Exercise 2: Time-Varying CAPM

1. Fixed-coefficient market model

The fitted market model is

$$r_t = \hat{\alpha} + \hat{\beta}\, r_{M,t} + e_t,$$

where $\hat{\alpha} = \texttt{0.0122}$ and $\hat{\beta} = \texttt{0.8513}$.

2. Estimated innovation standard errors

The estimated standard error of the innovation to α_t is

$$\widehat{\sigma}_\eta = \texttt{0.0000}.$$

The estimated standard error of the innovation to β_t is

$$\widehat{\sigma}_\varepsilon = \texttt{0.0682}.$$

3. Smoothed estimates of α_t and β_t

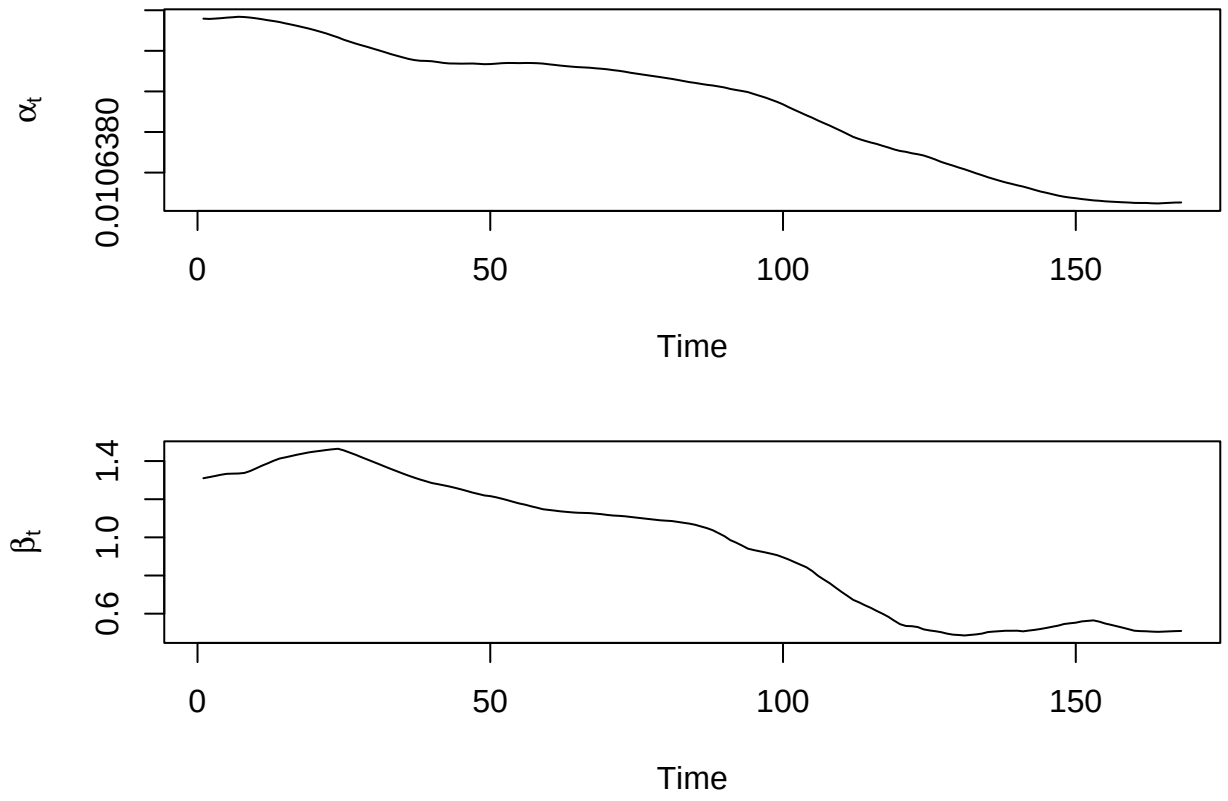

Figure 1: Smoothed state estimates of α_t and β_t