

$$dS_{0t} = S_{0t}r_t dt,$$

$$d\mathbf{S}_t = \text{diag}(\mathbf{S}_t)(\mathbf{b}_t dt + \boldsymbol{\Sigma}_t d\mathbf{w}_t),$$

$$d\mathbf{P}_t = \text{diag}(\mathbf{P}_t)(\mathbf{c}_t dt + \mathbf{T}_t d\mathbf{w}_t),$$