

$$\begin{aligned}
\beta_{ikt} &\equiv -\frac{\partial TC_{ikt}}{\partial \tilde{p}_{ikt}} \frac{\tilde{p}_{ikt}}{TC_{ikt}} \\
&= \frac{\widehat{t}_{is(k)t}/\tilde{p}_{ikt}}{\widehat{t}_{is(k)t}/\tilde{p}_{ikt} + \widehat{\tau}_{is(k)t} - 1},
\end{aligned}$$