# Chapter 5   Time series regression models

In this chapter we discuss regression models. The basic concept is that we forecast the time series of interest $y$ assuming that it has a linear relationship with other time series $x$.

For example, we might wish to forecast monthly sales $y$ using total advertising spend $x$ as a predictor. Or we might forecast daily electricity demand $y$ using temperature $x_1$ and the day of week $x_2$ as predictors.

The **forecast variable** $y$ is sometimes also called the regressand, dependent or explained variable. The **predictor variables** $x$ are sometimes also called the regressors, independent or explanatory variables. In this book we will always refer to them as the "forecast" variable and "predictor" variables.