

## Exercise: time series regression II

Earlham College  
BUS 323 - Fall 2025 - Labadie

In this activity, you will practice employing linear regression methods using datasets in the `fpp3` package and evaluating those regressions. Please turn in your code with answers in comments, or a document with your answers and plots (Word doc or a PDF generated from Markdown, for example).

1. Use the `us_change` dataset.
  - (a) Regress `Consumption` on all four of `Income`, `Production`, `Savings`, and `Unemployment`. Obtain the adjusted  $R^2$ , AIC, corrected AIC, and CV. Repeat for all combinations of the three predictors. Which model performs best?
2. For the following series, find an appropriate Box-Cox transformation and order of differencing in order to obtain stationary data.
  - (a) Turkish GDP from `global_economy`.
  - (b) Accommodation takings in the state of Tasmania from `aus_accommodation`.
  - (c) Monthly sales from `souvenirs`.