

EC 151 Homework VIII
Credit Markets
Due December 4th in class

1) Risk Premium

In various models in class, we have seen that imperfections in informal credit market arise because of there is a risk of default. One such imperfection is the fact that lenders usually charge an interest rate that is above the opportunity cost (e.g. a lower rate they could get in the formal sector). The difference between the minimum rate at which the lender is willing to lend and the opportunity cost is called “risk premium.”

- a. Why do lenders charge a risk premium?
- b. Question 1, Chapter 14 a-d (You can skip part about “explain concept of risk premium in words”)

2) Risk of default and size of loan

Let’s see how the risk of default factors into the lender and borrower’s willingness to agree on a credit contract.

Say we have a borrower who will use a loan of size L at interest rate i to invest in a project that yields return R with probability p (and he repays) and 0 with probability $1-p$ (he defaults). But if he defaults, he will suffer reputation damage worth “ F ”. Note however, that the banks still gets nothing if he defaults.

- a. Set up an equation that describes shows given L and p , what is the maximum price this borrower is willing to pay for this loan? Describe how this price varies with p , L , R , F
- b. Using your results from part a, set up an equation that show the highest amount of risk that the bank is willing to tolerate? That is, what is the threshold level of p above which the bank will not be willing to make the loan? And how does this vary with L , R , F (i should not be in your equation)?
- c. Think a bit more about the intuition behind the relationship between threshold p from above and F . What kind of policy could you implement to change this relationship (that is, make it more negative or more positive) to make a contract more likely to happen?

3) Interlinked Transaction

The two panels in Figure 14.4 show two types of contracts of the for (w^*, i^*) Anka and Birju can agree on. That is, one where $w^* < w$ & $i^* > i$ and second, where $w^* < w$ & $i^* < i$. Draw the case where $w^* > w$ & $i^* > i$. Also show on the diagram what Birju’s total return is.