An Economic Analysis of Financial Structure
ECON 4673
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Answers

1. *What are the six basic facts about the financial system?*

   a. The issuance of new stock and bond offerings are not popular ways for businesses to externally finance their operations.
   b. Financial intermediaries are the primary source of external finance for businesses.
   c. The financial system is one of the most heavily regulated sectors of the economy.
   d. Only large companies can easily raise funds in the stock and bond markets.
   e. Many debt contracts are secured with collateral.
   f. Debt contracts are complicated legal documents that place restrictions on the borrower.

2. *Why are financial intermediaries/banks willing to engage in information collection activities when investors in financial instruments may be unwilling to do so?*

   Investors in financial instruments who engage in information collection face a free-rider problem, which means other investors may be able to benefit from their information without paying for it. Thus, individual investors have inadequate incentives to devote resources to gathering information about borrowers who issue securities. Financial intermediaries avoid the free-rider problem because they make private loans to borrowers rather than buy the securities that the borrowers have issued. Since they will reap all the benefits from the information collected, their activities will be more profitable. As a result, they have a greater incentive to invest in information collection.

3. *Wealthy people often worry that others will seek to marry them only for their money. Is this a problem of adverse selection?*

   Yes, wealthy people face an adverse selection problem before they marry. Many of the people most interested in marrying a rich person are motivated more by money than love. Thus, rich people should be extra careful to screen out those who want to marry for money from those who want to marry for love.

4. *Would you be more willing to lend to a friend if she had put all of her life savings into her business than you would be if she had not done so? Why?*

   Yes. The person who is putting her life savings into her business has more to lose if she takes on too much risk or engages in personally beneficial activities that don't lead to higher profits. Hence, she will act more in the interest of the lender, which will make it more likely that the loan will be paid off.

5. *What types of restrictive covenants can be included in debt contracts?*

   Covenants to a) discourage undesirable behavior, b) encourage desirable behavior; c) keep collateral valuable; and d) provide information.

6. *In December 2001, Argentina announced it would not honor its government issued debt. Many investors were left holding Argentinean bonds priced at a fraction of their previous value. A few years later, Argentina announced it would pay back 25% of the face value of its debt. Comment on the effects of information asymmetries on government bond markets. Do you think investors are currently willing to buy bonds issued by the government of Argentina?*

   Information asymmetries are also present in government bond markets. Usually investors utilize many sources of information about the characteristics of particular governments to assess their ability or willingness to honor their debt. As the Argentinean case illustrates, sometimes this lack of information results in huge losses for bondholders. In this respect, the information problem is not much different from an investor who decides which corporate bond to buy, although the information about corporate bonds is more standardized (making it easier to compare firms). After the Argentinean default, investors were willing to buy Argentinean bonds issued but only at a significant risk premium which made it very costly for Argentina to raise funds in bond markets.

7. *Would moral hazard and adverse selection still arise in financial markets if information were not asymmetric? Explain.*

   No. When the lender knows as much about the borrower as the borrower does, then the lender is able to screen out the good from the bad credit risks, so adverse selection will not be a problem. Similarly, if the lender knows what the borrower is up to after the transaction, then moral hazard will not be a problem because the lender can prevent the borrower from engaging in that behavior.

8. *Which firms are most likely to use bank financing rather than issuing bonds or stocks to finance their activities? Why?*

   Smaller firms that are not well known are the most likely to use bank financing because investors have a hard time acquiring information about these firms. Thus, it is hard for the firms to sell securities in financial markets. Banks that specialize in collecting information about smaller firms will then be the only outlet these firms have for financing their activities.

9. *"The more collateral there is backing a loan, the less the lender has to worry about adverse selection." Is this statement true or false? Explain your answer.*

   True. If the borrower turns out to be a bad credit risk and goes broke, then the lender will lose less because the collateral can be sold to cover the some or all of the losses on the loan. Thus, adverse selection is not as severe of a problem.

10. *You own a house worth $400,000 that is located on a river. If the river floods moderately, the house will be completely destroyed. Moderate flooding happens about once every 50 years. If you build a seawall, the river would have to flood heavily to destroy your house, and such heavy flooding occurs only about once every 200 years. What would be the annual premium for a flood insurance policy that offers full coverage (100% of the value) for both with and without the seawall? How is your answer different if the insurance policy pays only 75% of the home value? You can assume the insurance company charges you a premium equal to the expected loss to the insurer.*

    The probability of an insurance claim without the seawall is $1/50 = 0.02$, while the probability of an insurance claim with the seawall is $1/200 = 0.005$.

    With full insurance:
    The expected loss without a seawall is
    $$400{,}000 \times 0.02 = 8{,}000;$$
    The expected loss with a seawall is
    $$400{,}000 \times 0.005 = 2{,}000.$$
    In both cases, the insurance company will charge their expected loss as a premium.

    With partial insurance:
    The expected loss without the seawall is
    $$300{,}000 \times 0.02 = 6{,}000;$$
    The expected loss with the seawall is
    $$300{,}000 \times 0.005 = 1{,}500.$$
    In both cases, the insurance company will charge their expected loss as a premium.