Topic 6 : The Theory of Financial Intermediation

EE431/438

Peter D. Spencer, Chapter 8 (available at the reserve section of the library, HG173 .S637)
Douglas W. Diamond, Financial Intermediation as Delegated Monitoring: A Simple Example. Federal Reserve Bank of Richmond *Economic Quarterly*, Volume 82/3 Summer 1996, pp 51 -66

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3.2.2 Monitoring (Cont. from Page 24)

- Suppose that it is possible for the lender to monitor the value of the borrower's operation.
- Monitoring $\rightarrow$ the lender knows the true outcome of the project
- Then, instead of liquidating when the borrower fails to repay L, the lender who monitors can use the threat of liquidation and offer to refrain from liquidation as long as the borrower repays as much as possible
- Borrower can avoid liquidation by repaying as much as possible.

- From the example, the bank can pay at most .... for each depositor which is ......$1 + r = 1.05$. As long as, the deposit rate(r_d), ... $\leq r_d \leq$ ...., the bank will be able to repay the depositor the promised amount with certainty.
- Depositors are always satisfied if the bank can pay at least 5% deposit rate.
- Deposits are asymptotically riskless because of diversification.
- asymtotic : approaching a given value when the sample is large enough.
- Please Cont. to Page 30
- Cont. from Page 31. (Note that this modified version by Spencer(2000) is different from Diamond (1984). The maths have been simplified a lot. It cannot explain many details in the financial market (such as equilibrium loan rates and equilibrium deposit rates. However, it gives explanations to the concept of economies of scale and the role of diversification, which are the main idea of this topic.)

- Delegated monitoring without diversification does not succeed.
  - One-loan bank, a a banker montiors a single loans. The one-loan bank will fail whenever its borrower fails.
  - The one-loan bank will default and be liquidiated just as often as borrowers.
  - The bank in the model has to lend to many borrowers. It is assumed that the law of large number can be applied.
- Please Cont. to Page 32.

- Cont. from Page 32.
- Several criticisms have been expressed regarding Diamond's theory.
- There are many interesting contribution that builds on Diamond's (1984) model. (If you are interested, see Chapter 2 in "Microeconomics of Banking" by Freixas and Rochet (2000). Note that the material is not required.)
- Lenders should charge high interest rate to high risk customers, low interest rate to low risk customer. (Topic 5 : Credit risk management)
- Long term customer relationship benefits the bank by reducing asymmetric information problem. Banks are in a better position than individual savers. They can analyse credit risk better than individual savers.
- See an evidence from the real world is on page 36.