**Seminar on 17.04.2018 by Dr. Dagmar Linnertova**

Ex 1.

Please use the closing prices of given stocks to create a portfolio according to the minimum variance approach and then find the weights for tangency portfolio. After, calculate what will bet he expected return of the portfolio and the risk. Which portfolio is a better investment for a rational investor?

Ex 2.

|  |  |  |
| --- | --- | --- |
| Security |  |  |
| S1 | 1,75 | 16,7 |
| S2 | 1,20 | 24,0 |
| S3 | 1,30 | 17,4 |
| S4 | 0,75 | 16,0 |
|  | | |

From the above information calculate the parameter δ.

Create SML for the securities.

Using the concept of SML decide what should you do with particular security as a rational investor? (Buy, sell, or hold)

Ex 3.

|  |  |  |
| --- | --- | --- |
| **Year** | **Market** | **Security 1** |
| **1** | **8,0** | **8,1** |
| **2** | **0,0** | **3,0** |
| **3** | **14,9** | **5,3** |
| **4** | **5,0** | **1,0** |
| **5** | **4,1** | **3,1** |
| **6** | **8,9** | **3,0** |
| **7** | **10,1** | **5,0** |
| **8** | **5,0** | **3,2** |
| **9** | **1,5** | **1,2** |
| **10** | **2,4** | **1,3** |

Create a scatter plot where on the X-axe are returns of the market and on the Y-axe returns of Security 1 and add a trend line with equation. Further, calculate the parameter α and β and use:

1. The function in Excel (Lines)
2. Use matrix calculation

You know from the Money market that the rf= 2,7 % p.a. and you assume 250 trading days.