

# Chapter 11

## The Economics of Financial Intermediation

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Table 11.1 The Relative Importance of Direct and Indirect Finance

(Averages for 1980-1995)

Country	Direct Finance		Indirect Finance	
	Stock Market Capitalization as Percent of GDP (A)	Outstanding Domestic Debt Securities as Percent of GDP (B)	Credit Extended by Banks & Other Financial Institutions as Percent of GDP (C)	Ratio of Indirect to Direct Finance C/(A+B) (D)
<b>Industrialized Countries</b>				
France	19.8%	41.2%	90.9%	1.5
Germany	18.6	37.4	92.3	1.6
Greece	8.1	4.3	40.2	3.2
Italy	11.9	28.1	50.5	1.3
Japan	73.0	30.0	169.3	1.6
United Kingdom	78.3	14.4	74.4	0.8
United States	58.2	52.6	130.7	1.2
<b>Emerging Markets Countries</b>				
Argentina	4.8	5.9	15.0	1.4
Brazil	11.9	4.0	24.7	1.6
India	13.2	5.7	26.8	1.4

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- Provide an economic analysis of how our financial structure is designed to promote economic efficiency.
- Why financial contracts are written as they are.
- Why financial intermediaries (insurance co, pension funds, mutual funds) are more important than securities markets for getting funds to borrowers.
- Relationship between the financial sector and economic growth (the development of financial crisis).

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## Puzzles of Financial Structure

1. Stocks are not the most important source of external finance for businesses
2. Issuing marketable securities not primary funding source for businesses (Bonds + Stocks = less than half of fund sources)
3. Indirect finance (financial intermediation) is far more important than direct finance (direct is less than 10% of external funding)
4. **Banks are most important source of external finance**
5. Financial system is among most heavily regulated sectors of economy
6. Only large, well established firms have access to securities markets (individuals and small business go to banks)
7. Collateral is prevalent (dominant) feature of debt contracts
8. Debt contracts are typically extremely complicated legal documents with restrictive covenants

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- Important feature of Financial market is the presence of transaction costs and information costs (Asymmetric Information – Agency Theory).
- To understand the eight puzzles, let's provide an economic analysis of these costs.
- We will study the impact of these costs on the structure of the financial system.

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## Transaction Costs and Financial Structure

**Transaction costs hinder flow of funds to people with productive investment opportunities**

**Financial intermediaries make profits by reducing transaction costs** (Explains Puzzle 3)

1. Take advantage of economies of scale (the reduction in transaction costs per dollar of investment as size of transaction increases)

Example: Mutual Funds

2. Develop expertise to lower transaction cost

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 Information Asymmetries and Information Costs

- asymmetric information
  - issuers of financial instruments – borrowers who want to issue bonds and firms that want to issue stock – know much more about their business prospects and their willingness to work than potential lenders or investors

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 Information Costs and Financial Structure

**Adverse Selection:**

1. Before transaction occurs
2. Potential borrowers most likely to produce adverse outcomes are ones most likely to seek loans and be selected

**Moral Hazard:**

1. After transaction occurs
2. Hazard that borrower has incentives to engage in undesirable (immoral) activities making it more likely that won't pay loan back

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 Information Asymmetries and Information Costs

- Adverse Selection
  - potential borrowers know more about the projects they wish to finance than prospective lenders

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## Information Asymmetries and Information Costs

- Solving the Adverse Selection Problem
  - Disclosure of Information
  - Collateral and Net Worth

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## Adverse Selection and Financial Structure

**Lemons Problem in Securities Markets**

1. If can't distinguish between good and bad securities, willing to pay only average of good and bad securities' values.
2. Result: Good securities undervalued and firms won't issue them; bad securities overvalued, so too many issued.
3. Investors won't want to buy bad securities, so market won't function well.

**Explains Puzzle 2 and Puzzle 1.**  
**Also explains Puzzle 6: Less asymmetric information for well known firms, so smaller lemons problem**

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## Tools to Help Solve Adverse Selection (Lemons) Problem

- 1. Private Production and Sale of Information**  
Free-rider problem interferes with this solution
- 2. Government Regulation to Increase Information (SEC)**  
**Explains Puzzle 5**
- 3. Financial Intermediation Explains Puzzles 3 and 4**
  - A. Analogy to solution to lemons problem provided by used-car dealers
  - B. Avoid free-rider problem by making private loans
- 4. Collateral and Net Worth (equity capital)**  
**Explains Puzzle 7**

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## Information Asymmetries and Information Costs

- Moral Hazard
  - Moral hazard arises when we cannot observe people's actions, and so cannot judge whether a poor outcome was intentional or just a result of bad luck
  - principal-agent problem
    - The separation of ownership from control.
  - When the managers of a company are the owners, the problem of moral hazard in equity financing disappears.

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## Moral Hazard: Debt versus Equity

### Moral Hazard in Equity: Principal-Agent Problem

1. Result of separation of ownership by stockholders (*principals*) from control by managers (*agents*)
2. Managers act in own rather than stockholders' interest

### Tools to Help Solve the Principal-Agent Problem

1. Monitoring: production of information
2. Government regulation to increase information
3. Financial intermediation (venture capital firm – high tech)
4. Debt contracts (fixed interest regardless of profits)

*Explains Puzzle 1: Why debt used more than equity*

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## Moral Hazard and Debt Markets

**Moral hazard: borrower wants to take on too much risk**

### Tools to Help Solve Moral Hazard

1. Net worth
2. Monitoring and enforcement of restrictive covenants (legal document with restrictive provisions)
3. Financial intermediation
 

Banks and other intermediaries have special advantages in monitoring

*Explains Puzzles 1–4.*

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## A Summary of the Role of Financial Intermediaries

1. **Pooling Savings:** Accepting resources from a large number of small savers/lenders in order to provide large loans to borrowers.
2. **Safekeeping and Accounting:** Keeping depositors' savings safe, giving them access to the payments system, and providing them with accounting statements that help them to track their income and expenditures.
3. **Providing Liquidity:** Allowing depositors to transform their financial assets into money quickly, easily, and at low cost.
4. **Risk sharing:** Providing investors with the ability to diversify even small investments.
5. **Information Services:** Collecting and processing large amounts of standardized financial information.

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## The Negative Consequences of Information Costs

### The Negative Consequences of Information Costs

1. **Adverse Selection:** Lenders can't distinguish good from bad credit risks, which discourages transactions from taking place.

#### Solutions include

- Government-required information disclosure
- Private collection of information

The pledging of collateral to insure lenders against the borrower's default  
 Requiring borrowers to invest substantial resources of their own

2. **Moral Hazard:** Lenders can't tell whether borrowers will do what they claim they will do with the borrowed resources; borrowers may take too many risks.

#### Solutions include

- Forced reporting of managers to owners
- Requiring managers to invest substantial resources of their own
- Covenants that restrict what borrowers can do with borrowed funds

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## Financial Intermediaries and Information Costs

- The problems of adverse selection and moral hazard make direct finance expensive and difficult to get.
- These drawbacks lead us immediately to indirect finance and the role of financial institutions.
- Much of the information that financial intermediaries collect is used to reduce information costs and minimize the effects of adverse selection and moral hazard

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# Chapter 11

**End of Chapter**

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