

# Homework 2 – CAPM

---

1. Download the historical prices of the market portfolio between January 1, 2010 and April 2, 2016! Assume the market portfolio to be a well-known index, the Dow Jones Industrial Average.
2. Download the Apple stock prices in the same time span!
3. Load the data of the market portfolio and the Apple stock prices into an Excel sheet!
4. Transform the prices to returns in a new sheet!
5. Calculate the mean and variance of the returns! What can you conclude from them?
6. On a new sheet let B2 and B3 contain two model parameters: the portion of wealth put into the risky asset ( $\lambda$ ), and the return of a risk-free asset (let it be the return of the Premium Hungarian Treasury Bond [Prémium Magyar Államkötvény]). Calculate the expected return and variance of the portfolio in cells D2 and D3.
7. Implement the CAPM model – calculate the beta and the alpha of the Apple stock.