fashion in different periods. Thus, *relationship banking* was much discussed in the late 90s and beginning 00s. The interaction between a bank and its borrowers may give the bank more information about the borrower than other banks would have. From an intuitive point of view, if the banker and the borrower know each other, then the conditions on which they do business should be more favorable to both, but in particular to the borrower.

We skip the first part of the section on relationship banking and move directly to the Freixas model (2.4.3). First of all, in this model we have a happy return to the moral hazard model of last week. Now we expand somewhat on the model: We know already that there is a smallest probability of success of the G-technology such that the market will work. For success-probabilities below that, the payoff is too small, and the borrower would turn to the B-technology which on average will never pay off the loan. So the only way out is to use bank loans combined with monitoring. In the Freixas version, there is a further detail added – if loans are given by the banks rather than as impersonal bond sales, the borrower may be treated better in the case of a failure. This has as a consequence that some borrowers, here characterized by their individual success probability π_G, may find it advantageous to use the banks even when they might have used the market. This is perhaps no great discovery, but it introduces a small amount of realism into the model, allowing for banks to have a particular experience in treating borrowers getting into troubles.

The second part of the Freixas model deals with the problem mentioned above –

it may not be of any use to have a special relationship with your bank, in the sense of having used the bank also previously. exploits the moral hazard model from last week, and the point is that the relationship developed may not always be to the advantage of the borrower – or rather, the advantage may be somewhere else. In the model second-year borrowers are not treated better than new borrowers. However first-year borrowers get a better treatment since the bank expects to keep them also next year.

After this, we briefly introduce *shadow banking*, a topic which got much attention in the years following the financial crisis in 2007-8. The name suggests that something illegal is going on, but this is not the case. The classical idea of a bank which receives funding in the form of deposits from the general public and lends the money to entrepreneurs carrying out investment, is changed in both directions. The funding of a shadow bank comes from other financial institutions such as hedge funds, and they do not take the form of deposits but are made as repo (repurchase) contracts, buying shares which the (shadow) bank has promised to buy back. The loan business, on the other side, is carried out through securitization, which means that the loan contracts are made into marketable securities which can be sold off (and used in repo contracts).

At this point, we are only describing the basic framework, we shall have more to say about shadow banks as we proceed. We need also to introduce one of the more recent developments, namely *open banking,* where banks and other financial institutions share the data of their costumers.

We now turn to the second of our main topics, namely risk management.

The first step is a classification of risks, which is useful not only for pedagogical purposes but also since the regulations of banks and the reserve requirements differ according to type of risk. We shall deal with the different types of risk in due course. Then we move to a general model of risk management; the description of the model may look formidable, but actually it doesn't take us very far, and the logic behind it is more important than the formalism itself. The main point is that we want to express future losses (which is what we should try to avoid) as a function of certain risk factors, which are chosen depending on the type of risk we are studying. The main point of being formal at this early point is to get a unified approach to risk measurement ("identify risk factors, construct the loss function, find the loss distribution") which can be used as a guide when dealing with each of the specific risk types.

We read:

Chapter 2, Chapter 3.1-2.