Forecasting: principles and practice

Lab Session 1 — 23 September 2014

Before doing any exercises in R, load the **fpp** package using `library(fpp)`.

1. Use the Dow Jones index (data set `dowjones`) to do the following:
   (a) Produce a time plot of the series.
   (b) Produce forecasts using the drift method and plot them.
   (c) Show that the graphed forecasts are identical to extending the line drawn between the first and last observations.
   (d) Try some of the other benchmark functions to forecast the same data set. Which do you think is best? Why?
2. For each of the following series, make a graph of the data with forecasts using the most appropriate of the four benchmark methods: mean, naive, seasonal naive or drift.
   (a) Annual bituminous coal production (1920–1968). Data set `bicoal`.
   (b) Price of chicken (1924–1993). Data set `chicken`.
   (c) Monthly total of people on unemployed benefits in Australia (January 1956–July 1992). Data set `dole`.
   (d) Monthly total of accidental deaths in the United States (January 1973–December 1978). Data set `usdeaths`.
   (e) Quarterly production of bricks (in millions of units) at Portland, Australia (March 1956–September 1994). Data set `bricksq`.
   (f) Annual Canadian lynx trappings (1821–1934). Data set `lynx`.

   In each case, do you think the forecasts are reasonable? If not, how could they be improved?