CHAPTER 8

# An Economic Analysis of Financial Structure

Ritsu Kitagawa

Columbia Business School

Created: 30 May 2026 ▪ Last modified: May 30, 2026

# Outline

## Reading and objectives

- Mishkin, *The Economics of Money, Banking, and Financial Markets*, 13th ed.
- This deck: **Chapter 8** — An Economic Analysis of Financial Structure.
- Chapter 9 (Banking and the Management of Financial Institutions) follows in a separate deck this session.

### Learning objectives

**8.1** Summarize eight basic facts about financial structure throughout the world.

**8.2** Explain how transaction costs influence financial structure.

**8.3** Describe how asymmetric information — adverse selection and moral hazard — shapes financial markets and institutions.

**8.4** Identify the tools used to solve adverse-selection and moral-hazard problems.

**8.5** Apply the asymmetric-information framework to the U.S. S&L crisis and the 2007–09 financial crisis.

PART 1

# Eight Basic Facts About Financial Structure

## Why we need a theory of financial structure

- Households, firms, and governments need outside finance.
- How that finance is delivered — via stocks, bonds, banks, or other intermediaries — differs sharply across countries and across firms.
- Eight empirical *facts* hold up across rich countries. A good theory of financial structure should explain all of them.

**The plan**

List the eight facts now; then use **transaction costs** and **asymmetric information** to explain them.

*Mishkin Ch. 8, Section 8.1.*

# Eight basic facts (1–4)

1. **Stocks are not the most important source of external finance** for businesses.
2. **Issuing marketable securities (stocks *and* bonds) is not the primary way** firms finance themselves.
3. **Indirect finance — via financial intermediaries — is far more important** than direct finance from securities markets.
4. **Banks are the most important source of external funds** for non-financial businesses, especially in countries other than the U.S.

*Mishkin Ch. 8, Section 8.1.*

# Eight basic facts (5–8)

5. **The financial system is among the most heavily regulated sectors** of the economy.
6. **Only large, well-established firms** have easy access to securities markets to finance their activities.
7. **Collateral is a prevalent feature of debt contracts**, for households and businesses.
8. **Debt contracts are typically extremely complicated legal documents** with substantial *restrictive covenants*.

A puzzle: in the U.S., stocks get the headlines — but they are quantitatively *minor*. Why?

*Mishkin Ch. 8, Section 8.1.*

## Sources of external funds: U.S. non-financial firms

Approximate shares of external finance (1970–2000 averages, Mishkin Fig. 1):

| Source | Share of external funds (%) |
|---|---|
| Bank loans | 56 |
| Non-bank loans (other intermediaries) | 25 |
| Bonds | 32 |
| Stocks | 11 |

(Shares do not sum to 100 due to netting of equity issuance against buy-backs.)

- **Loans** (bank + non-bank) $\approx 80\%$ of external finance.
- **Stocks** are only about 11%, despite the headlines.

*Mishkin Ch. 8, Figure 1; Hackethal & Schmidt (2004).*

PART 2

# Transaction Costs

## Transaction costs and small savers

- Suppose you have \$5,000 to invest. Direct purchase of stocks: brokerage fees eat a large fraction of small trades.
- Even if fees were small, \$5,000 buys only a couple of names — *undiversified*.
- Drafting and enforcing a private loan contract has fixed legal costs that swamp small loans.

**Transaction costs are a barrier**

They keep small savers out of direct finance and small borrowers out of securities markets.

*Mishkin Ch. 8, Section 8.2.*

## Economies of scale and expertise

Financial intermediaries solve the transaction-cost problem in two ways:

- **Economies of scale.** Fixed costs of writing a contract or executing a trade are spread over a large pool of funds. A mutual fund pools savings from millions of people; brokerage commissions per dollar invested become tiny.
- **Expertise.** Intermediaries develop the legal, accounting, and computer expertise to evaluate and manage assets at low *per-dollar* cost.
- Intermediaries can then offer **liquidity services** (checkable deposits, easy redemption) that individual savers could not produce on their own.

*Mishkin Ch. 8, Section 8.2.*

PART 3

# Asymmetric Information

# Asymmetric information — the central problem

## Asymmetric information

One party to a financial transaction has *much better information* than the other party.

Two distinct problems, separated by *timing*:

- **Adverse selection** — *before* the transaction. Bad credit risks are most eager to borrow; bad firms most eager to issue stock.
- **Moral hazard** — *after* the transaction. Once funded, the borrower has an incentive to take on risks the lender would not approve of.

*Mishkin Ch. 8, Section 8.3.*

## Adverse selection: the lemons problem

Akerlof (1970), *The Market for "Lemons"*.

- Used-car market: buyers cannot tell a peach from a lemon. They are willing to pay only an *average* price.
- Owners of peaches will not sell at the average price; only owners of lemons will. The market collapses — or trades only at low quality.

**Lemons in financial markets**

Investors cannot easily distinguish good firms from bad. They pay an average price for stocks (or demand an average interest rate on bonds). Good firms find that price too low and stay out; bad firms are happy to sell. The market shrinks.

*Akerlof (1970); Mishkin Ch. 8, Section 8.3.*

## Lemons in stock and bond markets

- **Stocks.** If investors cannot tell good firms from bad, they pay a price somewhere between the value of a good firm and a bad firm. Good firms refuse to issue at that price. Few stocks get issued — $\Rightarrow$ *explains Facts 1 and 2*.
- **Bonds.** Same logic. Lenders demand a rate between the safe rate and a rate appropriate for risky borrowers. Safe borrowers withdraw; only risky borrowers take the offered rate.
- In each case the *market is thin* compared to what frictionless theory would predict.

This is why **indirect finance** (banks, intermediaries) dominates — explains Fact 3 in part.

*Mishkin Ch. 8, Section 8.3.*

PART 4

# Tools to Solve Adverse Selection

## Tool 1: Private information production

- Firms like S&P, Moody's, Fitch, Value Line, Dun & Bradstreet collect and sell information on borrowers and issuers.
- Investors pay for ratings and research; in principle, this resolves the asymmetry.

**The free-rider problem**

Once one investor pays for information and acts on it, prices move. Other investors *see* the price move and free-ride — they get the benefit without paying. So information producers cannot capture enough revenue, and *too little information is produced*.

*Mishkin Ch. 8, Section 8.4.*

## Tool 2: Government regulation

- Private production is undersupplied ⇒ **government steps in** to require disclosure.
- U.S.: the **SEC** (Securities and Exchange Commission, 1934) requires firms issuing securities to disclose audited financial statements.
- Similar agencies exist in every developed country — explains **Fact 5** (heavy regulation).
- Limits: regulation cannot eliminate asymmetric information — bad firms can still hide bad news, and accounting standards can be gamed (Enron, WorldCom).

*Mishkin Ch. 8, Section 8.4.*

## Tool 3: Financial intermediation

Banks are particularly good at solving adverse selection.

- Banks make *private* loans — the loans are **not traded** in markets.
- Because the loan is private, there is no free-rider problem: a bank that screens carefully captures the full return on its information.
- Banks specialize in screening borrowers and develop long-term relationships.

### Why banks dominate

This is why banks are the *primary* external funding source (Fact 4), and why *small firms* — the ones hardest to evaluate — rely on banks rather than markets (Fact 6).

*Mishkin Ch. 8, Section 8.4.*

## Tool 4: Collateral and net worth

- **Collateral** — property pledged to the lender if the borrower defaults — reduces the lender's loss if the borrower turns out to be a "lemon."
- Knowing the loss is bounded, the lender is willing to lend even when the borrower's quality is uncertain.
- Explains **Fact 7**: collateral is everywhere — mortgages, auto loans, secured business loans.

**Net worth**

Equity in the firm (assets − liabilities). High net worth ⇒ the borrower has a lot to lose if the project fails ⇒ adverse-selection problem is mitigated.

*Mishkin Ch. 8, Section 8.4.*

PART 5

# Moral Hazard in Equity and Debt

# Moral hazard: equity vs. debt

After funds are advanced, the borrower may behave in ways the lender would not approve of.

- Equity (stocks): the firm's manager is an *agent* of the owner. The two have different incentives.
- Debt (bonds, loans): the borrower has the lender's money and may take risks the lender would not have agreed to.

Different problems — different solutions.

*Mishkin Ch. 8, Section 8.5.*

# The principal–agent problem in equity

## Principal–agent problem

Owners (principals) hire managers (agents). When ownership and control are separated, managers may pursue *their own* interests — perks, empire-building, low effort — rather than maximizing profit.

- Worse the smaller the manager's ownership stake.
- Example: a manager who owns 1% of the firm bears only 1% of the cost of a \$1m corporate jet — but enjoys 100% of the perk.
- This makes equity contracts *costly* compared to debt.

*Mishkin Ch. 8, Section 8.5.*

## Tools for the equity moral-hazard problem

- **Monitoring** — "costly state verification." Owners audit, sit on boards, hire outside accountants. But monitoring is expensive, and small shareholders free-ride on whoever does monitor.
- **Government regulation** — requires standardized accounting, independent auditors, disclosure of executive compensation.
- **Financial intermediation** — *venture capital firms* hold large concentrated stakes and place partners on the board. The shares they hold are *not* publicly traded, so no free-riding.
- **Debt contracts** — shift to debt instead of equity to side-step the principal–agent problem.

*Mishkin Ch. 8, Section 8.5.*

## Why debt economizes on monitoring

- A debt contract requires the firm to pay a *fixed amount* regardless of profit.
- As long as the firm makes its payments, lenders do not need to know the exact profit — monitoring is necessary only when the borrower *defaults*.
- This is one reason debt is so much more important than equity (Facts 1, 2).

But debt has its *own* moral-hazard problem.

*Mishkin Ch. 8, Section 8.5.*

# Moral hazard in debt: risk-shifting

- Once a borrower has the money at a fixed interest rate, the upside from extra risk is theirs, but the downside is the lender's (limited liability).
- Borrower's incentive: take on *more* risk than the lender agreed to.

**Example**

Lender extends \$1m at 10%. Borrower's safe project earns 12%. A risky project pays 50% if it succeeds, $-100\%$ if it fails. Borrower keeps the upside; lender bears the loss. Borrower switches to the risky project.

*Mishkin Ch. 8, Section 8.6.*

## Tools for the debt moral-hazard problem

- **Higher net worth.** The more equity in the firm, the more skin in the game, the less attractive risk-shifting becomes.
- **Monitoring and restrictive covenants.** Loan contracts include covenants that:
  - discourage undesirable behavior (no risky investments);
  - encourage desirable behavior (maintain insurance);
  - keep collateral valuable;
  - provide information (regular reports).
- **Financial intermediation.** Banks are good at writing and enforcing covenants because their loans are private — no free-riding.

Explains **Fact 8** — debt contracts are long, complicated legal documents.

*Mishkin Ch. 8, Section 8.6.*

# Putting it together: the eight facts

| Fact | Explanation |
|---|---|
| 1, 2. Stocks/securities not primary | Adverse selection (lemons); moral hazard in equity |
| 3. Indirect finance dominates | Free-rider problem in info; intermediaries solve it |
| 4. Banks most important | Banks produce private info, write covenants |
| 5. Heavy regulation | Forced disclosure reduces asymmetric info |
| 6. Only large firms access markets | Large firms easier to evaluate |
| 7. Collateral pervasive | Reduces adverse-selection loss |
| 8. Complex debt contracts | Covenants reduce moral hazard |

*Mishkin Ch. 8, Summary Table 1.*

PART 6

# Application: U.S. Financial Crises

## Asymmetric information as a lens on crises

A **financial crisis** is a sharp disruption of financial markets in which asymmetric-information problems become so severe that the markets are unable to channel funds efficiently.

- Two U.S. examples we'll use:
  - The Savings & Loan crisis of the 1980s.
  - The 2007–09 global financial crisis.

*Mishkin Ch. 8, Section 8.7.*

# The S&L crisis (1980s)

- S&Ls held long-term mortgages, funded by short-term deposits — huge *interest-rate risk*.
- Late-1970s/early-1980s rate spike: S&L net worth wiped out.
- **Deregulation** of the early 1980s let S&Ls expand into commercial real estate, junk bonds.
- With low net worth + deposit insurance, S&Ls had every incentive to "gamble for resurrection" — classic **moral hazard**.
- Result: hundreds of failures; eventual taxpayer cost $\approx$ \$150 billion.

*Mishkin Ch. 8, Section 8.7; FDIC historical data.*

## The 2007–09 financial crisis: setup

- Long boom in U.S. house prices.
- Originate-to-distribute model: mortgage brokers wrote loans, sold them to securitizers.
- Mortgages bundled into **mortgage-backed securities (MBS)** and **CDOs**.
- "Subprime" lending exploded: low-doc, no-doc, NINJA loans.

**Where is the asymmetric information?**

The originator knows the loan is bad. The securitizer, the MBS buyer, and the rating agency know progressively less. A lemon factory.

*Mishkin Ch. 8, Section 8.7.*

## Agency problems in the rating agencies

- Rating agencies (Moody's, S&P, Fitch) were paid by the *issuers* of the securities they rated — not by investors.
- Issuers "shopped" for the highest rating.
- Agencies also consulted on structuring the very deals they then rated.
- Result: massive over-rating of MBS and CDO tranches. AAA paper turned out to be junk.

A textbook **principal–agent problem**: the agent (rating agency) served the issuer's interest, not the investor's.

*Mishkin Ch. 8, Section 8.7.*

## 2007–09: from MBS to systemic crisis

- House prices peaked 2006, then fell.
- Subprime borrowers defaulted; MBS prices collapsed.
- Banks and shadow banks had huge MBS exposures financed by short-term wholesale funding.
- Asymmetric information about *who* held the bad paper $\Rightarrow$ lenders pulled funding from everyone $\Rightarrow$ a run on the shadow banking system.
- Bear Stearns (Mar 2008), Lehman (Sept 2008), AIG (Sept 2008).

*Mishkin Ch. 8, Section 8.7; we return to this in Ch. 12.*

## Lessons through the asymmetric-info lens

- Adverse selection in mortgage origination — the originate-to-distribute model destroyed the originator's incentive to screen.
- Moral hazard at S&Ls and at too-big-to-fail banks — low capital + government backstop = gamble.
- Principal–agent problems at rating agencies amplified the damage.
- Policy responses (Dodd–Frank 2010, Basel III) target exactly these information frictions — risk retention, higher capital, restrictions on rating-shopping.

*Mishkin Ch. 8, Section 8.7. We will revisit financial crises in Ch. 12.*

PART 7

# Wrap-up

# Key terms from Chapter 8

- financial structure
- transaction costs, economies of scale
- asymmetric information
- adverse selection, moral hazard
- lemons problem (Akerlof)
- free-rider problem
- private information production
- collateral, net worth
- principal–agent problem
- costly state verification
- venture capital
- restrictive covenants
- credit rationing
- financial crisis

## Looking ahead

- Next deck this session: **Chapter 9** — Banking and the Management of Financial Institutions.
- Ch. 9 takes what we learned about asymmetric information and applies it directly to how banks operate — screening, monitoring, collateral, and credit rationing reappear as concrete management tools.
- Looking further ahead: Ch. 12 (financial crises) develops the 2007–09 application in much more depth.