

The naïve model (3.5)–(3.8) said that two people, k and ℓ , with the same observed covariates, $\mathbf{x}_k = \mathbf{x}_\ell$, have the same probability of treatment given $(r_T, r_C, \mathbf{x}, u)$, i.e., $\pi_k = \pi_\ell$, where $\pi_k = \Pr(Z_k = 1 \mid r_{Tk}, r_{Ck}, \mathbf{x}_k, u_k)$ and $\pi_\ell = \Pr(Z_\ell = 1 \mid r_{T\ell}, r_{C\ell}, \mathbf{x}_\ell, u_\ell)$. The sensitivity analysis model speaks about the same probabilities in (3.1), saying that the naïve model (3.5)–(3.8) may be false, but to an extent controlled by a parameter, $\Gamma \geq 1$. Specifically, it says that two people, k and ℓ , with the same observed covariates, $\mathbf{x}_k = \mathbf{x}_\ell$, have odds¹² of treatment, $\pi_k / (1 - \pi_k)$ and $\pi_\ell / (1 - \pi_\ell)$, that differ by at most a multiplier of Γ ; that is, in (3.1),

$$\frac{1}{\Gamma} \leq \frac{\pi_k / (1 - \pi_k)}{\pi_\ell / (1 - \pi_\ell)} \leq \Gamma \quad \text{whenever } \mathbf{x}_k = \mathbf{x}_\ell. \quad (3.13)$$