

Chapter 8.2

Credit rationing caused by moral hazard



# Risk-taking by companies

- ▶ Companies can choose between investments with different risks
- ▶ Banks seek to provide incentives to choose investments with low risks
- ▶ They do so by setting loan conditions, the loan rate and the loan size

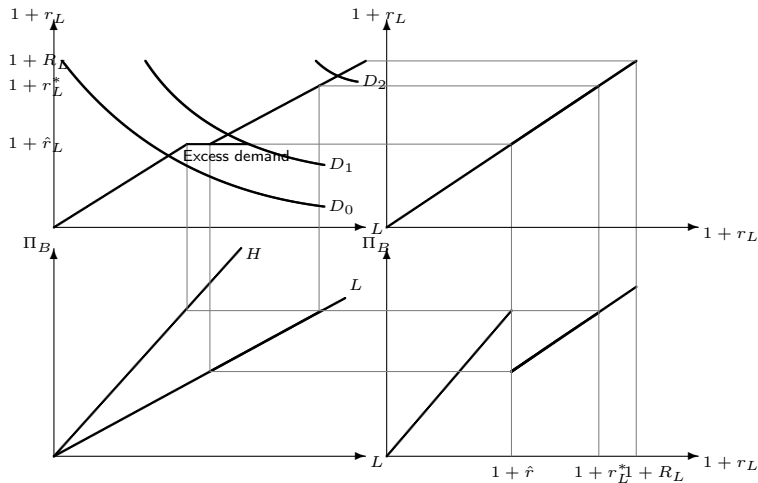
# Company profits

- ▶ If successful, companies obtain their return and repay the loan
  - ▶  $\Pi_C^i = \pi_i ((1 + R_i) L - (1 + r_L) L)$
  - ▶ Companies choose the low-risk investment if  $\Pi_C^H \geq \Pi_C^L$
- $\Rightarrow 1 + r_L \leq 1 + \hat{r}_L = \frac{\pi_H(1+R_H) - \pi_L(1+R_L)}{\pi_H - \pi_L}$

# Bank profits

- ▶ Banks are repaid the loan if the company is successful, and repay deposits
- ▶  $\Pi_B^i = \pi_i(1 + r_L) L - (1 + r_D) L$
- ▶ The success rate of the company will depend on the loan rate they charge
- ▶  $\Pi_B = \begin{cases} \Pi_B^L & \text{if } r_L \leq \hat{r}_L \\ \Pi_B^H & \text{if } r_L > \hat{r}_L \end{cases}$
- ▶ Low loan rates will induce low risks and high loan rates high risks

# Demand and supply



# Summary

- ▶ Banks do not increase loan rates above a threshold as this would induce companies to choose high-risk investments
- ▶ Banks ration loans as demand exceeds supply at this loan rate
- ⇒ Banks seeking large loans due to low loan rates may be rationed



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