

## Forecasting Methods

### Problem Set IV

#### Problem Set for Exercise 4

For feedback to your solutions of the problem set, please hand the R script file in by December 19th, 2025. Please send them by email to [abigail.asare@uol.de](mailto:abigail.asare@uol.de) with the subject “Forecasting: Problem Set IV”.

1. Create a R script file and import the Station data.
2. Create a time series object for the following variables crude oil prices(cp), average diesel prices(pd) and Mean temperature(tg). Note: use full sample!
3. Graph the above variables and explain with respect to the components of a time series.
4. Apply a simple exponential smoothing to the variables that satisfy the properties of SES.
5. What is the optimal alpha level?
6. Create 20 ahead forecast.
7. Write the equation for each series.