

## Forecasting Methods

### Problem Set II

#### Problem Set for Exercise II

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 II”.

1. Create a R script file and import the *expo – impo – germany* data.
2. Create time series for all four variables and plot them.
3. Explain the plots with respect to the components of a time series.
4. Generate real export and import prices *hint:  $[(actualvalue/price) \times 100]$*
5. Create time series for the new variables and plot them.
6. Explain the plots with respect to the components of a time series.
7. Fit a Linear trend for the new generated variables.
8. Predict the variables and generate the residuals.
9. Fit a polynomial trend curve from order 2 to 5, predict and generate residuals.
10. Plot the predicted values for all the polynomials.
11. Standardize the residuals and make a histogram.