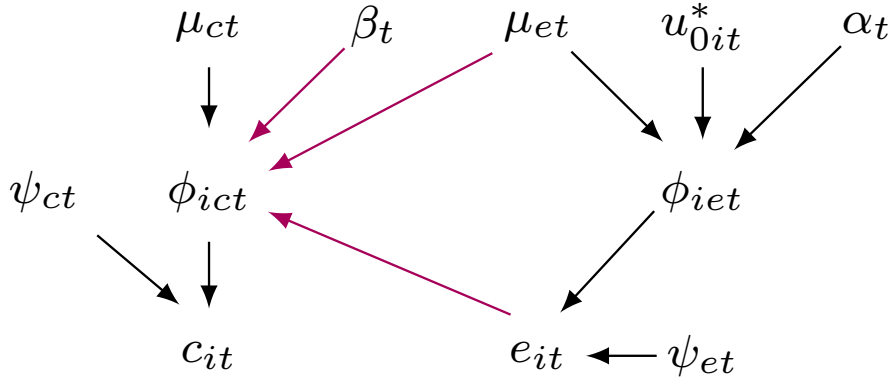
Conditional model for $c \mid e$

$$c_{it} \mid e_{it} \sim \text{Normal}(\phi_{cit}, \psi_{ct})$$
$$\phi_{cit} = \mu_{ct} + \beta_t(e_{it} - \mu_{et})$$



Marginal model for e

$$e_{it} \sim \text{Normal}(\phi_{eit}, \psi_{et})$$
$$\phi_{eit} = \mu_{et} + \alpha_t(u_{0it} - \bar{u}_{0t})$$
$$= \mu_{et} + \alpha_t u^*_{0it}$$