1 Holts-Winter

Holts Winter's Methid catches level, trend and seasonality (α).

All these parameters have values ranging from 0 to 1.

The method has 3 updating equations. The eeequations are intended to give more weight to recent observations and less weigth to older observations.

$$L_t = \alpha \left[\frac{Y_t}{I_{t-p}} \right] + (1-\alpha)(L_{(t-1)} + B_{(t-1)})$$

$$B_t = \gamma \left[L_{(t-1)} - L_{(t-1)} \right] + (1-\gamma) B_{(t-1)}$$

$$I_t = \delta \left[\frac{Y_t}{L_t} \right] + (1-\delta) I_{(t-p)}$$

- Y_T Observed value of seriesat time T
- L_T Local Level
- B_T Trend
- I_T Seasonal Index at time t