Lecture 12:
Competition and Risk Taking, Irregularities I

We finish our brief treatment of the circular-city model and proceed to the most important part of Chapter 11 dealing with the connection between competition and risk-taking.

We skip part of the section, reading only subsections 11.5.1 and 11.5.4. The Matutes-Vives model in 11.5.1 is quite simple once you get the basic idea: The model is such that current expected profits are independent of the risk level chosen by the bank, which only influences the probability of survival. Competition matters due to the *franchise value* of the bank: If there is sufficiently fierce competition, then this franchise value is 0, so that banks do not care at all about risk.

The simple model becomes more blurred if it is taken into account that depositors cannot see the risk chosen by the bank. This is discussed in the large couple of paragraphs of the subsection, and it is enough to know that the situation then is less clear-cut then in the simple version.

Subsection 11.5.4 treats the standard model of competition and risk, the Allen-Gale model. It is basically a model of the type that we saw when dealing with quantity-choosing oligopoly banks, extended with a *risk-payoff tradeoff* for investment projects to be chosen.

The number n of banks enter into the equilibrium conditions, as we know also from section. What comes out is fairly intuitive: When the number of banks increases, the competition for deposits gets more fierce, and deposit rates go up. This disturbs the overall equilibrium and banks counteract in a way so as to increase the income from their projects, and the result is an increase in investment risk and therefore a higher level of riskiness of the banks.

This conclusion may be considered as supporting the intuitive argument that more competition leads to higher riskiness, but it should be taken with some salt, as shown by Boyd and de Nicoló. You may oncentrate on the description around formula (35) and down to around (37), skipping the rest of the formalism. The authors argue that banks do not select projects themselves but rather provide credits for entrepreneurs who then engage in projects. Following the setup in Allen-Gale we must add a loan market, where the demand for loans is derived from the connection between mean payoff and probability of success, so that higher loan rate forces entrepreneurs to choose projects with higher risk.

Using the same intuitive reasoning as in the Allen-Gale model, we now get the

opposite conclusion: When the number of banks increases, competition for deposits will raise the deposit rate as before, but since banks are also competing in their loan business, the larger number of banks will result in a lower loan rate, which will transplant through the entrepreneurs to a lower level of risk, so now increased competition gives a less risky financial sector.

Who, then is right? The morale – if there is any – is that what will happen depends on the particular circumstances of the case (here the increase in the number of financial intermediaries). The importance of using economic theory and models is that it forces you to check the background for your forecasts of what will happen.

We have in this chapter been concerned with competition between *banks*, but banks are increasingly facing competition from new organizations, proposing intermediation not only between savers and investors but also between savers and banks. These organizations, known as the *fintech* sector, may need access to their customers' bank accounts, and the banks are increasingly providing the type of information required, as it may indeed be in the interest of both parties. We shall take a brief look at this new feature of *Open Banking* and why it may fill a gap in the existing intermediation.

Moving now from Chapter 11 in the book to Chapter 12, we leave the discussion of banking as a going concern and proceed to a more detailed treatment of cases where something goes wrong, from minor irregularities over bank runs to major crises of the financial system.

We begin by discussing some situations where financial intermediaries may cheat their customers or conversely. This may happen in many different ways, and we select the following:

(1) *Economics of looting*, the problem arising when firms may earn on going bankrupt,
(2) *The neglected implicit option* in real-assets financing,
(3) *Evergreening*, banks going on despite of having realized losses so large that they would have been closed down by the financial authorities if it became known,
(4) *Money laundering* and the crying-wolf problem.

(1) The first case, treated in section 12.2, is one which is much cited in the literature, it has well-known authors and appeared in one of the leading journals. It is a rather simple story, once you get through the somewhat complicated way of presenting it (which follows that of the original article). Basically, it says that in some situations people can get away with opening a business with borrowed money, doing some business in the beginning and withdrawing large sums as dividends in the first year, and then defaulting the next year.

The main proposition is not very interesting in itself, it is more useful to look at the examples in 12.2.2, in particular the first one with the catching title "riding the

yield curve". The other examples can be read or skipped at will, but they are not in the curriculum so you will probably choose the latter option.

(2) The contribution reported in 12.3.2 by Pavlov and Wachter appeared some years before the financial crisis, and it goes a large way towards explaining what actually happened. Unfortunately it appeared in an out-of-the-way journal, so not much attention was given to it. The ideas are nice and simple even if they do not go all the way towards explaining what was going on.

The basic idea is that of an implicit option given to a borrower, namely the right to walk away from the debt. Competition between financial intermediaries may lead to a situation where the borrowers pay less than this full cost, meaning that the implicit option is given away for free. Pavlov and Wachter are not absolutely clear why this must happen, but in the pre-crisis years with increasing prices of real estate, this option was not important. Read the first part of the subsection, amounting to the first two-thirds of p.250, and skip the rest.

We read: Chapter 11, sections 4, 5.1 and 5.4, and chapter 12, section 1 and subsection 3.3.