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Chapter 10.3.1

Adverse selection and competition

Key assumptions

- Competition between banks reduces their profits, but profits due to informational advantages are unaffected
- These profits can be used to cover any costs of relationship banking
- Company types can be identified by relationship banks, but not by other banks
- Banks face higher costs in relationship banking due to the continued accumulation and processing of information

Loan rates

- Banks not lending to a company do not know its type and will assume loans are repaid with the average success rate, and they pay their depositors
- $\Pi_B = \pi(1+r_L)\,L - (1+r_D)\,L$

$\Rightarrow 1 + r_L = \frac{1+r_D}{\pi} + \frac{\Pi_B}{\pi L}$

- Banks already lending to a company know the success rate at which the loan is repaid, and they pay their depositors, as well as face additional costs
- $\hat{\Pi}_B^i = \pi_i\left(1+\hat{r}_L^i\right)L - (1+r_D)\,L - C$

$\Rightarrow 1 + \hat{r}_L^i = \frac{1+r_D}{\pi_i} + \frac{\hat{\Pi}_B^i + C}{\pi_i L}$

Bank profits

- Companies accept the offer with the lowest loan rate, so relationship banks will only undercut the loan rate of a new bank marginally: $1 + \hat{r}_L^i = 1 + r_L$

$\Rightarrow \hat{\Pi}_B^i = \left(\frac{\pi_i}{\pi}\Pi_B - C\right) + \pi_i \left(\frac{1}{\pi} - \frac{1}{\pi_i}\right)(1 + r_D) L$

- Competition erodes the profits not arising from their informational advantage, the informational advantage is retained

$\Rightarrow \hat{\hat{\Pi}}_B^i = (1 - \theta)\left(\frac{\pi_i}{\pi}\Pi_B - C\right) + \pi_i \left(\frac{1}{\pi} - \frac{1}{\pi_i}\right)(1 + r_D) L$

Feasibility of relationship banking

- Transaction banks are competitive as they are all competing for the loan, hence $\Pi_B = 0$
- Relationship banking is feasible if it is more profitable than transaction banking: $\hat{\hat{\Pi}}_B^H \geq \Pi_B = 0$

$\Rightarrow$ $\frac{\pi_L}{\pi_H} \leq \xi^* = \frac{(1+r_D)(1-p)-(1-\theta)p\frac{C}{L}}{(1-p)\left(1+r_D+(1-\theta)\frac{C}{L}\right)}$

- $\frac{\pi_L}{\pi_H}$ can be interpreted as the degree of asymmetric information or adverse selection between relationship and transaction banks

The effect of competition

- $\frac{\partial \xi^*}{\partial \theta} = \frac{C}{L} \frac{1+r_D-(1-\theta)(1-p)\frac{C}{L}}{(1-p)\left(1+r_D+(1-\theta)\frac{C}{L}\right)^2} > 0$
- Competition reduces the amount of adverse selection needed to make relationship banking feasible

$\Rightarrow$ Relationship banking is more widespread with increased competition

Summary

- Increased competition makes informational advantage more important as a source of profit
- This implies that in order to generate profits, banks are seeking more relationship banking despite its costs
- Markets with high adverse selection should observe more relationship banking
- The higher competition is, the more common relationship banking is, as long as its costs are not prohibitive

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