

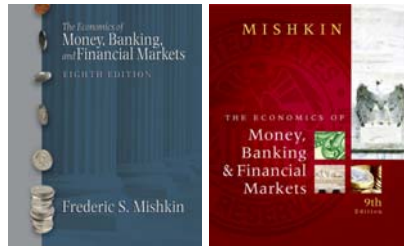


# ECON 354 Money and Banking

Professor Yamin Ahmad

## Lecture 7

- Facts of Financial Structure
- Adverse Selection and Moral Hazard in Financial Markets



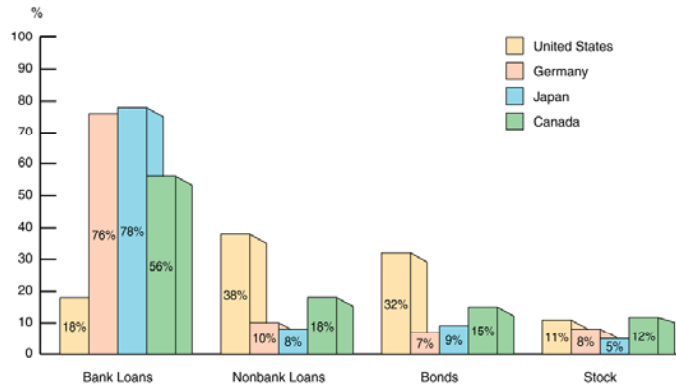
# Big Concepts

- Asymmetric Information in Financial Markets:
  - Adverse Selection
  - Moral Hazard
- “Market For Lemons ...”
- Importance of Financial Development for Economic Growth

Note: These lecture notes are incomplete without having attended lectures



# Sources of Foreign External Finance



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# The Facts of Financial Structure

1. Stocks are not the most important sources of external financing for businesses
2. Issuing marketable debt and equity securities is not the primary way in which businesses finance their operations
3. Indirect finance (financial intermediation) is many times more important than direct finance
4. Financial intermediaries, particularly banks, are the most important source of external funds used to finance businesses.

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## The Facts of Financial Structure

5. Financial system is among most heavily regulated sectors of economy
6. Only large, well established firms have easy access to securities markets to finance their activities
7. Collateral is prevalent feature of debt contracts for both households and businesses
8. Debt contracts are extremely complicated legal documents that place substantial restrictive covenants on borrowers

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## Transaction Costs and Financial Structure

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

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## Role of Financial Intermediaries

Financial intermediaries make profits by reducing transaction costs:

1. Take advantage of **economies of scale**  
Example: Mutual Funds
2. Develop **expertise to lower transaction costs**  
Explains Fact 3

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## Asymmetric Information: Adverse Selection

**Definition: 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**

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## Asymmetric Information: Moral Hazard

### Definition: 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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## Adverse Selection

### 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.

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## Adverse Selection

- *Example: Market for Asset Backed Securities during the recent financial crisis*
- *Explains Fact 2 and Fact 1 to a large extent.*
- *Also explains Fact 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: people who do not pay for information take advantage of the information that other people have paid for.
2. **Government Regulation to Increase Information**
  - *Explains Fact 5*

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

### 3. Financial Intermediation

- Analogy to solution to lemons problem provided by used-car dealers
- Avoid free-rider problem by making private loans
- *Explains Facts 3 and 4*

### 4. Collateral and Net Worth

- *Explains Fact 7*

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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 – have less information*) from control by managers (*agents – who have more information*)
2. Managers act in own rather than stockholders' interest

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## Solutions to Principal-Agent Problem: Equity Contracts

1. **Monitoring (Costly State Verification):** production of information
  - Could be reduced with increased audits and checks on managements
  - Free rider problem decreases amount of information production that would reduce moral hazard problem, thus decreasing monitoring.
  - Reduce the amount of resources spent on monitoring the firm, which helps to explain fact 1 (which in turn makes it hard for firms to raise capital by issuing shares)
2. Government regulation to increase information
  - Helps to explain Fact 5

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## Solutions to Principal-Agent Problem: Equity Contracts

3. Financial intermediation
  - Helps to explain Fact 3
4. **Debt contracts**
  - *Explains Fact 1: Why debt used more than equity*

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# Moral Hazard and Debt Markets

## Moral Hazard and Debt Markets

- Borrowers have incentives to take on projects that are riskier than the lenders would like.
  - This prevents the borrower from paying back the loan.

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# Solutions to Moral Hazard in Debt Markets

Moral hazard: borrower wants to take on too much risk

## Tools to Help Solve Moral Hazard

1. Net worth and Collateral
  - Incentive Compatible
  - Helps to explain facts 6 and 7
  
2. Monitoring and enforcement of restrictive covenants
  - Discourage undesirable behavior
  - Encourage desirable behavior
  - Keep collateral valuable
  - Provide information
  - Helps to explain fact 8

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# Solutions to Moral Hazard in Debt Markets

Moral hazard: borrower wants to take on too much risk

## Tools to Help Solve Moral Hazard

3. Financial intermediation:
  - Banks and other intermediaries have special advantages in monitoring
  - *Explains Facts 3–4.*

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## Summary Table 1 Asymmetric Information Problems and Tools to Solve Them

Asymmetric Information Problem	Tools to Solve It	Explains Fact Number
Adverse selection	Private production and sale of information	1, 2
	Government regulation to increase information	5
	Financial intermediation	3, 4, 6
	Collateral and net worth	7
Moral hazard in equity contracts (principal-agent problem)	Production of information: monitoring	1
	Government regulation to increase information	5
	Financial intermediation	3
	Debt contracts	1
Moral hazard in debt contracts	Collateral and net worth	6, 7
	Monitoring and enforcement of restrictive covenants	8
	Financial intermediation	3, 4

Note: List of facts:  
 1. Stocks are not the most important source of external financing.  
 2. Marketable securities are not the primary source of finance.  
 3. Indirect finance is more important than direct finance.  
 4. Banks are the most important source of external funds.  
 5. The financial system is heavily regulated.  
 6. Only large, well-established firms have access to securities markets.  
 7. Collateral is prevalent in debt contracts.  
 8. Debt contracts have numerous restrictive covenants.

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## Financial Development and Economic Growth

### Financial Repression Leads to Low Growth: Why?

1. Poor legal system
2. Weak accounting standards
3. Government directs credit
4. Financial institutions nationalized
5. Inadequate government regulation

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## Conflicts of Interest

- Type of moral hazard problem caused by economies of scope (applying one information resource to many different services).
- Arise when an institution has multiple objectives and, as a result, has conflicts between those objectives
- A reduction in the quality of information in financial markets increases asymmetric information problems
- Financial markets do not channel funds into productive investment opportunities



## Why Do Conflicts of Interest Arise?

- Underwriting and Research in Investment Banking
  - Information produced by researching companies is used to underwrite the securities issued by the same companies. The bank is attempting to simultaneously serve two client groups whose information needs differ.
  - Spinning occurs when an investment bank allocates hot, but underpriced, IPOs to executives of other companies in return for their companies' future business.



## Why Do Conflicts of Interest Arise?

- Auditing and Consulting in Accounting Firms
  - Auditors may be willing to skew their judgments and opinions to win consulting business.
  - Auditors may be auditing information systems or tax and financial plans put in place by their nonaudit counterparts within the firm.
  - Auditors may provide an overly favorable audit to solicit or retain audit business.



## Why Do Conflicts of Interest Arise?

- Auditing and Consulting in Credit-Rating Firms
- Conflicts of interest can arise when:
  - Multiple users with divergent interests depend on the credit ratings (investors and regulators vs. security issuers).
  - Credit-rating agencies also provide ancillary consulting services (e.g. advise on debt structure).
- The potential decline in the quality of information negatively affects the performance of financial markets.



## Conflicts of Interest: Remedies

- Sarbanes-Oxley Act of 2002 (Public Accounting Return and Investor Protection Act) increased supervisory oversight to monitor and prevent conflicts of interest
  - Established a Public Company Accounting Oversight Board
  - Increased the SEC's budget
  - Made it illegal for a registered public accounting firm to provide any nonaudit service to a client contemporaneously with an impermissible audit



## Conflicts of Interest: Remedies (cont'd)

- Sarbanes-Oxley Act of 2002 (cont'd)
  - Beefed up criminal charges for white-collar crime and obstruction of official investigations
  - Required the CEO and CFO to certify that financial statements and disclosures are accurate
  - Required members of the audit committee to be independent



## Conflicts of Interest: Remedies (cont'd)

- Global Legal Settlement of 2002
  - Required investment banks to sever the link between research and securities underwriting
  - Banned spinning
  - Imposed \$1.4 billion in fines on accused investment banks
  - Required investment banks to make their analysts' recommendations public
  - Over a 5-year period, investment banks were required to contract with at least 3 independent research firms that would provide research to their brokerage customers.