Managing Risk in Banking

BFI Lecture 6.1.

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Outline

Managing Credit Risk

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What is credit risk?

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What is credit risk? What causes credit risk?: 3 problems

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Adverse selection problem

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Why does adverse selection occur?

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How to alleviate these problems? Several methods:

Methods to Cope With Credit Risk Problems

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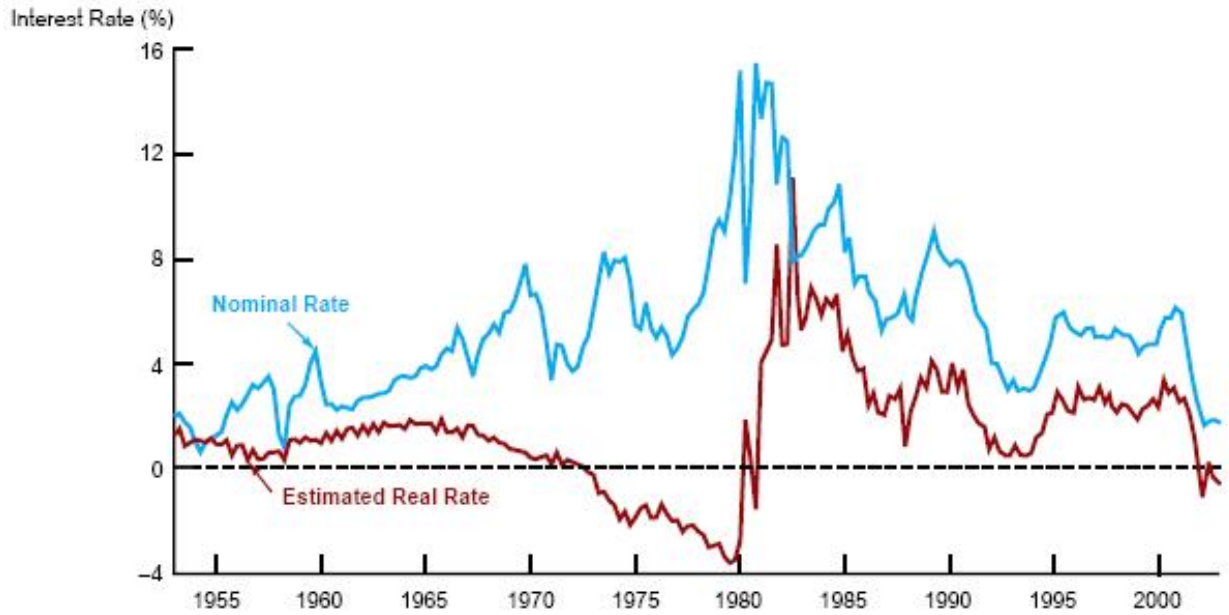
3. **Collateral**: a property entitled to the lender in case of default
4. **Other methods**:
   - Long-term relationships: credit history; loan commitment
   - Compensating ballance: a share of the credit staying at the bank
   - Credit rationing: restricting the amount of credit rather than increase the interest rate

Why would the bank rather not give a credit than increase the interest rate for a risky client?

Managing Interest Rate Risk

Intro

What is the interest rate risk?



Since 1980's: increased volatility.
What does this mean for the bank revenues and costs? For ROA, ROE?

Managing Interest Rate Risk

Risk within the bank

FIRST NATIONAL BANK

Assets		Liabilities	
Rate-sensitive assets	$20 million	Rate-sensitive liabilities	$50 million
Variable-rate and short-term loans		Variable-rate CDs	
Short-term securities		Money market deposit accounts	
Fixed-rate assets	$80 million	Fixed-rate liabilities	$50 million
Reserves		Checkable deposits	
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Before managing: analyze!

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Gap analysis; Duration analysis

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Impact on profit = GAP $\cdot$ ΔInterest rate.

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$\Delta(\textit{Assets}) = \textit{Assets} \cdot [-\Delta(\text{Interest rate}) \cdot (\textit{Duration})] =$
$100 \cdot [-(-0.05) \cdot (3)] = +15$ mln.

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$\Delta(Assets) = Assets \cdot [-\Delta(\text{Interest rate}) \cdot (Duration)] =$
$100 \cdot [-(-0.05) \cdot (3)] = +15$ mln.
$\Delta(Liabilities) = Liabilities \cdot [-\Delta(\text{Interest rate}) \cdot (Duration)] =$
$90 \cdot [-(-0.05) \cdot (5)] = +22.5$ mln.
Net worth (capital) will change by $\Delta(Assets) - \Delta(Liabilities) = -7.5$ mln.

Off-Ballance Sheet Activities

Activities that affect bank profits but do not appear on the ballance sheet.

Examples: Fees on loans, sales of loans, foreign exchange transactions

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   - Gap analysis
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Summary

1. Lending to consumers and firms is risky: 3 problems
   - Adverse selection
   - Moral hazard
   - Asymmetric information
2. Market interest rates also expose the bank to risks
   - Gap analysis
   - Duration analysis
3. To reduce risk and increase profit, the bank engages in activities that do not appear on its ballance sheet