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MSc Finance and Economics
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Hands on Eviews: Exercise 2

The data in the eviews workfile “Returns.wf1” have been obtained from the “Practice of Econometrics” by Ernst Berndt (1991, Addison-Wesley). The dataset contains monthly rates of return for the period Jan. 1978 - Dec. 1987 (a total of 120 observations), and it includes the following variables:

\boxed{RF} : rate of return on the 1-month US Treasury Bills (risk-free interest rate).

\boxed{RM} : value weighted composite market rate of return based on transactions from the NYSE and the American Exchange.

\boxed{RMOB} : rate of return on Mobile Oil.

1. Plot $RF, RM, RMOB$.
2. Produce the descriptive statistics and the correlation matrix of the above time series.
3. Generate the following series: $\left\{ \begin{array}{ll} RPM = RM - RF, & \text{market risk premium} \\ RPMOB = RMOB - RF, & \text{mobil risk premium} \end{array} \right\}$.
4. Estimate the following regressions by OLS:
EQ1 : $RMOB_t = \alpha_1 + \beta_1 RM_t + \varepsilon_{1t}$ (market model),
EQ2 : $RMOB_t = \alpha_2 + \beta_2 RM_t + \gamma_2 RF_t + \varepsilon_{2t}$,
EQ3 : $RPMOB_t = \alpha_3 + \beta_3 RPM_t + \varepsilon_{3t}$ (capital asset pricing model).
5. Test the hypothesis that β_1 equals one, $H_0 : \beta_1 = 1$. Now look at the probabilities columns of your estimation output. What can you say about the statistical significance of the constant terms?
6. Test equations 1 and 3 against EQ2. Which do you prefer?
7. Are equations 1 or 3 nested within the other? How can you choose between the two?
8. Do a diagnostic checking of EQ3, i.e. test for linearity, serial correlation, heteroskedasticity, normality, and structural stability.