ECON 2130
MONEY AND BANKING

Chapter 8: An Economic Analysis of Financial Structure

Outlines

- The development of a new literature in economics on asymmetric information and financial structure in recent years now enables financial institutions to be taught with basic economic principles rather than placing emphasis on a set of facts.

- This chapter provides an outline of this literature with an economic understanding of why our financial system is structured the way it is.

- It emphasizes the ideas of adverse selection and moral hazard, which are basic economic concepts that are useful in understanding financial crises in Chapter 9, principles of bank credit risk management in Chapter 10, and principles of bank regulation in Chapter 11.

- The chapter begins with a discussion of eight basic facts about financial structure. One may surprise the relative unimportance of the stock market as a source of financing investment activities. It explains how transactions costs and asymmetric information affect financial structure.
• this chapter discusses what conflicts of interest are and why we should care about them.

• Recent corporate and accounting scandals due to conflicts of interest have received tremendous public attention because resulting bankruptcies have cost employees of these firms their jobs and their pensions, and because the scandals may have hampered the efficient functioning of the financial system.

• conflicts of interest occur when people who are supposed to act in the interests of the investing public by providing them with reliable information, instead have incentives (conflicting interests) to deceive the public to benefit themselves and their corporate clients.

• This chapter provides a survey of the different types of conflicts of interest in the financial industry and discusses policies to remedy them.

• The chapter concludes with four applications to use the concepts in the earlier asymmetric information analysis.
  – The first two examine the role of financial development on economic growth and whether China is a counter-example to the importance of financial development.
  – The second two focus on financial crises.

These applications fit in especially well with courses focusing on monetary theory and policy since promoting economic growth and avoiding financial crises is one of the major issues for monetary policy.
Preview

• A healthy and vibrant economy requires a financial system that moves funds from people who save to people who have productive investment opportunities.

• Make sure your hard-earn money get channeled to the one who will return your capital to you and give you good interest.

• This chapter
  – provides an economic analysis of how our financial system is designed to promote economic efficiency,
  – explains features of our financial system,
  – explain why financial intermediaries are more important than securities markets for getting funds to borrowers, and
  – demonstrates the important link between the financial system and the performance of the aggregate economy.
Basic Facts About Financial Structure

• The financial system

  – It includes many different types of institutions: banks, insurance companies, mutual funds, stock and bond markets, etc - regulated by Government.

  It channels trillions of dollars per year from savers to people with productive investment opportunities.

• Eight Basic Facts

  – Refer to Figure 1,

  – The Bank Loans is made up primarily of loans from depository institutions; the Nonbank Loans is composed primarily of loans by other financial intermediaries;

  – The Bond consists of corporate bonds and commercial paper; and

  – The Stock consists of new issues of new equity.
1. **Stocks are not the most important sources of external financing for businesses**

- Figure 1 shows that bonds are a far more important source of financing than stock in the USA (32% vs 11%).
- From Figure 1, the stock market only accounted for 11% of the flows of external financing to corporations in American businesses in the 1970-2000 period.
- However, when a share of stock is issued, it raises funds “permanently”, whereas when a bond is issued, it raises funds temporarily until they are paid back at maturity.
- Thus, stock could be more important than bonds in the sense of stock, not flow.

2. **Issuing marketable debt and equity securities is not the primary way in which businesses finance their operations**

- Figure 1 show that the total share of marketable securities – stocks and bonds combined (43%), still supply less than one-half of the external funds corporations need to finance their activities.
3. **Indirect finance is many times more important than direct finance**

- **Direct finance** – the sale of marketable securities such as stocks and bonds to households (lenders).

- **Indirect finance** – the activities of financial intermediaries such as insurance companies, pension funds, and mutual funds.

- Since 1970, less than 5% of newly issued corporate bonds and commercial paper and less than 1/3 of stocks have been sold directly to American households.

- The rest of these securities have been bought primarily by financial intermediaries such as insurance companies, pension funds, and mutual funds.

- The situation is more serious in the rest of the world.

- However, in recent years, indirect finance has been declining in importance.
4. **Financial intermediaries, particularly banks, are the most important source of external funds used to finance businesses**

- The primary source of external funds for business made by banks and other nonbank financial intermediaries (56% in the USA and more than 70% in other countries).
- However, in recent years, though banks still remain important, their share of external funds for business has been declining in importance.
- Refer to Table 11.1 in Cecchetti:

  * The value of a country’s stock market, bonds outstanding, or bank loans can be bigger than its GDP.
  * It could be much larger, as the value of a company to its owners is normally more than one year’s sale.
  * The value of the French stock market id equivalent to roughly 20% of its GDP.
  * The value of the French debt securities, about 41% of its GDP.
  * Adding columns A and B tells us that in France, direct finance is about 60% of its GDP.
  * The credit extended by French bank and other financial intermediaries is more than 90% of its GDP.
  * Column D reports 1.5, the ratio of indirect to direct finance, which means that indirect finance is 1.5 times the size of its direct finance.
5. **The financial system is among the most heavily regulated sectors of the economy**

   – the financial system is among the most heavily regulated to promote the provision of information and to ensure the soundness (stability) of the financial system.

6. **Only large, well-established corporations have easy access to securities markets to finance their activities**

   – individuals and smaller businesses that are not well established are less likely to raise funds by issuing marketable securities.

   – Individuals and smaller businesses most often obtain their financing from banks.
7. **Collateral is a prevalent feature of debt contracts**

   – **collateral** is a property that is pledged to a lender to guarantee payment in the event that the borrower is unable to make debt payments.

   – collateral debt or known as **secured debt** to contrast with unsecured debt, such as credit card debt, is the predominant form of household debt and is widely used in business.

   – Why is collateral such an important feature of debt contracts?

8. **Debt contracts are extremely complicated legal documents that place substantial restrictive covenants on borrowers**

   – A debt contract is not just a simple IOU that written on a single piece of paper.

   – Bond or loan contracts typically are long legal documents with provisions (called **restrictive covenants**) that restrict and specify activities that that the borrower can engage in.
Transaction Costs

Examine the impact of transaction costs on the structure of our financial system.

• How Transaction Costs Influence Financial Structure

  – If you have only small amount of fund, you will face heavy transaction cost.

  – You may have to put all your eggs in one basket, and your diversify will subject you to a lot of risk.

• How Financial Intermediaries Reduce Transaction Costs

  – Financial intermediaries have evolved to reduce transaction costs and allow small savers and borrowers to benefit from the existence of financial markets.

  – Economies of scale

    * Bundling investors’ funds together reduces transaction costs for each individual investor.

    * The presence of economies of scale in financial markets helps explain why financial intermediaries developed and have become such an important part of our financial structure.
* Lower the costs of things such as improving computer technology, telecommunication system.

* **Example**: a mutual fund that sells shares to individuals and then invests the proceeds in bonds or stocks.
  · a mutual fund takes advantage of lower transaction costs could cut their management fee.
  · a mutual fund is large enough to purchase a widely diversified portfolio of securities.

– **Expertise**

* Able to provide its customers with *liquidity services*.
  · **Example**: money market mutual funds could pay shareholder high interest rates, but also allow them to write checks for convenient bill-payment.
Asymmetric Information

- **Asymmetric Information** - a situation that arises when one party’s insufficient knowledge about the other party involved in a transaction.

  * **Example**: managers of a corporation know whether they are honest or have better information about how well their business is doing than the stockholders do.

The presence of asymmetric information leads to adverse selection and moral hazard problems:

- **Adverse selection** is an asymmetric information problem that occurs before the transaction
  - Potential bad credit risks are the ones who most actively seek out loans.
  - Thus, lenders might decide not to make any loans, even though there are good credit risks in the marketplace.

- **Moral hazard** arises after the transaction
  - The lender runs the risk that the borrower will engage in activities that are undesirable.
  - Thus, lenders might decide not to make any loan.

- The analysis of how asymmetric information problem affect economic behavior is called **agency theory**.
The Lemons Problems - how adverse selection influences financial structure.¹

- It is called the Lemons Problems because it resembles the problem created by lemons in the used-car market.²
  - Potential buyers of used cars are frequently unable to assess the quality of the car and thus they will not pay high price for used car.
  - If the car is a lemon, the owner is happy to sell it whereas if the car is peach, the owner may not want to sell it cheap - adverse selection.
  - As a result, few good used cars will come to the market and thus the average quality of a used car in the market is not good and the used-car market will function poorly.

- Lemons in the Stock and Bond Markets
  - Similarly, in stock markets, individual investors are not willing to pay high price to stocks as they cannot distinguish good firms from bad firms.
  - good firms will not want to sell cheap while mainly bad firms are selling in the market.
  - Investors are not stupid and hence they decide not to buy.
  - The analysis is similar in the corporate bond markets.
  - This explains why marketable securities are not the primary source of financing for business in any country.

• **Tools to help Solve Adverse Selection Problems**
  
  – Eliminate asymmetric information and the lemons problem goes away.

  – If investors can distinguish good firms from bad, they will pay the full value of good securities and good firms will sell their securities.

  – **Private Production and Sale of Information**

    * Investors could hire private companies to produce information to distinguish good firms from bad.

    * However, the **free-rider problem** occurs when people don’t pay for information take advantage. They can just follow whose get information to trade.

    * As a result, investors are not willing to hire private companies to product information.

  – **Government regulation to increase information**

    * In the U.S., the Securities and Exchange Commission (SEC) requires firms selling their securities to have independent audits, in which accounting firms certify that the firm is adhering to standard accounting principles and disclosing accurate information about sales, assets, and earnings.

    * However, disclosure requirements do not always work well, as the recent collapse of Enron and accounting scandals at other corporations suggest.
– Example - The Enron Implosion

* the Enron Corporation was valued as high as $77 billion in August 2000, making it the seventh-largest corporation in the US.

* In Oct 2001, Enron announced a third-quarter loss of $618 million and disclosed accounting “mistakes.”

* In Dec 2001, Enron declare bankruptcy, the largest bankruptcy in U.S. history.

* The Enron collapse illustrate that government regulation can lessen asymmetric information problems, but cannot eliminate them.

* The Enron bankruptcy not only increased concerns about the quality of accounting information supplied by corporations, but also led to hardship for many of the firm’s former employees, who found that their pensions become worthless.

* Outage against the duplicity of executives at Enron has been high, and several have been indicted, with some being convicted and sent to jail.
– Financial intermediation

* experience from used-car dealer who purchases used cars from individuals and resells them to others. Once they know a car is good, they can sell it higher with some form of a guarantee.

* A financial intermediation, such as a bank, is expert to distinguish good credit risks from bad ones. It can acquire funds from depositors and lend them to the good firms and make profits.

* Thus, analysis of adverse selection indicates that financial intermediaries play a greater role in moving funds from individuals to corporations than securities markets do.

* As information about private firms is harder to collect in developing countries, their securities markets are smaller and their financial intermediaries play a larger role.

* This also explains why the role of banks in developed countries decline because of the improvement of information technology.
• **Collateral and net worth**

  - **Collateral** is property promised to the lender if the borrower defaults.

  - **net worth** (also called **equity capital**), is the difference between a firm’s assets and its liabilities.

  - If a firm has a high net worth, then even if it defaults payments, the lender can take title to the firm’s net worth, sell it off, and use the proceeds to recoup some of the losses from the loan.

  - “Only those who don’t need money can borrow it.”
How Moral Hazard Affects The Choice Between Debt and Equity Contracts

• Moral hazard is the asymmetric information problem occurs after the transaction takes place.

• Moral Hazard in Equity Contracts – the Principal-Agent Problem
  – When managers own only a small (or does not own any) fraction of the firm they work for, the managers, (agents) who are different from the stockholders (principals) of the firm, may act in their own interest rather than in the interest of the stockholders.
  – The moral hazard problem might be even worse if managers are not honest.
  – Managers could divert funds for their own personal use.
  – They might pursue corporate strategies (acquisition) that enhance their personal power but do not increase the corporation’s profitability.
  – The principal-agent problem may not be so serious if the owners had complete information about what the managers were up and could prevent wasteful expenditures or fraud.
Tools to Help Solve the Principal-Agent Problem

• Monitoring (Costly State Verification)
  – One way stockholders to reduce moral hazard problem is to engage companies to audit the firm frequently and check on what the management is doing.
  – However, the monitoring process could be expensive in terms of time and money – costly state verification.
  – If you know that other stockholders are paying to monitor the activities of the company you are shares in, you can take a free ride on their activities.
  – This ends up no one will spend any resources on monitoring the firm. The moral hazard problem for shares of common stock will then be sever, making it hard for firms to issue them to raise capital.

• Government regulation to increase information
  – Governments everywhere have laws to force firms to adhere to standard accounting principles that make profit verification easier.
  – They pass laws to impose stiff criminal penalties on people who commit the fraud of hiding and stealing profits.
  – However, these measures can be only partly effective. Catching this kind of fraud is not easy.
  – Fraudulent managers have the incentive to make it very hard for government agencies to find or prove fraud.
• **Financial Intermediation**

- Financial intermediaries could pool the resources to help budding entrepreneurs to start new business and become venture capital firms.

- Venture capital firms usually insist on having several of their own people participate as members of the managing body of the firm, the board of directors, so that they can keep a close watch on the firm’s activities.

- Venture capital firms have been important in the development of the high-tech sector in the US, which has results in job creation, economic growth, and increased international competitiveness.

• **Debt Contracts**

- Debt contract is a contractual agreement to pay the lender fixed amounts at periodic intervals. When the firm cannot meet its debt payments, thereby being in a state of default, the lender has to verify the state of the firm’s profit.

- So, it is the lender to act more like equity holders to know how much income the firm has to get their fair share.
How Moral Hazard Influences Financial Structure In Debt Markets

• Debt contracts are still subject to moral hazard because a debt contract requests the borrowers to pay out a fixed amount and let them keep any profits about this amount, the borrowers have incentive to take on investment projects that are riskier than the lender would like.

• Tools to Help Solve Moral Hazard in Debt Contracts

  – Net Worth and Collateral

    * Net worth and collateral make the debt contract incentive-compatible - it aligns the incentives of the borrower with those of the lender. The greater the borrowers’ incentive to behave in this way that the lender expects and desires, the smaller the moral hazard problem in the debt contract.

  – Monitoring and Enforcement of Restrictive Covenants

    * Four types of restrictive covenants to reduce moral hazard either by ruling out undesirable behavior or by encouraging desirable behavior:
* **Discourage undesirable behavior**
  
  - Some covenants mandate that a loan can be used only to finance specific activities, such as the purchase of particular equipment or inventories. Other restrict the borrowing firm from engaging in certain risky business activities.

* **Encourage desirable behavior**
  
  - e.g. one restrictive covenant requires the breadwinner in a household to carry life insurance that pays off the mortgage upon that person’s death.

* **Keep collateral valuable**
  
  - e.g. automobile loan contracts require the car owner to maintain a minimum amount of collision and theft insurance and prevent the sale of the car unless the loan is paid off.

* **Provide information**
  
  - Restrictive covenants also require a borrowing firm to provide information about its activities periodically in the form of quarterly accounting and income reports, thereby making it easier for the lender to monitor the firm and reduce moral hazard.

* Restrictive covenants help reduce the moral hazard, they do not eliminate it completely.
  
  - Borrowers may be clever enough to find loopholes in restrictive covenants that make them ineffective.
  
  - Restrictive covenants become meaningless if the borrower can violate it knowing that the lender won’t check up or is unwilling to pay for legal resource.
  
  - Free-rider problem.
– Financial Intermediation

* Financial Intermediaries, particularly banks, have the ability to avoid the free-rider problem as private loans are not traded. Thus, Intermediaries receives the benefits of monitoring and enforcement and will work to shrink the moral hazard problem inherent in debt contracts.

* That’s why financial intermediaries play a more important role in channeling funds from savers to borrowers than marketable securities do.
Applications – Financial Development and Economics Growth

• Why many developing countries or ex-communist countries like Russia (Transition countries) experience very low rates of growth?

  – because their financial systems are underdeveloped (financial repression),

  – their financial systems operate inefficiently,

  – their systems of property rights make it hard to use collateral and restrictive covenants effectively.

  – bankruptcy procedures are often extremely slow and cumbersome.

  – Governments often block lenders from foreclosing on borrowers in politically powerful sectors.

  – where the market is unable to use collateral effectively, the adverse selection problem will be worse.

  – A poorly developed or corrupt legal system make it extremely difficult for lenders to enforce restrictive covenants.

  – Government often use their financial systems to direct credit to themselves or to favored sectors of the economy by setting very low interest rates.
– State-owned banks have little incentive to allocate their capital to the most productive uses.

– Resulting in getting harder for lenders to channel funds to borrowers with the most productive investment opportunities.

– There will be less productive investment, and hence a slower-growing economy.

• The institutional environment of a poor legal system, weak accounting standard, inadequate government regulation, and government intervention through directed credit programs and state ownership of banks all help explain why many countries stay poor while others grow richer.
Applications – Is China a Counter-Example to the Importance of Financial Development?

- The country’s legal system is weak so that financial contracts are difficult to enforce.

- Accounting standards are lax so that high-quality information about creditors is hard to find.

- Regulation of the banking system is still in its formative stages, and the banking sector is dominated by large state-owned banks.

- Yet the Chinese economy has enjoyed one of the highest growth rates in the world over the last twenty years.
  
  - With less than $5000 per capita income, one-eighth of that in the US, and with extremely high saving rate over the last two decades, the country has been able to rapidly build up its capital stock and shift a massive pool of under-utilized labor from the subsistence-agriculture sector into high-productivity activities that use capital.

- As China gets richer, however, this strategy is unlikely to continue to work.
  
  - The Soviet Union provides a graphic example in the 1950s and 1960s.
– The Soviet Union provides a graphic example in the 1950s and 1960s: high growth fueled by a high savings rate, a massive buildup of capital, and shifts of a large pool of under-utilized labor from subsistence agriculture to manufacturing.

– During the high-growth phase, however, the Soviet Union was unable to develop the institutions needed to allocate capital efficiently.

• To move into the next stage of development, China needs to allocate its capital efficiently.

• The Chinese leadership is well aware of this challenge.

  – The government has announced that stat-owned banks are being put on the path to privatization.

  – The government is engaged in legal reform to make financial contracts more enforceable.

  – New bankruptcy law is being developed so that lenders have the ability to take over the assets of firms that default on their loan contracts.

• Can China make it?
Conflicts of Interest

- Type of moral hazard problem caused by economies of scope
  - Financial institutions expert in interpreting signals and collecting information from their customers gives them a cost advantage in the production of information. They collect, produce, and distribute this information over and over again.
  - By providing multiple financial services to their customers, financial institutions develop broader and long-term relationship with firms, reducing the cost of producing information and increasing economies of scope.

- Arise when an institution has multiple objectives and, as a result, has conflicts between those objectives
  - For example, a bank can evaluate how good a credit risk a corporation is when making a loan to the firm, which then helps the bank decide whether it would be easy to sell the bonds of this corporation to the public.

Why Do We Care About Conflicts of Interest?

- A reduction in the quality of information in financial markets increases asymmetric information problems

- Financial markets do not channel funds into productive investment opportunities

- The economy is not as efficient as it could be
Why do Conflicts of Interest Arise?

Two types of financial service activities have led to prominent scandals in recent years:

- **Underwriting and Research in Investment Banking**
  
  - Investment banks perform two tasks:
    * They research companies issuing securities, and
    * They underwrite these securities by selling them to the public on behalf of the issuing corporations.
  
  - **information synergies** - information produced for one task may provide information that is useful in the other task.
  
  - **A conflict of interest** arises between the brokerage and underwriting services because the bank is attempting to simultaneously serve two client groups — the security-issuing firms and the security-buying investors.
  
  - These clients groups have different information needs — Issuers benefit from optimistic research whereas investors desire unbiased research.
  
  - When the potential revenues from underwriting greatly exceed the brokerage commission from selling, the bank will have a strong incentive to alter the information provided to investors to favor the issuing firm’s needs or else risk losing the firm’s business to competing investment banks.
– **Example**: Morgan Stanley memo excerpted in the Wall Street Journal on July 14, 1992 - “we do not make negative or controversial comments about our clients as a matter of sound business practice.”

– **Example**: “The King, Queen, and Jack of the Internet”

– Another common practice that exploits conflicts of interest is **spinning** – Spinning (a form of kickback) occurs when an investment bank allocates hot, but underpriced, **initial public offerings** (IPOs) to executives of other companies in return for their companies’ future business.

– When the executive’s company plans to issue its own shares, s/he will be more likely to go to the investment bank that distributed the hot IPO shares, which is not necessarily the investment bank that would get the highest price for the company’s securities.

– As a result - it diminishes the efficiency of securities markets.
• **Auditing and Consulting in Accounting Firms**

  – Traditionally, an auditor checks the books of companies and monitors the quality of the information produced by firms to reduce the inevitable information asymmetry between the firm’s managers and its shareholders.

  – Threats to truthful reporting arise from several potential conflicts of interest:

    * Auditors may be willing to skew their judgments and opinions to win consulting business such as advice on taxes, accounting, and business strategy, from these same clients.

    * Auditors may be auditing information systems or tax and financial plans put in place by their nonaudit counterparts within the firm, and therefore may be reluctant to criticize the systems or advice.

    * Auditors may provide an overly favorable audit to solicit or retain audit business

      · **Example** - the unfortunate collapse of Arthur Andersen (Many of Arthur Andersen’s clients that later went bust – Enron, WorldCom, etc) — once one of the five largest accounting firms in the US - suggests that this may be the most dangerous conflict of interest.
Conflicts of Interest: Remedies

- **Sarbanes-Oxley Act of 2002 (Public Accounting Return and Investor Protection Act)**
  - Increases supervisory oversight to monitor and prevent conflicts of interest
    - Establishes a Public Company Accounting Oversight Board to supervise accounting firms and ensure that audits are independent and controlled for quality.
    - Increases the SEC’s budget to supervise securities markets
  - Reduce conflicts of interest:
    - Makes it illegal for a registered public accounting firm to provide any nonaudit service to a client contemporaneously with an impermissible audit
  - Provide incentives for investment banks not to exploit conflicts of interest:
    - Beef up criminal charges for white-collar crime and obstruction of official investigations
  - Improve the quality of information in the financial markets:
    - Requires the chief executive officer (CEO) and chief financial officer (CFO) to certify that periodic financial statements and disclosures of the firm (especially regarding off-balance-sheet transactions) are accurate
    - Requires members of the audit committee to be independent. They cannot be managers in the company or receive any consulting or advisory fee from the company.
• **Global Legal Settlement of 2002**
  
  – It aims against the ten largest investment banks, e.g. Goldman Sachs, Lehman Brothers, Morgan Stanley, etc, to reduces conflicts of interest:
    
    * Requires investment banks to sever the link between research and securities underwriting
    * Bans spinning
  
  – Provides incentives for investment banks not to exploit conflicts of interest:
    
    * Imposes $1.4 billion in fines on accused investment banks
    * Improve the quality of information in the financial markets,
      
    * Requires investment banks to make their analysts’ recommendations public
    
    * Over a 5-year period, investment banks are required to contract with at least 3 independent research firms that would provide research to their brokerage customers

• Comments on the acts:
  
  – The most controversial elements of the acts are the separation of functions (research from underwriting, and auditing from nonaudit consulting).
  
  – This may reduce conflicts of interest, it might also diminish economies of scope and thus potentially lead to a reduction of information in financial markets.
  
  – Implementation of these measures could be too costly.
FYI – Credit-Rating Agencies and the Subprime Financial Crisis

The Demise of Arthur Andersen

FYI – Should we kill all the lawyers?
Financial Crises and Aggregate Economic Activity

• **Agency theory**, the economic analysis of the effects of adverse selection and moral hazard, can help us understand financial crises.

• Financial crises causes such a sharp increase in adverse selection and moral hazard problem in financial markets that the markets are unable to channel funds efficiently from savers to people with productive investment opportunities.

• **Factors causing Financial Crises**

  – Increases in interest rates

    * If market interest rates are driven up sufficiently because of increase demand for credit or a decline in the money supply, good credit risks are less likely to borrow while bad credit risks are still willing to borrow.

    * Resulting increase in adverse selection and thus lenders will no longer want to make loans.

    * The substantial decline in lending will lead to a substantial decline in investment and aggregate economic activities.
Increases in Uncertainty

* A dramatic increase in uncertainty in financial markets due perhaps to the failure of a prominent financial or nonfinancial institution, a recession, or a stock market crash, makes it harder for lenders to screen good from bad credit risks.

* The resulting inability of lenders to solve the adverse selection problem makes them less willing to lend

* this leads to a substantial decline in lending, investment and aggregate economic activity

Asset market effects on balance sheets

* A sharp decline in the stock market is one factor that can cause a serious deterioration in form’s balance sheets.

* This deterioration can increase adverse selection and moral hazard problems in financial markets and provoke a financial crisis.

* A sharp decline in the stock market makes the net worth of corporations fall sharply.

* This makes lenders less willing to lend.

* this leads to a substantial decline in lending, investment and aggregate economic activity
– Problems in the banking sector

* If banks suffer a deterioration in their balance sheets and so have a substantial contraction in their capital, they will have fewer resources to lend, and bank lending will decline.

* The contraction in lending then leads to a decline in investment spending, which slows economic activity.

* If the deterioration in bank balance sheets is severe enough, banks will start to fail, and fear can spread from one bank to another - bank panic.

* Depositors, fearing for the safety of their deposits and withdraw their deposits to the point that banks fail.

* The decrease in bank lending decreases the supply of funds to borrowers, which leads to higher interest rates.

* The outcome of bank panic is an increase in adverse selection and moral hazard problems in credit markets, producing an even sharper decline in lending to facilitate productive investment and lead to an even more severe contraction in economic activity.
– **Government fiscal imbalances**

* Government fiscal imbalances may create fears of default on the government debt.

* As a result, the government may have trouble getting people to buy its bonds and it might force banks to purchase them – banks have trouble.

* Fears of default on the government debt can also spark a foreign exchange crisis in which the value of the domestic currency falls sharply because investors pull their money out of the country.

* These balance sheet problems lead to an increase in adverse selection and moral hazard problems, a sharper decline in lending and lead a severe contraction in economic activity.