

Forecasting Equation:

$$\hat{P}_{t+\tau,t} = (a_t + \tau(b_t))S_{t+\tau-N}$$

If there are 12 monthly periods
and time t refers to January 2013,
then $t - N$ refers to January 2012

Adding
seasonality back
to the forecast

**Updating equation for
price level absent trend:**

$$a_t = \alpha \left(\frac{P_t}{S_{t-N}} \right) + (1 - \alpha)(a_{t-1} + b_{t-1})$$

Here the current price is divided by the last
estimate of the seasonality factor for this
time period to remove seasonality effects

**Updating equation for
expected trend:**

$$b_t = \beta(a_t - a_{t-1}) + (1 - \beta)(b_{t-1})$$

**Updating equation for
seasonality factor:**

$$S_t = \gamma \left(\frac{P_t}{a_t} \right) + (1 - \gamma)(S_{t-N})$$

Seasonality
factor for time t

Notice price is divided by the level price to
calculate the most recent seasonality effect

Norwood et al 2/E

Figure 10.9

30p0 wide X 31p0 High