Banking and the Management of Financial Institutions
ECON 4673
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Answers

1. *Name the five types of assets and the three types of liabilities of a bank.*

   Assets: a) reserves; b) deposits at other banks; c) securities; d) loans; and e) other assets include physical capital such as bank buildings and office equipment.
   Liabilities: a) checkable deposits; b) nontransaction deposits; and c) borrowings from the Fed, other banks, parent company, or other companies.

2. *How would the following bank balance sheet (in millions of $) change if checkable deposits declined by $50 million?*

Assets		*Liabilities/Equity*	
Required reserves	*30*	*Checkable deposits*	*300*
Excess reserves	*70*	*Nontransaction deposits*	*200*
Business loans	*500*	*Bank equity*	*100*

   Checkable deposits would decline by $50 million, while required reserves and excess reserves would decrease by $5 million and $45 million, respectively.

Assets		Liabilities/Equity	
Required reserves	25	Checkable deposits	250
Excess reserves	25	Nontransaction deposits	200
Business loans	500	Bank equity	100

3. *Name and briefly explain the four primary concerns of a bank manager.*

   a) Liquidity management is the acquisition of assets that are liquid enough to meet the demand for cash by depositors.
   b) Asset management is the acquisition of a diversified set of assets with a high rate of return but a low default risk.
   c) Liability management involves obtaining funds at a low cost.
   d) Capital adequacy management entails acquiring and maintaining an appropriate amount of bank equity.

4. *What are the four ways a bank can immediately raise reserves.*

   A bank can immediately raise reserves in four ways: a) They can borrow the funds from another bank in the federal funds market; b) They can sell securities; c) They can borrow the funds directly from the Fed; and d) They can call in (not renew) some loans.

5. *Why has the development of overnight loan markets made it more likely that banks will hold fewer excess reserves?*

   When a deposit outflow occurs, a bank can borrow reserves in the federal funds market quickly. Thus, the bank does not need to acquire reserves at a high cost by calling in or selling off loans. The presence of overnight loan markets reduces the costs associated with deposit outflows, so banks will hold fewer excess reserves.

6. *If a bank is falling short of meeting its capital (equity) requirements by $1 million, what three things can it do to rectify the situation?*

   It can raise $1 million of capital by a) issuing new stock; b) cutting its dividend payments by $1 million which will increase its retained earnings by $1 million; and c) decreasing its assets so its equity-to-assets ratio increases and, thereby meeting the capital requirements.

7. *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 repaid.

8. *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.

9. *If the president of a bank told you that the bank was so well run that it has never had to call in loans, sell securities, or borrow as a result of a deposit outflow, would you be willing to buy stock in that bank? Why or why not?*

   You should not buy the stock because the bank president is not managing the bank well. The fact that the bank has never incurred costs as a result of a deposit outflow means that the bank is holding a lot of reserves that are earning a very low interest rate. Thus, the bank's profits are low, and stock in the bank is not a good investment.

10. *What is a loan commitment, and how is it beneficial to the firms receiving it and the banks providing it?*

    Loan commitments are a bank's commitment to provide a firm with a line of credit over a specified time period at some market-determined interest rate. This arrangement is beneficial to the firm because it provides the firm a source of funds as needed. The loan commitments provide the bank with a long-term relationship with the firm that can facilitate information collection.

11. *Why has noninterest income been growing as a source of bank operating income?*

Banks have grown off-balance sheet activities because they generate fee income which increases bank profits.

12. *NewBank started its first day of operations with $6 million in capital. A total of $100 million in checkable deposits is received. The bank then makes a $25 million commercial loan and lends another $25 million in mortgage loans. If the required reserves ratio is 8%, what does the bank's balance sheet look like?*

NewBank has $100 million in deposits and $6 million in capital so it must have $106 million in assets. The $25 million in mortgages and $25 million in commercial loans means the bank has a $50 million loan portfolio. The remainder of the 56 million in assets are reserves with $8 million being required reserves (0.08*$100 million) and $48 million being excess reserves.

Assets (in millions of $)		Liabilities/Equity (in millions of $)	
Required reserves	8	Checkable deposits	100
Excess reserves	48	Bank equity	6
Business loans	50		

13. *Sooner Mall Bank reported a return on equity (ROE) of 15% and a return on assets (ROA) of 1%. What is this bank's equity-to-assets ratio? Is this bank well capitalized?*

$$ROE = ROA \times EM$$
$$0.15 = 0.01 \times EM$$
$$EM \text{ (equity multiplier)} = 15 = \text{assets/equity}$$

Thus, equity/assets = 6.66%. The Sooner Mall Bank is considered to be well capitalized.

14. *Suppose you are the manager of a bank whose $100 billion of assets have an average duration of four years and whose $90 billion of liabilities have an average duration of six years. Conduct a duration analysis for the bank, and show what will happen to the net worth of the bank if interest rates rise by 2 percentage points.*

The assets fall in value by $8 million ($100 million × 4 × – 0.02) while the liabilities fall in value by $10.8 million ($90 million × 6 × – 0.02). Because the liabilities fall in value by $2.8 million more than the assets do, the net worth of the bank rises by $2.8 million.

15. *Suppose you are the manager of a bank that has $15 million of fixed-rate assets, $30 million of rate-sensitive assets, $25 million of fixed-rate liabilities, and $20 million of rate-sensitive liabilities. Conduct a gap analysis for the bank, and show what will happen to bank profits if interest rates rise by 5 percentage points.*

The gap is $10 million ($30 million of rate-sensitive assets minus $20 million of rate sensitive liabilities). A 5% increase in interest rates causes bank profits to rise by $0.5 million (0.05 × $10 million).