

Forecast equation: $\hat{y}_{t+h|t} = l_t$

Smoothing equation: $l_t = \alpha y_t + (1 - \alpha)l_{t-1}$

Forecast equation: $\hat{y}_{t+h|t} = l_t + b_t h$

Level equation: $l_t = \alpha y_t + (1 - \alpha)(l_{t-1} + b_{t-1})$

Trend equation: $b_t = \beta^*(l_t - l_{t-1}) + (1 - \beta^*)b_{t-1}$

Forecast equation: $\hat{y}_{t+h|t} = l_t + b_t(\phi + \phi^2 + \dots + \phi^h)$

Level equation: $l_t = \alpha y_t + (1 - \alpha)(l_{t-1} + \phi b_{t-1})$

Trend equation: $b_t = \beta^*(l_t - l_{t-1}) + (1 - \beta^*)\phi b_{t-1}$

$$\hat{y}_{t+h|t} = l_t + b_t \phi \sum_{n=0}^h \phi^n \xrightarrow{h \rightarrow \infty} l_t + \frac{\phi}{1 - \phi} b_t$$

Forecast equation: $\hat{y}_{t+h|t} = l_t + h b_t + s_{t+h-m(k+1)}$

Level equation: $l_t = \alpha(y_t - s_{t-m}) + (1 - \alpha)(l_{t-1} + b_{t-1})$

Trend equation: $b_t = \beta^*(l_t - l_{t-1}) + (1 - \beta^*)b_{t-1}$

Seasonal equation: $s_t = \gamma^*(y_t - l_t) + (1 - \gamma^*)s_{t-m}$