Table 1: Comparison between TMLE estimators and one-step EIF estimator under positivity assumption violation when the outcome is not in the district of the treatment.

	$\psi^+_{dnorm}(\hat{Q})$	$\psi_{dnorm}(\hat{Q}^\star)$	$\psi^+_{densratio}(\hat{Q})$	$\psi_{densratio}(\hat{Q}^\star)$	$\psi^+_{bayes}(\hat{Q})$	$\psi_{bayes}(\hat{Q}^\star)$
n=500						
Bias	0.027	-0.033	-0.031	0.009	0.035	-0.019
SD	2.804	1.174	3.006	1.036	3.083	1.273
MSE	7.856	1.379	9.026	1.073	9.500	1.620
CI coverage	90.7%	68.3%	90.6%	62.3%	89.7%	64%
CI width	7.165	2.302	7.756	2.166	7.544	2.375
n=1000						
Bias	-0.004	0.005	-0.019	0.103	-0.048	0.006
SD	1.620	0.869	1.783	0.812	1.799	0.948
MSE	2.623	0.755	3.175	0.669	3.236	0.898
CI coverage	91.9%	68.5%	94.1%	78.3%	93.2%	66.2%
CI width	5.210	1.824	5.961	2.333	5.463	1.882
n=2000						
Bias	-0.030	-0.012	-0.023	0.147	-0.047	-0.016
SD	1.143	0.615	1.457	0.641	1.235	0.698
MSE	1.307	0.378	2.121	0.432	1.527	0.487
CI coverage	95.2%	74.6%	96.2%	87.2%	94.4%	71.5%
CI width	4.068	1.408	5.101	2.534	4.303	1.514