Economic impact of mortality decline

Background: Mortalities have since The Second World War gone steadily down both for men and women. This is going to have huge impact for pension funding if it continues. The model below has been developed from Norwegian historical data for the period 1950-2004.

Objective: Present dynamic models for mortalities and illustrate their economic impact.

Material: Section 15.2, The GablerPartner report (website for STK4520) and Exercises 3.1, 3.3 and 3.4

Main points: The presentation (45 minutes) should cover

- The dynamic model in Exercise 3.3 and plots showing how the mortalitities change with time
- How mortalities varying with time can be entered ordinary life-insurance calculations (see Section 15.2)
- Present values of two pension portfolios (Exercise 3.4b).

  They are to be computed both with the model in Exercise 3.1 *and* the dynamic one in Exercise 3.4. Compare results.

- Plots of one-time premia under the dynamic model compared to a flat 15% reduction of the mortalities that are at work today.

  This is Exercise 3.4c) and d). Preferably plot the two sets of one-time premia a_{l_0} against l_0 in a joint plot.