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1 Ch. 9: Bank Management

1. Key identity of accounting:

$$\text{Total assets } = \text{Total liabilities } + \text{ Capital} \tag{1}$$

   (a) Examples of Assets:
      i. Reserves
         - Total reserves = Required reserves + Excess reserves
         - Total reserves = Deposits at the Fed + Vault cash
         - Required = Checkable deposits required reserve ratio
      ii. Cash items in process of collection
      iii. Deposits at other banks
      iv. Securities
      v. Loans made

   (b) Examples of Liabilities:
      i. Checkable deposits
      ii. Nontransaction deposits (e.g. savings accounts)
      iii. Borrowings (e.g. overnight borrowing from other banks or the Fed)
      iv. Bank capital

2. How do banks manage their assets to maximize profits? Generally, bank management centers on the following:

   (a) **Liquidity management:** Keep enough cash (liquidity) on hand to meet obligations to depositors. When a bank has insufficient reserves it may
      i. Borrow from other banks or corporations
      ii. Sell securities
      iii. Reduce its loans
      iv. Borrow from the Fed. (Discount window)

   (b) **Asset Management:** Purchase assets to maximize profit while managing credit risk and interest rate risk.

   (c) **Liability Management:** Acquire funds at low costs to use for assets. Historically, banks depended primarily on deposits for funding. Less so nowadays.

   (d) **Capital adequacy management:** Maintain sufficient capital to prevent bank failure.

3. Banks produce profit by **Asset transformation**. That is, the sell liabilities (take deposits) and use those funds to buy assets with different characteristics.

   (a) We can simplify analysis of asset transformation through the use of a **T-account**: instead of looking at the entire balance sheet, we can look simply at the change from a transaction.

   For example, when a new depositor opens an account with a $100 check from another bank, the initial transaction might be represented as:

Change in Assets	Change in Liabilities
Cash items in process of collection: +$100	Checkable deposits: $100

4. We can measure bank profitability in few ways:

   (a) **Return on Assets (ROA)**:

$$\text{ROA} = \frac{\text{Net profit after taxes}}{\text{Assets}}$$

(b) **Return on Equity (ROE)**

$$\text{ROE} = \frac{\text{Net profit after taxes}}{\text{Equity Capital}}$$

(c) **Equity Multiplier (EM):**

$$\text{EM} = \frac{\text{Assets}}{\text{Equity Capital}}$$

(d) And we've already talked about **Net interest margin** = ROA - COF

2 Practice questions

1. Suppose that from a new checkable deposit, First National Bank holds \$2 million in vault cash, \$8 million on deposit with the Federal Reserve, and \$1 million in required reserves. Given this information, we can say First National Bank faces a required reserve ratio of ____ percent.

   (a) 10
   (b) 20
   (c) 80
   (d) 90

   Answer: (A) The new deposit led to \$10,000,000 of new deposits, split betwee vault cash and Fed deposits. Of that \$1 million was required. Thus the required reserve ratio is 10%

2. Total reserves minus vault cash equals:

   (a) bank deposits with the Fed.
   (b) excess reserves.
   (c) currency in circulation.
   (d) required reserves.

   Answer: (A)

3. If the required reserve ratio is 10%, a single bank can increase its loans up to maximum amount equal to

   (a) its excess reserves.
   (b) its total reserves.
   (c) 10 times its excess reserves.
   (d) 10% of its excess reserves.

   Answer: (A). Giving that the required reserves were 10% was a bit of a red herring, since only excess reserves are available for asset transformation.

4. If, after a deposit outflow, a bank has a reserve deficiency of \$3 million, it can meet its reserves requirements by

   (a) reducing deposits by \$3 million.
   (b) increasing loans by \$3 million.
   (c) selling \$3 million of securities.
   (d) repaying its discount loans from the Fed.

   Answer: (C). Banks cannot adjust deposits at will, so (A) is eliminated. (B) and (C) require *more* liquidity, so would only make the insufficient reserves problem worse.

5. If a bank has \$200,000 of checkable deposits a required reserve ratio of 20%, and it holds \$80,000 in reserves, then the maximum deposit outflow it can sustain without altering its balance sheet is

   (a) \$50,000
   (b) \$40,000
   (c) \$30,000
   (d) \$25,000

   Answer: (A). Guess and check. \$50,000 withdrawal would leave \$150,000 in deposits and \$30,000 in reserves. This leaves 20% a reserve ratio. Lower deposit outflows would leave a larger reserve ratio.

6. When Jane Brown writes a $100 check to her nephew who deposits it at another bank, Ms. Brown's bank __________ assets of $100 and __________ liabilities of $100.

   (a) gains; gains
   (b) gains; loses
   (c) loses; gains
   (d) loses; loses

   Answer: (D) The check must be paid out from the banks reserves (Fed deposits or vault cash) which are assets. At the same time deposits (a liability) fall by the same amount.

7. Because of an expected rise in interest rates in the future, a banker will likely

   (a) make long-term rather than short-term loans.
   (b) buy short-term rather than long-term bonds.
   (c) buy long-term rather short-term bonds.
   (d) make either short of long-term loans; expectations of future interest rates are irrelevant.

   Answer: (B). If interest rates are expected to increase in the future, the bank does not want to lock in long-term loans at today's lower rates. It will thus prefer to lend short-term until the higher rates arrive.

8. __________ may antagonize customers and thus can be a very costly way of acquiring funds to meet and unexpected deposit outflow:

   (a) Selling securities
   (b) Calling in loans
   (c) Selling negotiable CDs
   (d) Selling loans

   Answer: (B) Calling in loans will increase available reserves by reducing outstanding loans, but is inconvenient for customers who may have been expecting to renew those loans.

9. In general, banks would prefer to meet deposit outflows by __________ rather than __________.

   (a) selling loans; selling securities
   (b) selling loans; borrowing from the Fed
   (c) borrowing from the Fed; selling loans
   (d) calling in loans; selling securities

   Answer: (C). Although borrowing from the Fed is not ideal because it can be seen as a sign that bank is in trouble, it is preferable to calling in loans (which antogonizes customers) or selling loans (which must be done at a severe discount to overcome information asymmetries.)