

Ch 12

Matching

Match these three types of cash balances with the functions that they serve:

- | | |
|------------------------------------|--------------------------|
| a. Vault cash | c. Deposits at other FIs |
| b. Deposits at the Federal Reserve | |

_____ 1. Meet legal reserve requirements

_____ 2. Used to purchase services

_____ 3. Meet customer withdrawals

Classify the following accounts into one of the following categories:

- | | |
|----------------|---------------------------------|
| a. assets | d. revenue |
| b. liabilities | e. expense |
| c. equity | f. off-balance-sheet activities |

_____ 4. Service fees charged on deposit accounts

_____ 5. Retail CDs

_____ 6. Surplus and paid-in capital

_____ 7. Loan commitments

_____ 8. Consumer loans

Name: _____

ID: A

____ 9. Federal funds sold

____ 10. Swaps

____ 11. Interest on municipals

____ 12. Interest on NOW accounts

____ 13. NOW accounts

____ 14. Commercial letters of credit

____ 15. Leases

____ 16. Retained earnings

____ 17. Provision for loan losses

____ 18. Interest on U.S. Treasury securities

Numeric Response

19. A bank is considering an investment in a municipal security that offers a yield of 6 percent. What is this security's tax equivalent yield if the bank's tax rate is 35 percent?
20. Smallville Bank has the following balance sheet, rates earned on their assets, and rates paid on their liabilities.

Balance Sheet (in thousands)

Assets		Rate Earned (%)
Cash and due from banks	\$6,000	4
Investment securities	22,000	8
Repurchase agreements	12,000	6
Loans less allowance for losses	80,000	10
Fixed assets	10,000	0
Other assets	4,000	9
Total assets	\$134,000	

Liabilities and Equity		Rate Paid(%)
Demand deposits	\$ 9,000	0
NOW accounts	69,000	5
Retail CDs	18,000	7
Subordinated debentures	14,000 8	
Total liabilities	110,000	
Common stock	10,000	
Paid-in capital surplus	13,000	
Retained earnings	11,000	
Total liabilities and equity	\$134,000	

If the bank earns \$120,000 in noninterest income, incurs \$80,000 in noninterest expenses, and pays \$2,500,000 in taxes, what is its net income?

21. Megalopolis Bank has the following balance sheet and income statement.

Balance Sheet (in millions)

Assets		Liabilities and Equity	
Cash and due from banks	\$9,000	Demand deposits	\$19,000
Investment securities	23,000	NOW accounts	89,000
Repurchase agreements	42,000	Retail CDs	28,000
Loans	90,000	Debentures	19,000
Fixed assets	15,000	Total liabilities	\$155,000
Other assets	4,000	Common stock	12,000
Total assets	\$183,000	Paid-in capital	4,000
		Retained earnings	12,000
		Total liabilities and equity	\$183,000

Income Statement

Interest on fees and loans	\$9,000
Interest on investment securities	4,000
Interest on repurchase agreements	6,000
Interest on deposits in banks	1,000
Total interest income	\$20,000
Interest on deposits	\$9,000
Interest on debentures	2,000
Total interest expense	\$11,000
Net interest income	\$9,000
Provision for loan losses	2,000
Noninterest income	2,000
Noninterest expenses	1,000
Income before taxes	\$8,000
Taxes	3,000,
Net income	\$5,000

For Megalopolis, calculate:

- g. Return on equity
- h. Return on assets
- i. Asset utilization
- j. Equity multiplier
- k. Profit margin

- l. Interest expense ratio
- m. Provision for loan loss ratio
- n. Noninterest expense ratio
- o. Tax ratio

22. Anytown bank has the following ratios:

- p. Profit margin: 21 %
- q. Asset utilization: 11 %
- r. Equity multiplier: 12X

Calculate Anytown's ROE and ROA.

Short Answer

- 23. How does a bank's report of condition differ from its report of income?
- 24. If we examine a typical bank's asset portion of the balance sheet, how are the assets arranged in terms of expected return and liquidity?
- 25. Repurchase agreements are listed as both assets and liabilities in Table 12-1. How can an account be both an asset and a liability?
- 26. How does a NOW account differ from a demand deposit?
- 27. How does a retail CD differ from a wholesale CD?

28. How do core deposits differ from purchased funds?
29. What are the major categories of off-balance-sheet activities?
30. Go to the S&P Market Insight Web site at www.mhhe.com/edumarketinsight and find the values of assets, liabilities, and equity for Citigroup (C), J.P. Morgan Chase (JPM), Keycorp (KEY), and U.S. Bancorp (USB) using the following steps. Click on "Educational Version of Market Insight." Enter your site ID and click on "Login." Click on "Company." In the box marked "Ticker" enter C and click on "Go!" Click on "Excel Analytics;" Click on "Ann. Balance Sheet," This brings up a tile that contains the relevant data. Repeat this process using the tickers IPM, KEY, and USB.
31. A bank is considering two securities: a 30-year Treasury bond yielding 7 percent and a 30-year municipal bond yielding 5 percent. If the bank's tax rate is 30 percent, which bond offers the higher tax equivalent yield?
32. How does a bank's annual net income compare with its annual cash flow?
33. How might the use of an end-of-the-year balance sheet bias the calculation of certain ratios?
34. How does the asset utilization ratio for a bank compare to that of a retail company? How do the equity multipliers compare?
35. What is the likely relationship between the interest income ratio and the noninterest income ratio?

Name: _____

ID: A

36. A security analyst calculates the following ratios for two banks. How should the analyst evaluate the financial health of the two banks?

	Bank A	BankB
Return on equity	22%	24%
Return on assets	2%	1.5%
Equity multiplier	11X	16X
Profit margin	15%	14%
Asset utilization	13%	11%
Spread	3%	3%
Interest expense ratio	35%	40%
Provision for loan loss ratio	1%	4%

37. What sort of problems or opportunities might ratio analysis fail to identify?

Ch 12

Answer Section

MATCHING

- | | | |
|------------|---------|--|
| 1. ANS: B | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 2. ANS: C | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 3. ANS: A | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 4. ANS: D | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 5. ANS: B | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 6. ANS: C | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 7. ANS: F | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 8. ANS: A | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 9. ANS: A | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 10. ANS: F | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 11. ANS: D | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 12. ANS: E | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 13. ANS: B | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 14. ANS: F | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 15. ANS: A | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 16. ANS: C | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 17. ANS: E | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |
| 18. ANS: D | PTS: 10 | BNK: Chapter 12 ñ Commercial Banks EOC |

NUMERIC RESPONSE

19. ANS: The tax equivalent yield is $.06/(1-.35) = .0923$ or 9.23%.

PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC

20. ANS:

Revenues (in thousands) = $6,000 \times .04 + 22,000 \times .08 + 12,000 \times .06 + 80,000 \times .10 + 4,000 \times .09 = \$11,080$

Expenses (in thousands) = $69,000 \times .05 + 18,000 \times .07 + 14,000 \times .08 = 5,830$

Net income = $11,080,000 - 5,830,000 + 120,000 - 80,000 - 2,500,000 = \$2,790,000$ or \$2,790 (in thousands)

PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC

21. ANS:

(in millions of dollars)

- a. return on equity = $5,000/28,000 = 17.86\%$
- b. return on assets = $5,000/183,000 = 2.73\%$
- c. asset utilization = $(20,000 + 2,000)/183,000 = 12.02\%$
- d. equity multiplier = $183,000/(12,000 + 4,000 + 12,000) = 6.54X$
- e. profit margin = $5,000/(20,000 + 2,000) = 22.73\%$
- f. interest expense ratio = $11,000/(20,000 + 2,000) = 50.00\%$
- g. provision for loan loss ratio = $2,000/(20,000 + 2,000) = 9.09\%$
- h. noninterest expense ratio = $1,000/(20,000 + 2,000) = 4.55\%$
- i. tax ratio = $3,000/(20,000 + 2,000) = 13.64\%$

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

22. ANS:

$$ROA = PM \times AU = .21 \times .11 = .0231 = 2.31\%$$

$$ROE = ROA \times EM = .0231 \times 12 = .2772 = 27.72\%$$

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

SHORT ANSWER

23. ANS:

The Report of Condition refers to the bank's balance sheet which presents information about the accumulation of assets, liabilities, and equity as of a specific point in time. The Report of Income refers to the bank's income statement which presents information about the flow of revenues and expenses between two points in time.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

24. ANS:

Generally, the assets near the top of the balance sheet, cash accounts, represent the most liquid and lowest expected return assets. Those near the bottom, loans, and leases are less liquid and yield higher expected returns.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

25. ANS:

A repurchase agreement is an asset if bank-1 "purchased" securities from (or sent excess reserves to) some other bank-2 with the understanding that the bank-2 would repurchase these securities from (or send the reserves to) bank-1 in the near future. If the bank-1 had instead "sold" the securities to (or received excess reserves from) bank-2 and promised to repurchase them from (or send the reserves to) bank-2 in the near future, then this would represent a liability for bank-1.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

26. ANS:
A NOW account is a checking account that pays interest; a demand deposit is a checking account that pays no interest.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
27. ANS:
A retail CD has a denomination less than \$100,000 and is non-negotiable. A wholesale CD has a minimum denomination of \$100,000 and can be bought and sold in a secondary market.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
28. ANS:
Core deposits represent demand deposits, NOW accounts, MMDAs, retail CDs, and other accounts that are not expected to be withdrawn in the very near future. They represent a more permanent source of funds. Purchased funds, such as brokered deposits, wholesale CDs, repos, notes and debentures, are more interest rate sensitive and more likely to be withdrawn at short notice. They are not considered a permanent source of funding.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
29. ANS:
The four categories are
1. loan commitments
 2. letters of credit
 3. loans sold
 4. derivative securities.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
30. ANS:
The answer to this S&P question will vary depending on the date of the assignment.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
31. ANS:
The treasury security offers 7% before tax and 4.9% after tax. This is less than the 5% offered by the municipal. Alternatively, the municipal offers a 7.14% tax equivalent yield. Of course, the treasury security should have less risk than the municipal.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC
32. ANS:
Because of the presence of noncash expenses on the income statement such as provision for loan losses, we should expect the cash flow to exceed the reported net income.
- PTS: 10 BNK: Chapter 12 ñ Commercial Banks EOC

33. ANS:

End-of-year balance sheets reflect the position of the bank at one point in time, while the income statements reflect activity for the entire year. If the activity position at the end of the year is not representative of activity during the year, then the ratios may not properly represent the financial position of the bank. For example, the level of purchased funds on the liability side and repurchase agreement on both the liability and asset sides of the balance sheet can change dramatically within a given twelve month period.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

34. ANS:

For a retail company, the asset turnover is most comparable to the asset utilization ratio. In this sense, the asset utilization ratios are much smaller and the equity multiplier ratios are much larger for banks compared to a retail company.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

35. ANS:

Both are measures of profitability and, to some extent, efficiency. A bank that is able to generate profitable loans is also likely to be able to generate profits from its other areas of operation such as earnings from trust department, trading gains, and off balance sheet activities. When comparing across banks, we should expect banks able to attract talent into one area of operations should be able to attract comparable talent (and profits) to its other areas

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

36. ANS:

Although ratio analysis is an imprecise and subjective way to analyze a firm, a few ratios seem to stand out. Although bank B has a higher ROE, this seems to be a consequence of a much higher leverage level. One may wonder about the capital adequacy of Bank B. Bank B also has a higher reserve for loan losses. This indicates that its loans may be riskier than those of bank A. Generally, bank B seems more profitable, but riskier, than bank B.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC

37. ANS:

Among the problems and opportunities that ratio analysis might not reveal would be impending regulatory changes, tax law changes, as well as details of the nature of off-balance sheet activities. Depending on the diligence of the bank's auditors, ratio analysis may not fully reveal the quality of the bank's loans.

PTS: 10

BNK: Chapter 12 ñ Commercial Banks EOC