

The relative bias for $P(y=0)$ for data simulated under ZIP distribution with $\phi_c = 20\%$.

| One-part models | | | | | | | |
|-----------------|------------|-------------|---------|--------|---------|---------|--------|
| parameters | | Non-exposed | | | Exposed | | |
| ϕ_t | γ_1 | LOLS | Poisson | NB | LOLS | Poisson | NB |
| 15% | 0 | -0.240 | -0.549 | -0.279 | -0.188 | -0.517 | -0.187 |
| | 0.2 | -0.221 | -0.548 | -0.277 | -0.313 | -0.67 | -0.312 |
| | 0.6 | -0.173 | -0.55 | -0.263 | -0.585 | -0.904 | -0.583 |
| 20% | 0 | -0.222 | -0.549 | -0.225 | -0.221 | -0.549 | -0.225 |
| | 0.2 | -0.197 | -0.549 | -0.216 | -0.328 | -0.692 | -0.333 |
| | 0.6 | -0.135 | -0.55 | -0.179 | -0.558 | -0.907 | -0.553 |
| 25% | 0 | -0.211 | -0.552 | -0.175 | -0.243 | -0.564 | -0.247 |
| | 0.2 | -0.173 | -0.548 | -0.147 | -0.333 | -0.699 | -0.335 |
| | 0.6 | -0.105 | -0.549 | -0.093 | -0.53 | -0.903 | -0.519 |

| Hurdle/Zero inflated models | | | | | | | |
|-----------------------------|------------|-------------|--------|----------|---------|--------|----------|
| parameters | | Non-exposed | | | Exposed | | |
| ϕ_t | γ_1 | 2P-LOLS | PH/ZIP | NBH/ZINB | 2P-LOLS | PH/ZIP | NBH/ZINB |
| 15% | 0 | 0.008 | 0.002 | 0.002 | 0.008 | 0.000 | 0.000 |
| | 0.2 | 0.006 | 0.000 | 0.000 | 0.000 | -0.004 | -0.004 |
| | 0.6 | 0.007 | 0.003 | 0.003 | 0.001 | 0.001 | 0.001 |
| 20% | 0 | 0.004 | -0.002 | -0.002 | 0.006 | 0.000 | 0.000 |
| | 0.2 | 0.003 | -0.003 | -0.003 | 0.001 | -0.001 | -0.001 |
| | 0.6 | 0.003 | -0.001 | -0.001 | 0.000 | 0.000 | 0.000 |
| 25% | 0 | -0.001 | -0.007 | -0.007 | 0.004 | -0.001 | -0.001 |
| | 0.2 | 0.008 | 0.002 | 0.002 | 0.002 | 0.000 | 0.000 |
| | 0.6 | 0.003 | -0.001 | -0.001 | 0.001 | 0.001 | 0.001 |