Föreläsning 7

Prognoser sid 28

Första modellen

y_t säsongsrensad

$DESE_t = Z_t$ $\quad Z_t = diff\ Desc_t$

$Z_t = Dese_t - Dese_{t-1}$

$Z_t = 0.218 + a_t - 0.6522 a_{t-1}$

$n = 178$ = 2004 oktober

månadsdata

$\hat{Z}_{179}(178) = 0.218 + a_{179} - 0.6522 a_{178}$

$= 0.218 + 0 - 0.6522(-4.2862) = 3.0135$

$\hat{Z}_{180}(178) = 0.218 + 0 - 0.6522 a_{179}$

$= 0.218$

$\hat{Z}_{181}(178) = 0.218$

$Z_{179} = Dese_{179} - Dese_{178}$

$\Rightarrow \hat{Dese}_{179} = \hat{Z}_{179} + Dese_{178} =$

$= 3.0135 + 116.16 = 119.174$

$\hat{Dese}_{180} = \hat{Z}_{180} + \hat{Dese}_{179} =$

$= 0.218 + 119.174 = 119.392$

$\hat{Dese}_{181} = \hat{Z}_{181} + \hat{Dese}_{180} =$

$= 0.218 + 119.392 = 119.610$

nov $\hat{y}_{179}(178) = 119.174 + 5.175 =$

$= \underline{124.350}$

dec $\hat{y}_{180}(178) = 119.392 - 3.1247 =$

$= 116.267$

jan $\hat{y}_{181}(178) = 119.61 + 0.3795 = \underline{119.990}$

Andra modellen sid 31

Prognos för y_t

$z_t = y_t - y_{t-12}$

$z_t = 0.765 + 0.448 z_{t-1} + 0.27 z_{t-2}$

$+ a_t - 0.75 a_{t-12}$

$\hat{z}_{179}(178) = 0.765 + 0.448 z_{178} + 0.27 z_{177}$

$+ \underbrace{a_{179}}_{=0} - 0.75 \hat{a}_{167} =$

$= 0.765 + 0.448(-0.4) + 0.27 \cdot 6.8$

$+ 0 - 0.75 \cdot 5.383 = -1.616$

$\hat{z}_{180}(178) = 0.765 + 0.448 \hat{z}_{179} + 0.27 \underbrace{z_{178}}_{-0.4}$

$- 0.75 \underbrace{\hat{a}_{168}}_{-0.0683} = -0.0157$

$\hat{z}_{181}(178) = 0.765 + 0.448 \hat{z}_{180} + 0.27 \hat{z}_{179}$

$- 0.75 \underbrace{\hat{a}_{169}}_{-1.71964} = 1.61114$

$\hat{y}_t = \hat{z}_t + y_{t-12}$

$\hat{y}_{179}(178) = \hat{z}_{179} + y_{167} = -1.616 + 125.7$ (3)

$= 124.08$

$\hat{y}_{180} = \hat{z}_{180} + y_{168} = -0.0157 + 116.1 =$

$= 116.08$

$\hat{y}_{181} = \hat{z}_{181} + y_{169} = 1.6114 + 115.6$

$= 117.21$