Summer Examinations 2015

FINM02715N

Module Title: Operational Risk Management
Level: Seven
Time Allowed: Two hours plus 15 minutes reading time. Students must not commence answering the questions until the reading time has ended.

Instructions to students:

- Enter your student number not your name on all answer books.
- During the 15 minutes reading time, students are permitted to make notes on the examination paper but not the answer booklet. Students should begin answering the questions after the reading time has ended.
- Answer two questions from Section A and one question from Section B.
- Section A carries 60% of the overall marks. Section B carries 40% of the overall marks.
- Neither books nor notes may be taken into the examination.
- The use of a non-programmable calculator is permitted.

<table>
<thead>
<tr>
<th>No. of Pages</th>
<th>5</th>
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<tbody>
<tr>
<td>No. of Questions</td>
<td>5</td>
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Section A

Answer two questions.

1. Since the credit crisis of 2007/08, liquidity has re-emerged as a key risk for banks and financial institutions and become a focus for regulators around the world.

   Required:

   a. Explain the difference between solvency and liquidity risks for a financial institution.

      (10 marks)

   b. Assess the risk a bank faces when shortage of liquidity becomes an issue.

      (10 marks)

   c. Liquidity risk has been blamed, in part, as the cause of the financial crisis in 2007/2008. Discuss.

      (10 marks)

      (Total: 30 marks)

2. Credit Default Swap (CDS) has been an important financial derivative instrument over the past two decades.

   Required:

   a. Explain how a CDS is used in practice as a risk management tool.

      (10 marks)

   b. Assess critically the claim that CDS was to blame in part for the last global financial crisis.

      (20 marks)

      (Total: 30 marks)
3. Assess the impact of Basel III on financial stability with reference to the changes from Basel II.

(30 marks)
Section B

Answer one question.

4. Hendry Ltd is evaluating the risk and return profiles of two investment projects:

   i. Project A involves investment in a UK coal mining operation
   
   ii. Project B involves investment in a South African Diamond producer

The likely future returns on each project over the next five years based on differing economic conditions are shown below:

<table>
<thead>
<tr>
<th>Probability</th>
<th>Project A</th>
<th>Project B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>0.2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>0.6</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

It is estimated that the correlation coefficient between the two investments is likely to be: -0.1.

Required:

a. Calculate the expected value of the return and the standard deviation of return from an investment in each project. (Do not calculate the portfolio risk here).

   (18 marks)

b. Calculate the expected return and standard deviation of a 50/50 portfolio investment between each project.

   (17 marks)

c. Comment briefly on your calculations made in a. and b. above.

   (5 marks)

(Total: 40 marks)
5. An investment portfolio has the following profile:

<table>
<thead>
<tr>
<th>Asset</th>
<th>Portfolio Weighting (%)</th>
<th>Current Return (%)</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock A</td>
<td>0.13</td>
<td>12.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Stock B</td>
<td>0.17</td>
<td>18.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Stock C</td>
<td>0.20</td>
<td>14.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Stock D</td>
<td>0.25</td>
<td>8.0</td>
<td>0.7</td>
</tr>
<tr>
<td>T-Bills</td>
<td>0.25</td>
<td>5.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The overall return on the market portfolio of risk assets is **11%** and this is expected to continue for the foreseeable future.

**Required:**

a. Calculate the current return on the whole portfolio and its Beta value.  

   (15 marks)

b. Analyse the efficiency of the actual return on each of the four risk assets in relation with the required return.  

   (15 marks)

c. Comment on the future value of each of the 4 risk assets.  

   (10 marks)

(Total: 40 marks)