Assignment 7

Due on 2023-11-04, 23:59 IST

Unit 10 - Week 7: Non-Mean-Variance Portfolio Theory - III

Assignment 7

The due date for submitting this assignment has passed.

1. A portfolio is invested in assets A and B with respective weights of 30% and 70%.

2. The returns of assets A and B are normally distributed with means of 10% and 15%, and standard deviations of 10% and 15%, respectively. Calculate the expected return and standard deviation of the portfolio.

3. Suppose you have a portfolio consisting of assets A and B with weights of 40% and 60%, respectively. The expected return of asset A is 12%, and the expected return of asset B is 18%. If the correlation coefficient between assets A and B is 0.5, calculate the expected return and standard deviation of the portfolio.

4. Consider two assets A and B, with the following table:

<table>
<thead>
<tr>
<th>Return on A</th>
<th>Probability of return on A</th>
<th>Return on B</th>
<th>Probability of return on B</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

If r_A and r_B denote the returns of assets A and B, respectively, then P(r_A ≤ 6) - P(r_B ≤ 6) equals:

5. Consider the following table. Which of the following statements is TRUE?

| r_A ≤ 5 | 0.3 |
| r_A > 5 | 0.7 |

6. If a random variable X is normally distributed with mean μ and variance σ², which of the following statements is FALSE?

7. Consider two assets A and B, with the following table:

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<td>1</td>
</tr>
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</table>

Then state whether the following statement is TRUE or FALSE:

Asset B dominates A in SSD.