**İSTANBUL AYDIN ÜNİVERSİTESİ**

**2020-2021 GÜZ DÖNEMİ**

**CORPORATE FINANS VİZE SINAVI**

**Bölüm:**

**Adı**

**Soyadı:**

**Öğrenci No: İmza:**

1. A 10-year annuity pays $900 per year, with payments made at the end of each year. The first $900 will be paid 5 years from now. If the interest rate is 8% and interest is compounded quarterly, what is the present value of this annuity? Note: Adjust the interest rate. The effective annual yield (EAY) is the appropriate discount rate because it captures the effect of compounding periods. (25 points)
2. THY stock has an expected return of 19 percent with a beta of 1.7, while Pegasus stock has an expected return of 14 percent with a beta of 1.2. Assume the CAPM is true. What is the expected return on the market? What is the risk-free rate? Note: beta of the market is one, CAPM is defined with security market line. (25 points)
3. If a portfolio has a positive weight for each asset, can the expected return on the portfolio be greater than the return on the asset in the portfolio that has the highest return? Can theexpected return on the portfolio be less that the return on the asset in the portfolio with the lowest return? Explain. (20 points)
4. The Two stocks have the following data: (30 points)

|  |  |  |
| --- | --- | --- |
|  | Turkcell | THY |
| 1.01.2019 | 0,003415 | -0,00393 |
| 8.01.2019 | 0,015978 | 0,003749 |
| 15.01.2019 | 0,006727 | 0,009334 |
| 22.01.2019 | 0,010747 | 0,007957 |
| 29.01.2019 | 0,001179 | 0,015836 |
| 5.02.2019 | 0,003573 | -0,00479 |
| 12.02.2019 | 0,00309 | 0,006276 |
| 19.02.2019 | 0,009675 | -0,00292 |
| 26.02.2019 | 0,009009 | 0,002409 |
| 5.03.2019 | -0,00549 | -0,00427 |
| 12.03.2019 | 0,005096 | 0,013171 |
| 19.03.2019 | -0,00497 | -0,01739 |
| 26.03.2019 | -0,00297 | -0,003 |
| 2.04.2019 | 0 | -0,00199 |
| 9.04.2019 | -0,0009 | 0,002471 |
| 16.04.2019 | 0,006314 | 0,009276 |
| 23.04.2019 | 0,004532 | 0,018555 |
| 30.04.2019 | -0,02 | 0,003237 |
| 7.05.2019 | 0,000724 | 0,016377 |
| 14.05.2019 | -0,00783 | 0,008055 |
| 21.05.2019 | 0,01616 | 0,02365 |
| 28.05.2019 | 0,006993 | -0,00039 |
| 4.06.2019 | -0,00467 | 0,00464 |
| 11.06.2019 | -0,01628 | -0,00465 |
| 18.06.2019 | 0,016874 | 0,018903 |
| 25.06.2019 | -0,00074 | 0,010071 |
| 2.07.2019 | 0,000722 | 0,011219 |
| 9.07.2019 | 0,006644 | 0,014582 |
| 16.07.2019 | 0,008443 | 0,00032 |
| 23.07.2019 | 0,017849 | -0,0058 |
| 30.07.2019 | -0,00949 | 0,006783 |
| 6.08.2019 | 0,003119 | 0,004113 |
| 13.08.2019 | -0,00201 | 0,008072 |
| 20.08.2019 | 0,008693 | 0,012125 |
| 27.08.2019 | 0,003313 | 0,002988 |
| 3.09.2019 | -0,0058 | 0,003862 |
| 10.09.2019 | -0,01524 | -0,00237 |
| 17.09.2019 | 0,005347 | -0,01286 |
| 24.09.2019 | 0,013875 | -0,01958 |
| 1.10.2019 | 0,001097 | 0,012159 |
| 8.10.2019 | 0,015813 | 0,000298 |
| 15.10.2019 | 0,011102 | 0,020967 |
| 22.10.2019 | 0,00526 | 0,005875 |
|  |  |  |
| mean | **0,002907** | **0,004497** |
| variance |  |  |
| std | **0,008825** | **0,009554** |
| corr | **0,172005** |  |

Assume that the risk free rate is 0,003 and Expected return (used for CML) is defined as 0.003, 0.009, 0.015 and 0.02. Using w1 and w2 weights for the two assets draw the Capital Market Line and Efficient Frontier employing excel. Note: The two plots can be drawn separately.