Time Series Econometres, Fall 2009

Prof. Petr Zemčík

HOMEWORK ASSIGNMENT TREE - Correction

PREVIOUSLY

3. [1 point] KALMAN FILTER

Write the following bilinear model in a state space form:

$$y_t = \phi y_{t-1} + \theta \epsilon_{t-1} + \beta \epsilon_{t-1} + \epsilon_t, \quad t = 1, ..., T.,$$
 (1)

where $\epsilon_t \sim \text{i.i.d.} \ N(0, \sigma^2)$ and ϕ, θ , and β are unknown parameters.

NOW

3. [1 point] KALMAN FILTER

Write the following bilinear model in a state space form:

$$y_t = \phi y_{t-1} + \theta \epsilon_{t-1} + \beta \epsilon_{t-1} y_{t-1} + \epsilon_t, \quad t = 1, ..., T.,$$
(2)

where $\epsilon_t \sim \text{i.i.d.} \ N(0, \sigma^2)$ and ϕ, θ , and β are unknown parameters.