IT Spillovers in TFP

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Household

$$\max_{C_t, H_t, K_t^C, K_t^I} \sum_{j=0}^{\infty} \beta^j \left[\log C_t - \frac{1}{2} H_t^2 \right]$$

subject to

$$Y_t^C = C_t + I_t^C$$
 and $Y_t^I = I_t^I$;

$$\mathcal{K}_{t+1}^{\mathcal{C}} = (1-\delta^{\mathcal{C}})\mathcal{K}_{t}^{\mathcal{C}} + \mathit{I}_{t}^{\mathcal{C}} \text{ and } \mathcal{K}_{t+1}^{\mathcal{I}} = (1-\delta^{\mathcal{I}})\mathcal{K}_{t}^{\mathcal{I}} + \mathit{I}_{t}^{\mathcal{I}};$$

$$C_t + K_{t+1}^C + P_t K_{t+1}^I = Y_t^C + P_t Y_t^I + (1 - \delta^C) K_t^C + (1 - \delta^I) P_t K_t^I$$



Production Function

$$Y_{t}^{C} = S_{t}^{C} N_{t} (K_{t}^{I})^{\gamma} (H_{1,t})^{1-a-b} (K_{1,t}^{C})^{a} (K_{1,t}^{I})^{b}$$

$$Y_{t}^{I} = S_{t}^{I} N_{t} (K_{t}^{I})^{\gamma} (H_{2,t})^{1-a-b} (K_{2,t}^{C})^{a} (K_{2,t}^{I})^{b}$$

where

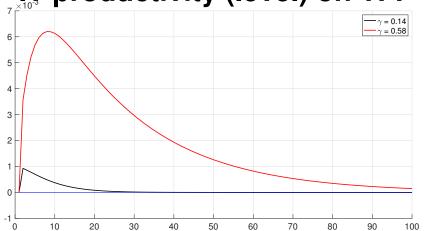
$$\begin{aligned} Y_t^C &= C_t + I_t^C \text{ and } Y_t^I = I_t^I; \\ K_{t+1}^C &= (1 - \delta^C)K_t^C + I_t^C \text{ and } K_{t+1}^I = (1 - \delta^I)K_t^I + I_t^I; \end{aligned}$$

and

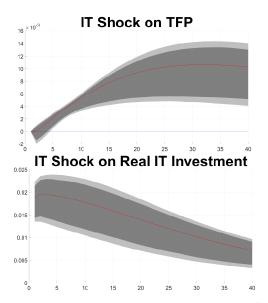
$$H_{1,t} + H_{2,t} = H_t,$$

 $K_{1,t}^C + K_{2,t}^C = K_t^C,$
 $K_{1,t}^I + K_{2,t}^I = K_t^I$

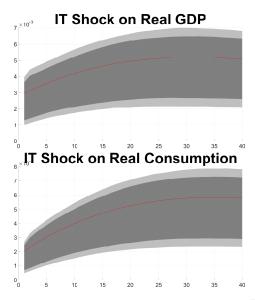
IT productivity (level) on TFP



Empirical IRF



Empirical IRF



Empirical IRF

