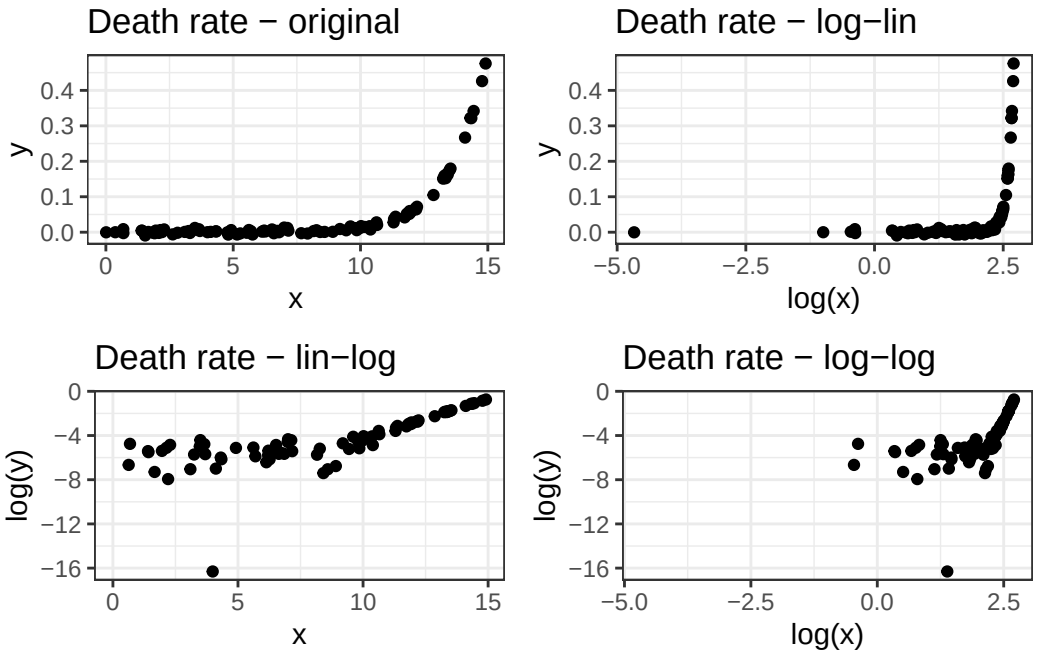
Recap exercises

Excurse: An inherently nonlinear model

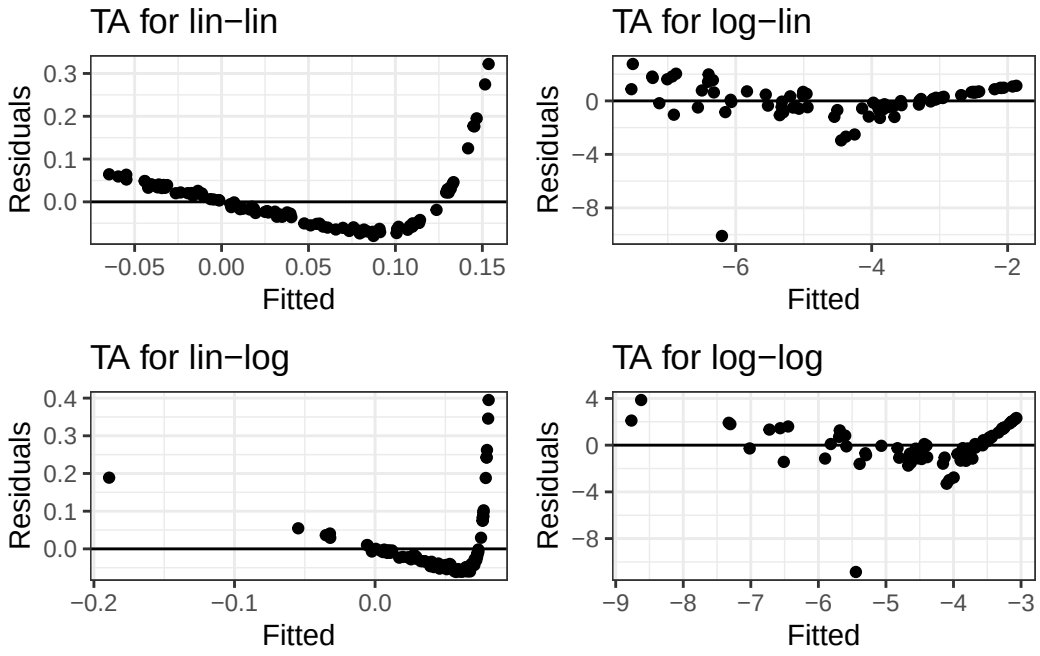
This is a model for death rates in certain situations:

$$y = \beta_0 + \lambda \exp\left(\beta_1^2 x\right) + \epsilon$$

It cannot be made linear in terms of parameters:



This can be verified using the TA plots:



Data wrangling

Read in the data set `wrangel_1.csv`. Transform the data set such that it can be considered tidy.

Then create a new data set that contains the means for all variables for each country. Missing values should be ignored when computing the means.

Linear regression

Consider the data set `reg_data_1.csv`. It contains the following variables:

- `y`: ice cream consumption in litres per year
- `x1`: Temperature in 10 degrees Celsius
- `x2`: Income in 1000 EUR
- `x3`: Height in cm

Study how ice cream consumption is associated with the explanatory variables and derive a sensive lineare regression model. Briefly justify your model specification.