

$$\hat{\vartheta}_{t|t} = \hat{\vartheta}_{t|t-1} + K_t \varepsilon_t$$

$$\hat{\vartheta}_{t|t-1} = F \hat{\vartheta}_{t-1|t-1}$$

$$\varepsilon_t = y_t - \varphi'_t \hat{\vartheta}_{t|t-1}$$

$$K = \frac{\sum_{t|t-1} \varphi_t}{\sigma_e^2 + \varphi'_t \sum_{t|t-1} \varphi_t}$$

$$\sum_{t|t-1} = F \sum_{t-1|t-1} F' + G W G'$$

$$\sum_{t|t} = \sum_{t|t-1} - \frac{\sum_{t|t-1} \varphi_t \varphi'_t \sum_{t|t-1}}{\sigma_e^2 + \varphi'_t \sum_{t|t-1} \varphi_t}$$

$$\hat{\vartheta}_{t|t} = \hat{\vartheta}_{t|t-1} + K_t \varepsilon_t \quad (1\alpha \square)$$

$$\hat{\vartheta}_{t|t-1} = F \hat{\vartheta}_{t-1|t-1} \quad (1\beta \square)$$

$$\varepsilon_t = y_t - \varphi'_t \hat{\vartheta}_{t|t-1} \quad (1\gamma \square)$$

$$K = \frac{\sum_{t|t-1} \varphi_t}{\sigma_e^2 + \varphi'_t \sum_{t|t-1} \varphi_t} \quad (1\delta \square)$$

$$\sum_{t|t-1} = F \sum_{t-1|t-1} F' + G W G' \quad (1\varepsilon \square)$$

$$\sum_{t|t} = \sum_{t|t-1} - \frac{\sum_{t|t-1} \varphi_t \varphi'_t \sum_{t|t-1}}{\sigma_e^2 + \varphi'_t \sum_{t|t-1} \varphi_t} \sum_{t|t-1} F \quad (1\square\square)$$