Lecture 8:
Markets risk. Securitization and shadow banking

We are now in the chapter on market risk (Chapter 7). We didn’t start up on market risk in Lecture 7, so we begin with the beginning and discuss the CAPM, which has been commented upon in the handout for Lecture 4. The first section of Chapter 4 also discusses pricing of other assets, in particular the Black-Scholes formula for pricing of options. We use it here only to illustrate the general approach to risk assessment (find risk factors, set up a model, find the linearized loss and the loss distribution). You are not supposed to memorize the BS-formula, but it is useful to have some understanding of it involves, and we shall actually use it later in different contexts.

After the introduction, there are two sections dealing with the methods actually used in assessing market risk, with focus on VaR and ETL. We skip these sections, not because they are unimportant, which is definitely not the case, but because risk assessment is something which has to be learned by doing it rather than reading about it, and this is beyond our scope in this course. So we jump to Section 5 where we are back in the CAPM. Here we consider a bank which deals only with asset management holding portfolios, and we ask whether capital ratios (ratio of equity and suitably (risk-)weighted assets) are relevant as indicators of default risk. The answer is (not very surprisingly) yes, at least as long as the capital ratios are only measures, not constraints on the portfolio choices of the bank.

We now turn to Chapter 8 on securitization. The chapter contains much material, and we skip some of it (see below), but even so we cannot cover all of it in a single lecture, leaving some of it for the next lecture. Securitization as a phenomenon came into importance in the 90ies and the 00es, when it was considered as very beneficial to the financial sector and to society as a whole, but this attitude changed drastically after the financial crisis. Nevertheless, the phenomenon as such was not new and it is not going to disappear, since it fulfills an important role. We look somewhat closer at this in the course of this chapter. The first section deals with the different techniques used in securitization, and it may be skimmed through quickly, the details are not needed for what follows.

In Section 2, we first mention the Gorton-Souleles model, representing the positive view of securitization. The model is a simple one, where banks can either do banking in the classical way, providing loans for investments financed by deposits, or alternatively can engage in securitization, where the loans are transformed to securities sold in the market. The bank’s effort in securing that the borrower is trustworthy matters,
and the depositors can force the bank into providing high effort, leaving this bank otherwise. If the loans are sold as securities, this threat loses its power, effort will be low, and the market will expect low effort in equilibrium. Taken together, banks are better off doing classical banking than securitization, but they may be forced into securitization by capital regulation.

After this, we go to the Shleifer-Vishny model in Section 2.2. Here we have a first case of what may be considered as a main problem of securitization, namely the resulting financial instability caused by changes in value of the underlying assets. The story is less complicated than it looks: The bank issues securities, and using borrowed funds it can issue a large number of securities with a given amount of equity. Assuming now that security prices fall from one period to the next. If the bank already used as little equity as possible, then the capital ratio falls below the acceptable limit, and the only way to reestablish the ratio is to pay back some of the loans. Since all assets are bound in securities, the bank will have to sell securities to achieve this goal, actually in a market where the prices are already falling. Thus, securitization may aggravate the business cycles. Notice that this so-called fire-sale is not an unexpected feature, the bank has already considered this possibility, and even so it is better for the bank doing securitization than other more humble types of banking business.

**We read:**

Chapter 4, Section 1 (rest) and 5, Chapter 8, sections 1 and 2.