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QUESTION & ANSWER



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**Exam** : **8008**

**Title** : Exam III: Risk Management  
Frameworks . Operational  
Risk . Credit Risk .  
Counterparty Risk . Market  
Risk . ALM . FTP - 2015  
Edition

**Version** : DEMO

1. Which of the following would not be a part of the principal component structure of the term structure of futures prices?

- A. Curvature component
- B. Trend component
- C. Parallel component
- D. Tilt component

**Answer: C**

**Explanation:**

The trend component refers to parallel shifts in the term structure, the tilt refers to changes in the shape of the term structure at the long and short ends, and the curvature refers to movements in the medium term part. The phrase 'parallel component' has no meaning and is not a part of the principal components in analyzing term structures.

Changes in the term structure can also be analyzed as "level, slope and curvature", so you should be aware of this terminology as well to refer to the principal components of a term structure analysis.

2. Loss provisioning is intended to cover:

- A. Unexpected losses
- B. Losses in excess of unexpected losses
- C. Both expected and unexpected losses
- D. Expected losses

**Answer: D**

**Explanation:**

Loss provisioning is intended to cover expected losses. Economic capital is expected to cover unexpected losses. No capital or provisions are set aside for losses in excess of unexpected losses, which will ultimately be borne by equity. Choice 'd' is the correct answer.

3. For a security with a daily standard deviation of 2%, calculate the 10-day VaR at the 95% confidence level. Assume expected daily returns to be nil.

- A. 0.02
- B. 0.104
- C. 0.1471
- D. None of the above.

**Answer: B**

**Explanation:**

If the daily standard deviation is 2%, the 10-day standard deviation will be  $2\% \times 10 = 0.063245$ . The value of Z at the 95% confidence level is 1.64485. Therefore the VaR value is  $1.64485 \times 0.063245 = 10.4\%$ . The other choices are incorrect.

4. If  $\mu$  and  $\sigma$  are the expected rate of return and volatility of an asset whose prices are log-normally distributed, and  $Z$  is a random drawing from a standard normal distribution, we can simulate the asset's returns using the expressions:

- A.  $P_0 e^{(\mu - \frac{1}{2}\sigma^2)Z + \sigma Z}$
- B.  $P_0 e^{\mu Z + \sigma Z}$
- C.  $P_0 e^{\mu Z + \frac{1}{2}\sigma^2 Z}$

D. - .

**Answer: B**

**Explanation:**

A standard model for representing asset returns in finance is the Geometric Brownian Motion process, and returns according to this model can be estimated by the expression given in Choice 'b'. Note that prices according to this model are log-normally distributed, and returns are normally distributed.

5. Which of the following statements is true?

- I. It is sufficient to ensure that a parent entity has sufficient excess liquidity to cover a liquidity shortfall for a subsidiary.
- II. If a parent entity has a shortfall of liquidity, it can always rely upon any excess liquidity that its foreign subsidiaries might have.
- III. Wholesale funding sources for a bank refer to stable sources of funding provided by the central bank.
- IV. Funding diversification refers to diversification of both funding sources and funding tenors.

- A. IV
- B. III and IV
- C. I and III
- D. I and IV

**Answer: A**

**Explanation:**

It is not generally sufficient to ensure the adequacy of liquidity across a group - ie it is not appropriate to just add up the sources and needs for liquidity across multiple entities in a group. This is because there can be restrictions on transferring liquidity between entities, particularly when the entities are located across borders. In cases where transfers of liquidity are permitted, there may be settlement delays in transferring funds from one entity to another. Therefore both statements I and II are incorrect.

Wholesale funding sources refers to the temporary interbank funding sources that need to be rolled over on very short intervals, often as short as overnight. These are not stable sources for long term funding.

Statement III is therefore false.

Statement IV is correct as funding diversification refers to diversification of both funding sources and the duration for which the amounts are borrowed, ie tenor diversity. Statement IV is the only correct statement and therefore Choice 'a' is the correct answer.