
FINAL REVIEW EXAM

AFTERNOON SESSION

71. An options trader sells a call with a strike price of \$40. Which of the following describes a stop-loss trading strategy?
- The trader holds the underlying stock.
 - The trader puts in a limit order for the stock if it rises above \$40.
 - The trader puts in a buy order for the stock if it falls below \$40.
 - The trader holds the underlying stock if the stock price rises above \$40.
72. A suitable hedge fund index should be properly defined and easily replicated by a third party, properly investable, or achievable through a passive investment strategy, correct and verifiable, and should:
- be asset weighted and not equally weighted.
 - not include both style and sub-style indexes.
 - ideally not separate beta from alpha.
 - be representative of the asset class.
73. KMV Portfolio Manager is a model for measuring credit risk of loan portfolios using modern portfolio theory concepts. Which of the following is(are) essential inputs to the KMV model?
- Expected return on each loan.
 - Bond ratings for each borrower.
 - Standard deviation for the default rate for each borrower.
 - Correlation of the systematic returns components of the equity returns of each pair of borrowers.
- I and III only.
 - I, II, III, and IV.
 - II only.
 - I, III, and IV only.
74. Which of the following VAR estimation methods is most likely to overcome the problems associated with nonlinear risks and limited historical data?
- Delta-gamma.
 - Delta-normal.
 - Historical simulation.
 - Monte Carlo simulation.

75. Which of the following statements is(are) correct regarding the derivation of frequency distributions in loss distribution models?
- I. Most models use a normal distribution.
 - II. External data is used rather than internal data due to the objective nature of external data.
- a. Both I and II.
 - b. I only.
 - c. II only.
 - d. Neither I nor II.
76. Which of the following statements about collateralized debt obligations squared (CDO²) is false?
- a. CDO² are CDOs that invest in other CDOs.
 - b. Yields on CDO² are typically lower than yields on CDOs.
 - c. CDO² can be very complicated.
 - d. There is often an overlap of assets held with CDO².
77. SunCity Bancorp has two equal-sized and maturity loans of \$5,000,000 each. The drawdowns on both loans are 65% and expected drawdown given default is also 65%. Both loans fall in the same risk class with a 1% probability of default and 75% loss given default. The borrowers are from different industries so a correlation of 0.0 is assumed. The remainder of the relevant loan information is summarized below.

	<i>Loan A</i>	<i>Loan B</i>
σ_{EDF}	2.00%	5.00%
σ_{LGD}	25.00%	40.00%

Using the information from the table above, the ratio of the Risk Contribution of Loan A to the Risk Contribution of Loan B is:

- a. less than 1.
 - b. between 1 and 1.5.
 - c. between 1.5 and 2.0.
 - d. greater than 2.0.
78. Which of the following is true regarding the concept of the delta exposure of cash flow to exchange rate changes?
- I. Sensitivity of cash flow to exchange rates varies over different exchange rates.
 - II. Delta is estimated by dividing the change in cash flows for a very small change in exchange rates by the change in exchange rates.
 - III. Delta should estimate changes in cash flows well for small changes in exchange rates.
 - IV. Delta should estimate changes in cash flow well when the relationship between cash flow and exchange rate is close to linear.
- a. I and III only.
 - b. II and IV only.
 - c. I, II, and IV only.
 - d. I, II, III, and IV.

FINAL REVIEW EXAM

MORNING SESSION ANSWERS

- d** Senior managers need not be expert modelers, but they do need to understand the fundamentals of model risk so they can ask the right questions and implement sound risk management procedures. (See Book 4, Topic 60)
- c** The effective duration for a bond is the sum of its key rate durations so Statement I is correct. The key rate duration provides the approximate percentage change in bond price for a particular maturity interest rate so Statement III is correct.

One of the advantages of the key rate duration measure is that its use does not assume parallel shifts in the yield curve. Thus Statement II is incorrect. (See Book 2, Topic 24)

- b** To obtain the $d(1.0)$ discount factor, first solve for $d(0.5)$. In the equation below, the price for Bond A is equated to its terminal cash flow in six months, which is the principal plus the semiannual coupon of \$3.00.

$$101.182 = 103.00 \times d(0.5)$$

$$d(0.5) = 0.9823$$

Next use the price and cash flows of Bond B to calculate the $d(1.0)$ discount factor. The cash flow in six months is the semiannual coupon of \$6.00 and is discounted by $d(0.5)$. The cash flow in one year is the principal plus the semiannual coupon of \$6.00.

$$102.341 = 6.00 \times d(0.5) + 106.00 \times d(1.0)$$

$$102.341 = 6.00 \times 0.9823 + 106.00 \times d(1.0)$$

$$d(1.0) = 0.9099$$

(See Book 2, Topic 24)

- d** Wholesale financial services are those provided to institutions and commercial customers whereas retail services are those provided to individuals. Treasury management software is actually an example of a wholesale service that facilitates cash management for corporate customers. Thus Statement I is incorrect. (See Book 4, Topic 59)
- d** The historical simulation VAR for 2% is the 5th lowest return, which is -2.59% ; therefore, the correct VAR is $-129,500 = (-0.0259)(5,000,000)$. (See Book 2, Topic 32)
- c** CreditPortfolioView models the transition matrices using macroeconomic or economic cycle data, and this is its primary distinguishing feature. Macroeconomic variables are the key drivers of default rates, and the CreditPortfolioView model estimates an econometric model for an index that can be transformed into a default rate of an industrial sector. (See Book 3, Topic 51)
- a** The new cash flow volatility is:

$$[\text{var}(C_E) + \text{var}(C_N) + 2\text{cov}(C_E, C_N)]^{1/2} = [40^2 + 30^2 + 2(0.6)(40)(30)]^{1/2} = \$62.77 \text{ million}$$