Table 17.3 suggest that the banking industry returned to health. However, then with the onset of the 2007–2009 financial crisis, bank profitability deteriorated dramatically, with the ROE falling to a low of 0.7% in 2009 and ROA falling to 0.05%. In recent years, bank profitability has improved, but is still not as strong as it was before the crisis, with the return on equity at 8.9% in 2012 and the return on assets, 1.0%.

SUMMARY

1. The balance sheet of commercial banks can be thought of as a list of the sources and uses of bank funds. The bank's liabilities are its sources of funds, which include checkable deposits, time deposits, discount loans from the Fed, borrowings from other banks and corporations, and bank capital. The bank's assets are its uses of funds, which include reserves, cash items in process of collection, deposits at other banks, securities, loans, and other assets (mostly physical capital).
2. Banks make profits through the process of asset transformation: They borrow short (accept deposits) and lend long (make loans). When a bank takes in additional deposits, it gains an equal amount of reserves; when it pays out deposits, it loses an equal amount of reserves.
3. Although more liquid assets tend to earn lower returns, banks still desire to hold them. Specifically, banks hold excess and secondary reserves because they provide insurance against the costs of a deposit outflow. Banks manage their assets to maximize profits by seeking the highest returns possible on loans and securities while at the same time trying to lower risk and making adequate provisions for liquidity. Although liability management was once a staid affair, large (money center) banks now actively seek out sources of funds by issuing liabilities such as negotiable CDs or by actively borrowing from other banks and corporations. Banks manage the amount of capital they hold to prevent bank failure and to meet bank capital requirements set by the regulatory authorities. However, they do not want to hold too much capital because by so doing they will lower the returns to equity holders.
4. Off-balance-sheet activities consist of trading financial instruments and generating income from fees and loan sales, all of which affect bank profits but are not visible on bank balance sheets. Because these off-balance-sheet activities expose banks to increased risk, bank management must pay particular attention to risk assessment procedures and internal controls to restrict employees from taking on too much risk.
5. A bank's net operating income equals operating income minus operating expenses. Adding gains (or losses) on securities and net extraordinary items to net operating income and then subtracting taxes yields net income (profits after taxes). Additional measures of bank performance include the return on assets (ROA), the return on equity (ROE), and the net interest margin (NIM).

KEY TERMS

asset management, p. 398
balance sheet, p. 392
capital adequacy management, p. 398
credit risk, p. 398
deposit outflows, p. 398
discount loans, p. 394
discount rate, p. 401
equity multiplier (EM), p. 405
excess reserves, p. 394
interest-rate risk, p. 398
liability management, p. 398
liquidity management, p. 398
loan commitment, p. 408
loan sale, p. 407
money center banks, p. 403
net interest margin (NIM), p. 413
off-balance-sheet activities, p. 407
operating expenses, p. 411
operating income, p. 410
required reserve ratio, p. 394
required reserves, p. 394
reserve requirements, p. 394
reserves, p. 394
return on assets (ROA), p. 404
return on equity (ROE), p. 405
secondary reserves, p. 395
vault cash, p. 394

QUESTIONS

1. Rank the following bank assets from most to least liquid:
   a. Commercial loans
   b. Securities
   c. Reserves
   d. Physical capital
2. 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?
3. If the bank you own has no excess reserves and a sound customer comes in asking for a loan, should you automatically turn the customer down, explaining that you don't have any excess reserves to loan out? Why or why not? What options are available for you to provide the funds your customer needs?
4. Why has the development of overnight loan markets made it more likely that banks will hold fewer excess reserves?
5. If you are a banker and expect interest rates to rise in the future, would you want to make short-term or long-term loans?
6. "Bank managers should always seek the highest return possible on their assets." Is this statement true, false, or uncertain? Explain your answer.
7. "Banking has become a more dynamic industry because of more active liability management." Is this statement true, false, or uncertain? Explain your answer.
8. Why has noninterest income been growing as a source of bank operating income?
9. Which components of operating expenses experience the greatest fluctuations? Why?
10. Why do equity holders care more about ROE than about ROA?
11. What does the net interest margin measure, and why is it important to bank managers?
12. If a bank doubles the amount of its capital and ROA stays constant, what will happen to ROE?
13. If a bank finds that its ROE is too low because it has too much bank capital, what can it do to raise its ROE?
14. What are the benefits and costs for a bank when it decides to increase the amount of its bank capital?
15. If a bank is falling short of meeting its capital requirements by $1 million, what three things can it do to rectify the situation?

QUANTITATIVE PROBLEMS

1. The balance sheet of TriBank starts with an allowance for loan losses of $1.33 million. During the year, TriBank charges off worthless loans of $0.84 million, recovers $0.22 million on loans previously charged off, and charges current income for a $1.48 million provision for loan losses. Calculate the end-of-year allowance for loan losses.
2. X-Bank reported an ROE of 15% and an ROA of 1%. How well capitalized is this bank?
3. Wiggley S&L issues a standard 30-year fixed-rate mortgage at 7.8% for $150,000. Thirty-six months later, mortgage rates jump to 13%. If the S&L sells the mortgage, how much of a loss is incurred?
4. Refer to the previous question. In 1981 Congress allowed S&Ls to sell mortgages at a loss and to amortize the loss over the remaining life of the mortgage. If this were used for the previous question, how would the transaction have been recorded? What would be the annual adjustment? When would that end?
5. For the upcoming week, Nobel National Bank plans to issue $25 million in mortgages and purchase $100 million in 31-day T-bills. New deposits of $35 million are expected, and other sources will generate $15 million in cash. What is Nobel's estimate of funds needed?
6. A bank estimates that demand deposits are, on average, $100 million with a standard deviation of $5 million. The bank wants to maintain a minimum of 8% of deposits in reserves at all times. What is the highest expected level of deposits during the month? What reserves do they need to maintain? Use a 99% confidence level.

The remaining questions relate to the first month's operations of NewBank.

7. NewBank started its first day of operations with $6 million in capital. $100 million in checkable deposits is received. The bank issues a $25 million commercial loan and another $25 million in mortgages, with the following terms:

- Mortgages: 100 standard 30-year fixed-rate mortgages with a nominal annual rate of 5.25% each for $250,000
- Commercial loan: 3-year loan, simple interest paid monthly at 0.75% per month

If required reserves are 8%, what do the bank balance sheets look like? Ignore any loan loss reserves.

8. NewBank decides to invest $45 million in 30-day T-bills. The T-bills are currently trading at $4,986.70 (including commissions) for a $5,000 face value instrument. How many do they purchase? What does the balance sheet look like?
9. On the third day of operations, deposits fall by $5 million. What does the balance sheet look like? Are there any problems?
10. To meet any shortfall in the previous question, NewBank will borrow the cash in the federal funds market. Management decides to borrow the needed funds for the remainder of the month (now 29 days). The required yield on a discount basis is 2.9%. What does the balance sheet look like after this transaction?
11. The end of the month finally arrives for NewBank, and it receives all the required payments from its mortgages, commercial loans, and T-bills. How much cash was received? How are these transactions recorded?
12. NewBank also pays off its federal funds borrowed. How much cash is owed? How is this recorded?
13. What does the month-end balance sheet for NewBank look like? Calculate this before any income tax consideration.
14. Calculate NewBank's ROA and NIM for its first month. Assume that net interest equals earnings before taxes, and that NewBank is in the 34% tax bracket.
15. Calculate NewBank's ROE and final balance sheet, including its tax liabilities.
16. If NewBank were required to establish a loan loss reserve at 0.25% of the loan value for commercial loans, how would this be recorded? Recalculate NewBank's ROE and final balance sheet, including its tax liabilities.
17. If NewBank's target ROE is 4.5%, how much net fee income must it generate to meet this target?
18. After making payments for three years, one of the mortgage borrowers defaults on the mortgage. NewBank immediately takes possession of the house and sells it at auction for $175,000. Legal fees amount to $25,000. If no loan loss reserve was established for the mortgage loans, how is this event recorded?

WEB EXERCISES

Banking and the Management of Financial Institutions

1. Table 17.1 reports the balance sheet of all commercial banks based on aggregate data found in the Federal Reserve *Bulletin*. Compare this table to the balance sheet reported by BB&T in its latest annual report, which can be found at **http://www.bbt.com/bbt/about/investorrelations/default.html**. Does BB&T have more or less of its portfolio in loans than the average bank? Which type of loan is most common?
2. It is relatively easy to find up-to-date information on banks because of their extensive reporting requirements. Go to **www2.fdic.gov/qbp/**. This site is sponsored by the Federal Deposit Insurance Corporation. You will find summary data on financial institutions. Go to the most recent Quarterly Banking Profile. Scroll down and open Table 1-A.
   a. Have banks' return on assets been increasing or decreasing over the last few years?
   b. Has the core capital been increasing, and how does it compare to the capital ratio reported in Table 17.1 in the text?
   c. How many institutions are currently reporting to the FDIC?