TIØ4317
Empirical and Quantitative Methods in Finance
Exercise 4

Instructions

Solutions to the problems will be posted on BlackBoard after the deadline. You can use either Excel or a high-level programming language, e.g., R or Python, to solve the programming exercises. Write your solutions using MS Word or LaTeX and deliver it in a single PDF.

Deadline: Monday 24.02.2025, 23:59. **Grading:** Passed/Failed.

Tasks

Open the data set provided on the portfolio returns and identify the best multiple linear regression model for the in-sample analysis of portfolio returns. The steps are as follows:

1. Are all variables stationary?
2. Estimate a multiple linear regression (MLR) model with all the explanatory variables provided. Is the model significant? Can you draw a conclusion on the significance of the explanatory variables?
3. Interpret the coefficient of the market (the data is in log).
4. Are there breaks in the sample period under consideration?
5. Generate a dummy variable for the break date and re-run the model with such dummies.
6. Conduct all the post-estimation diagnostic tests for serial correlation and estimate a new model if necessary.
7. Conduct all the post-estimation diagnostic tests for heteroskedasticity and estimate a new model if necessary.
8. Provide the best MLR model for the variable of interest.