Lecture 4: Financial Structure

"Puzzles" about Fin Structure (ROLL YOUR EYES)

1 → Stocks **not** most important source of external financing

2 → Nor are bonds

Bank Loans	40.2 %	Stocks	9.2 %
Non-Bank Loans	15.1 %	Bonds	35.5 %
	55.3 %		44.7 %

3 → Indirect finance (i.e. going through financial intermediary) is more important than direct finance (raising funds directly from lenders in financial markets)

4 → Banks are the most important source of external funds

5 → Financial system heavily regulated

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

7 → Collateral is a prevalent feature of debt contracts for both households + businesses

8 → Debt contracts are extremely complicated legal documents that place substantial restrictions on the behavior of the borrower

Transaction Costs

→ Individual investors can only buy a small number of shares. Smallest bond denominations are prohibitively high

So range of investment opportunities very limited ⇒ difficult (if not impossible) to diversify

→ Mutual Funds - financial intermediary that sells shares to individual + uses proceeds to buy stocks + bonds, achieves economies of scale + overcomes the problem of transaction costs

→ Financial intermediaries may also be able to acquire expertise, liquidity services, etc.

Asymmetric Information

→ Adverse selection – bad credit risks more likely to seek loans

→ Moral hazard – once loan obtained borrower may take big risk

Adverse Selection

"puzzles #1 + #2"

→ ~~why~~ the reason why stocks + bonds are not the most important source of external financing

→ if investor cannot distinguish betw/n good + bad credit risks, then:

- avg price higher than what "bad" firm's securities are worth
- avg price lower than what "good" firm's securities are worth
- so only firms willing to sell securities are the bad firms

Solving the Adverse Selection Problem

→ need to supply investors with information to help them distinguish the "good" from the "bad"

→ private companies (S&P, Moody's, etc) gather info & sell it to subscribers

- Mishkin argues that this solution doesn't completely solve the problem because of free-rider problem
- "I have good information, so I buy. You see that I am buying, so you buy too."
- Mishkin argues that the free riders then bid up the price of undervalued securities so I can no longer profit from purchasing good information & acting on it.
- But Mishkin forgets that I move first.

Mishkin forgets that those with better info move first

→ gov't regulation requires public disclosure

"puzzle #5

- SEC
- FDIC – bank call reports

↑ Statistics on Depository Institutions

→ financial intermediaries

helps solve the adverse selection problem

- banks acquire expertise that enables them to distinguish betw/n good + bad credit risks
- so banks can lend to "good" firms + earn a return that exceeds the interest it must pay to depositors
- avoids "free rider" problem because private loans are not traded

"puzzle #3" • explain why indirect finance is more important than direct finance

"puzzle #4" • explains why banks are most important source of external funds

→ as quality of information improves (less asymmetric info), easier for firms to issue securities + role of banks should decline

"puzzle #6" → large well known firms obtain funds by issuing securities because information about them is more readily available to investors

→ collateral + net worth

"puzzle #7"

helps solve the adverse selection problem

- if borrower defaults, lender can collect the collateral, thus reducing (or eliminating) loss
- Net Worth ≡ Assets − Liabilities
  firm with high net worth can sell some of its assets to repay loan

Moral Hazard

→ once external funds obtained, borrower may take big risk

→ principal-agent problem
- stockholders = principals
- managers = agents

→ stockholders elect a board of directors to oversee the managers
- big problem: "He's the Chairman + CEO."
- why?: "He's the principal + the agent."

Moral Hazard → stockholders may find it costly to monitor a firm's activities (e.g. conducting frequent audits, etc)

"Puzzle #1" — if so, then it will be harder to raise equity capital

→ gov't regulation – requiring standard accounting principles makes profit verification simpler

"Puzzle #5"

→ venture capital firms (pool resources of partners & help budding entrepreneurs start new businesses)

- acquire equity stake
- several people from the venture capital firm sit on board of directors
- eliminates free rider & moral hazard problems

→ debt contracts' structure reduces need for costly monitoring

- borrower pays fixed amt at regular intervals
- only when borrower is in default does lender need to get involved
- debt more attractive to lender than equity

"Puzzle #1" helps solve the moral hazard problem

How Moral Hazard Influences Financial Structure in Debt Markets

→ borrowers with high net worth have more to lose from risky investments

- Note that in the case of home mortgages, home prices dropped precipitously during the financial crisis
- Some borrowers now had negative equity (they owed more than the home was worth)
- these borrowers were (ceteris paribus) more likely to default

→ restrictive <u>covenants</u> in debt contracts

"Puzzle #8"

- to discourage undesirable behavior may restrict what loan is used to purchase
- to encourage desirable behavior may require home buyer to carry life insurance or may require business to maintain high net worth
- to keep collateral valuable may require insurance on the collateral

- covenants to provide information
businesses that borrow may have to provide accounting + income reports
makes it easier for lender to monitor the firm + reduces moral hazard

→ monitoring + enforcement of restrictive covenants is costly so free rider problem arises in the bond market just as it does in the stock market
but notice that Mishkin forgets that those with better info move first
(see page 4 of these notes)

Quick Note on Financial Crises

→ deterioration of firm's net worth (due to decrease in stock price) reduces value of collateral + amplifies adverse selection problem, so banks less willing to lend + amplifies moral hazard problem because firm now has less to lose from risky investment

→ causes decline in economic activity + further decline in stock prices → descending spiral