

ch12

Student: _____

1. The concentration limit method of managing credit risk concentration involves estimating the minimum loan amount to a single customer as a percent of capital.
True False
2. Concentration limits are used to either reduce or increase exposure to specific industries.
True False
3. The simple model of migration analysis tracks the credit ratings of companies that have borrowed from the FI.
True False
4. Migration analysis is not appropriate for an FI to use in the analysis of credit risk of consumer loans and credit card portfolios.
True False
5. In the past, data availability limited the use of sophisticated portfolio models to set concentration limits.
True False
6. In the use of modern portfolio theory (MPT), the sum of the credit risks of loans under estimates the risk of the whole portfolio.
True False
7. The expected return of a portfolio of loans is equal to the weighted average of the expected returns of the individual loans.
True False
8. The variance of returns of a portfolio of loans normally is equal to the arithmetic average of the variance of returns of the individual loans.
True False
9. Portfolio risk can be reduced through diversification only if the returns of the loans in the portfolio are negatively correlated.
True False
10. One advantage of portfolio diversification methods is that they are applicable to all FIs, regardless of their size.
True False
11. A disadvantage to modern portfolio theory (MPT) is that small institutions generally hold significant amounts of regionally specific and illiquid loans.
True False
12. Most portfolio managers will accept some level of risk above the minimum risk portfolio if they expect to receive higher returns.
True False
13. Commercial bank call reports are provided by banks to the Federal Reserve and are useful in determining the proportion of loans in different classifications for the entire banking system.
True False
14. Comparing the loan mix of an individual FI to a national benchmark loan mix is useful in determining the extent that the individual FI may differ from an efficient portfolio composition.
True False

15. Banks whose loan portfolio composition deviates from the national benchmark should immediately implement policies to move toward benchmark alignment.
True False
16. The all-in-spread (AIS) used in the KMV model is the difference between the interest rate on a loan and the prime lending rate at the time the loan was originated.
True False
17. The KMV model includes recovery rates on defaulted loans.
True False
18. Loan loss ratio models are based on historical loan loss ratios of specific sectors relative to the historic loan loss ratios of the entire loan population.
True False
19. Recent Federal Reserve policy for measuring credit concentration risk favors technical models over subjective analysis.
True False
20. General diversification limits established by life and property and casualty insurance regulators are based on the concepts of modern portfolio theory.
True False
21. Which of the following methods measure loan concentration risk by tracking credit ratings of firms in particular sectors or ratings class for unusual downgrades?
A. Migration analysis.
B. Concentration limits.
C. Loan loss ratio-based model.
D. KMV portfolio manager model.
E. Loan volume-based model.
22. Migration analysis is a tool to measure credit concentration risk and refers to
A. the identification of problem loans in sectors by observing periodic migration of industries.
B. the identification of credit concentration by observing trends in market borrowing by different sectors of the industry.
C. the identification of credit concentration by observing the downgrading or upgrading of credit ratings on securities in different sectors of industry by public rating agencies.
D. the identification of borrowing patterns such as long or short term debt by different sectors of industry.
E. the identification of shifts in debt/asset ratios of firms in specific industries.
23. Which of the following observations concerning concentration limits is not true?
A. Limits are set by assessing the borrower's current portfolio, its operating unit's business plans, its economists' economic projections, and its strategic plans.
B. FIs set concentration limits to reduce exposures to certain industries and increase exposures to others.
C. When two industry groups' performances are highly correlated, an FI may set an aggregate limit of less than the sum of the two individual industry limits.
D. FIs may set aggregate portfolio limits or combinations of industry and geographic limits.
E. Bank regulators in recent years have limited loan concentrations to individual borrowers to a maximum of 30 percent of a bank's capital.
24. A weakness of migration analysis to evaluate credit concentration risk is that the
A. information obtained for this analysis is usually ex-post (i.e. after the fact).
B. information obtained for this analysis is ex-ante (i.e. before the fact).
C. analysis makes use of historical data classified only by industries.
D. analysis makes use of historical data classified by individual firms.
E. migration of firms may only be temporary.

25. If the amount lost per dollar on a defaulted loan is 40 percent, then a bank that does not permit the loss of a loan to exceed 10 percent of its bank capital should set its concentration limit (as a percentage of capital) to
- A. 5 percent.
 - B. 15 percent.
 - C. 25 percent.
 - D. 30 percent.
 - E. 50 percent.
26. If a bank's concentration limit (as a percentage of capital) is 25.0 percent, and it does not permit a loss of any loan to impact more than 10 percent of its capital, what is the expected recovery on loans that are defaulted?
- A. 20 percent.
 - B. 30 percent.
 - C. 40 percent.
 - D. 50 percent.
 - E. 60 percent.
27. If a bank's concentration limit (as a percent of capital) is 20 percent, and its expected recovery from defaulted loans is 50 percent, what is the maximum loss it permits to affect its capital in the event of a default?
- A. 5 percent.
 - B. 10 percent.
 - C. 15 percent.
 - D. 20 percent.
 - E. 25 percent.
28. What does KMV's Portfolio Manager Model use to identify the overall risk of the portfolio?
- A. Maximum loss as a percent of capital.
 - B. Historical loan loss ratios.
 - C. Default probability on each loan in a portfolio.
 - D. Market value of an asset and the volatility of that asset's price.
 - E. Mean of the value of loans in a portfolio.
29. Any model that seeks to estimate an efficient frontier for loans, and thus the optimal proportions in which to hold loans made to different borrowers, needs to determine and measure the
- A. expected return on each loan to a borrower.
 - B. risk of each loan to a borrower.
 - C. correlation of default risks between loans made to borrowers.
 - D. expected return of the entire loan portfolio.
 - E. All of the above.
30. According to KMV, default correlations tend to be _____ and lie between _____.
- A. low; 0.002 and 0.15
 - B. high; 1.86 and 2.99
 - C. low; 0.001 and 0.002
 - D. high; 2.99 and 3.50
 - E. low; 0 and 0.001
31. A study by Citibank of 831 defaulted corporate loans and 89 asset-based loans found that, on average, an FI can expect to recover approximately
- A. 36 percent of the loan.
 - B. 63 percent of the loan.
 - C. 80 percent of the loan.
 - D. 90 percent of the loan.
 - E. only the market value of collateral securing the loan.

32. As part of measuring unobservable default risk between borrowers, of the KMV model decomposes asset returns into
- credit risk and market risk.
 - systematic risk and unsystematic risk.
 - market risk and sovereign risk.
 - regional risk and maturity risk.
 - systematic risk and default risk.
33. The Federal Reserve Board in 1994 ruled against a proposal to use quantitative models to assess credit concentration risk because
- current methods to identify concentration risk were not sufficiently advanced.
 - there was no public data on default rates on publicly traded bonds.
 - there was sufficient information on commercial loan defaults for banks to perform in-house analysis.
 - problems related to credit concentration risk have been minimal for U.S. banks.
 - there was already a law that requires banks to set aside capital to compensate for credit concentration risk.
34. Matrix Bank has compiled the following migration matrix on consumer loans. Which of the following statements accurately summarizes this data?

	Risk Grade at End of Year				
		1	2	3	4
Risk grade at beginning of year	1	.88	.08	.02	.02
	2	.10	.84	.03	.02
	3	.02	.09	.78	.11

- Ten percent of grade two loans were upgraded during the year.
 - Grade one loans have a higher probability of downgrade than grades two or three.
 - Grade three loans have a higher probability of upgrade than grade two loans.
 - Grade three loans have a higher probability of downgrade than grade two loans.
 - All of the above.
35. In the KMV portfolio model, the expected return on a loan is the
- annual all-in-spread minus the expected loss on the loan.
 - annual all-in-spread minus expected probability of the borrower defaulting over the next year.
 - annual all-in-spread minus the loss given default.
 - the interest and fees paid by the borrower minus the interest paid by the FI to fund the loan.
 - the interest and fees paid by the borrower minus the expected loss on the loan.
36. In the KMV portfolio model, the expected loss on a loan is
- the product of the estimated loss given default and risk-free rate on a security of equivalent maturity.
 - annual all-in-spread minus the loss given default.
 - annual all-in-spread minus the expected default frequency.
 - the product of the expected default frequency and the estimated loss given default.
 - the volatility of the loan's default rate around its expected value.
37. In the KMV portfolio model, the risk of a loan measures
- the product of the estimated loss given default and risk-free rate on a security of equivalent maturity.
 - annual all-in-spread minus the loss given default.
 - annual all-in-spread minus the expected default frequency.
 - the product of the expected default frequency and the estimated loss given default.
 - the volatility of the loan's default rate around its expected value times the amount lost given default.
38. In the KMV model, this is a function of the historical returns of the stock returns of the individual assets.
- The risk of a loan.
 - The expected default frequency.
 - The loss given default.
 - The correlation of default risk.
 - The volatility of the loan's default rate.

39. Identify the legislation that required bank regulators to incorporate credit concentration risk into their evaluation of bank insolvency risk.
- A. The Bank Holding Company Act (1956).
 - B. FDIC Improvement Act (1991).
 - C. Depository Institutions Deregulation and Monetary Control Act (1980).
 - D. Garn-St. Germain Depository Institutions Act (1982).
 - E. Financial Institutions Reform Recovery and Enforcement Act (1989).
40. Which of the following is a source of loan volume data?
- A. Commercial bank call reports.
 - B. Data on shared national credits.
 - C. Commercial databases.
 - D. All of the above.
 - E. Only the Federal Reserve has this data.
41. Which of the following is a measure of the sensitivity of loan losses in a particular business sector relative to the losses in an FI's loan portfolio?
- A. Loss rate.
 - B. Systematic loan loss risk.
 - C. Concentration limit.
 - D. Loss given default.
 - E. Expected default frequency.
42. Which model involves estimating the systematic loan loss risk of a particular sector or industry relative to the loan loss risk of an FI's total loan portfolio?
- A. CreditMetrics.
 - B. Credit Risk +.
 - C. Loan loss ratio-based model.
 - D. KMV portfolio manager model.
 - E. Loan volume-based model.
43. In applying the loan loss ratio models, the loss rate "b" for the whole loan portfolio is
- A. 0.
 - B. 0.5.
 - C. 1.
 - D. 2.
 - E. negative.
44. Under which model does an FI compare its own allocation of loans in any specific area with the national allocations across borrowers to measure the extent to which its loan portfolio deviates from the market portfolio benchmark?
- A. CreditMetrics.
 - B. Credit Risk +.
 - C. Loan loss ratio-based model.
 - D. KMV portfolio manager model.
 - E. Loan volume-based model.
45. A Hypothetical Rating Migration, or Transition Matrix, reflects all of the following EXCEPT
- A. rating at which the portfolio ended the year.
 - B. transition probabilities.
 - C. rating at which the portfolio of loans began the year.
 - D. current ratings of portfolio.
 - E. the average proportions of loans that began the year.

46. Credit Risk + is a model developed by
- Standard & Poor's.
 - Moody's.
 - KMV Corporation.
 - Credit Suisse Financial Products (CSFP).
 - JP Morgan.

Borrower Rating	Loan Amount	Expected Return	Standard Deviation
A	\$40 million	12 percent	1 percent
B	\$20 million	15 percent	2 percent
C	\$30 million	18 percent	3 percent

47. What is the FI's expected return on its loan portfolio?
- 15.00 percent.
 - 18.00 percent.
 - 12.00 percent.
 - 14.67 percent.
 - 13.33 percent.
48. What is the risk (standard deviation of returns) on the bank's loan portfolio if loan returns are uncorrelated ($r = 0$)?
- 1.41 percent.
 - 1.63 percent.
 - 0.93 percent.
 - 3.57 percent.
 - 1.18 percent.

Regarding the allocation of loan portfolios in different sectors (in percentages)

	National Banks	Bank A	Bank B
Real Estate Loans	60 percent	30 percent	56 percent
Consumer Loans	20 percent	30 percent	28 percent
Commercial Loans	20 percent	10 percent	16 percent

49. What is Bank A's standard deviation of its asset allocation proportions relative to the national banks average? Use the formula in the textbook.
- 7.23 percent.
 - 10.89 percent.
 - 18.71 percent.
 - 19.15 percent.
 - 27.36 percent.
50. What is Bank B's standard deviation of its asset allocation proportions relative to the national banks average? Use the formula in the textbook.
- 14.16 percent.
 - 33.33 percent.
 - 5.66 percent.
 - 3.00 percent.
 - 1.50 percent.
51. If Bank A's average return on its loan portfolio is lower than that of Bank B's,
- its risk-adjusted return is higher than Bank B's.
 - its risk-adjusted return is lower than Bank B's.
 - its standard deviation is lower than Bank B's.
 - its standard deviation is higher than Bank B's.
 - Answers b and d

A regression of sectoral loan losses against total loans losses, both measured as a percentage of total loans, of a bank results in the following beta coefficients for the real estate (RE) and commercial (CL) loan variables: $b_{RE} = 1.2$, $b_{CL} = 1.6$. The intercept for both regressions is zero.

52. The results indicate that for the bank
- A. the real estate loan losses were systematically lower than the total loan losses.
 - B. the real estate loan losses were systematically higher than the total loan losses.
 - C. the commercial loan losses are systematically higher than the total loan losses.
 - D. Answers A and C.
 - E. Answers B and C.
53. The results can be interpreted as
- AIf the total loan losses of the bank measured as a percentage of total loans is 2 percent, the losses in the . real estate sector, measured as a percentage of total loans, is 1.2 percent.
 - BIf the total loan losses of the bank measured as a percentage of total loans is 2 percent, the losses in the . commercial sector, measured as a percentage of total loans, is 3.2 percent.
 - CIf the total loan losses of the bank measured as a percentage of total loans is 2 percent, the losses in the . commercial sector, measured as a percentage of total loans, is 6.4 percent.
 - DIf the total loan losses of the bank measured as a percentage of total loans is 3 percent, the losses in the . commercial sector, measured as a Percentage of total loans, is 5.2 percent.
 - EIf the total loan losses of the bank measured as a percentage of total loans is 3 percent, the losses in the . real estate sector, measured as a percentage of total loans, is 4 percent.

Kansas Bank has a policy of limiting their loans to any single customer so that the maximum loss as a percent of capital will not exceed 20 percent for both secured and unsecured loans. The limit has been adopted under the assumption that if the unsecured loan is defaulted, there will be no recovery of interest or principal payments. For loans that are secured (collateralized), it is expected that 40 percent of interest and principal will be collected.

54. What is the concentration limit (as a percent of capital) for unsecured loans made by Kansas Bank?
- A. 5 percent.
 - B. 10 percent.
 - C. 15 percent.
 - D. 20 percent.
 - E. 25 percent.
55. What is the concentration limit (as a % of capital) for secured loans made by this bank?
- A. 10 percent.
 - B. 20 percent.
 - C. 33 percent.
 - D. 40 percent.
 - E. 50 percent.
56. Suppose Kansas Bank wants to ensure that its maximum loss on a secured (collateralized) loan is 10 percent (as a percent of capital). If it wishes to keep a concentration limit at 40 percent for secured loans, what is the estimated amount lost per dollar of defaulted secured loan?
- A. 40 cents.
 - B. 35 cents.
 - C. 30 cents.
 - D. 25 cents.
 - E. 20 cents.

	National Benchmark	Bank A	Bank B
Consumer Loans	50 percent	65 percent	35 percent
Commercial Loans	50 percent	35 percent	65 percent

57. Estimate the standard deviation of Bank A's asset allocation proportions relative to the national benchmark.
- A. 15.00 percent.
 - B. 21.21 percent.
 - C. 29.89 percent.
 - D. 34.32 percent.
 - E. 40.44 percent.

58. Estimate the standard deviation of Bank B's asset allocation proportions relative to the national benchmark.
- A. 40.44 percent.
 - B. 34.32 percent.
 - C. 29.89 percent.
 - D. 21.21 percent.
 - E. 15.00 percent.
59. Using standard deviations, which bank is in a better position if the average earnings on the assets of Bank A is 11 percent and Bank B is 12 percent (ignore all other factors)?
- A. Bank B, because its earnings of 12 percent is higher than Bank A's 11 percent while, its standard deviation is lower.
 - B. Bank B, because its earnings of 12 percent is higher compared to Bank A's 11 percent, while its standard deviation is higher.
 - C. Bank B, because its earnings of 12 percent is higher compared to Bank A's 11 percent, while its standard deviation is the same.
 - D. Bank A, because although its earnings of 11 percent is lower compared to Bank B's 12 percent, its standard deviation is significantly lower.
 - E. Bank A, because although its earnings of 11 percent is lower compared to Bank A's 12 percent, its standard deviation is the same.

LNW Bank is charging a 12 percent interest rate on a \$5,000,000 loan. The bank also charged \$100,000 in fees to originate the loan. The bank has a cost of funds of 8 percent. The borrower has a five percent chance of default, and if default occurs, the bank expects to recover 90 percent of the principal and interest.

60. What is the expected return on the loan using the KMV model?
- A. 6.50 percent.
 - B. 5.50 percent.
 - C. 6.00 percent.
 - D. 14.0 percent.
 - E. 13.5 percent.
61. What is the risk of the loan using the KMV model?
- A. 4.75 percent.
 - B. 0.48 percent.
 - C. 6.89 percent.
 - D. 2.18 percent.
 - E. 1.50 percent.

ch12 Key

1. FALSE
2. TRUE
3. TRUE
4. FALSE
5. TRUE
6. FALSE
7. TRUE
8. FALSE
9. FALSE
10. TRUE
11. TRUE
12. TRUE
13. TRUE
14. TRUE
15. FALSE
16. FALSE
17. TRUE
18. TRUE
19. FALSE
20. TRUE
21. A
22. C
23. E
24. A
25. C
26. E
27. B
28. C
29. E
30. A
31. C
32. B
33. A
34. E
35. A
36. D

- 37. E
- 38. D
- 39. B
- 40. D
- 41. B
- 42. C
- 43. C
- 44. E
- 45. D
- 46. D
- 47. D
- 48. E
- 49. D
- 50. C
- 51. E
- 52. E
- 53. B
- 54. D
- 55. C
- 56. D
- 57. A
- 58. E
- 59. C
- 60. B
- 61. D

ch12 Summary

<u>Category</u>	<u># of Questions</u>
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