

Solution Sheet on Problem Set 2

**Risk Measures**

Deadline: 16.11.2021

**Solved by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Task** |  | **Points Earned** |
| 1. **Estimation, Interpretation**   a)  Risk measures of stocks and portfolio returns  (12 points) |  |  |
| b)Argue: Riskiest and Safest investment of a) (6 points) |  |  |
| c)  VaR/ES of 21-day rolling window  (10 points) |  |  |
| d)  Estimate and plot the 5-year rolling Semi-St.Dev. (10 points) |  |  |
| e) Identify the 5 riskiest periods  (8 points) |  |  |
| f) Difference between mean and median  (6 points) |  |  |
| g) Histogram of returns  (8 points) |  |  |
| h) Draw and interpret a Q-Q plot  (8 points) |  |  |
| 1. **Risk Targeting**   a) Create the risk-targeting strategy, report statistics on mean and volatility  (16 points) |  |  |
| b)  How often was the VaR exceeded? How did the strategy perform?  (10 points) |  |  |
| c) Discuss potential improvements  (6 points) |  |  |