

Table 1: Comparative analysis of TMLEs and one-step estimators under model misspecifications when the outcome is not in the district of the treatment.

	TMLEs									One-step estimators								
	$\psi_{dnorm}(\hat{Q}^*)$			$\psi_{densratio}(\hat{Q}^*)$			$\psi_{bayes}(\hat{Q}^*)$			$\psi_{dnorm}^+(\hat{Q})$			$\psi_{densratio}^+(\hat{Q})$			$\psi_{bayes}^+(\hat{Q})$		
	Linear	SL	CF	Linear	SL	CF	Linear	SL	CF	Linear	SL	CF	Linear	SL	CF	Linear	SL	CF
n=500																		
Bias	-0.642	-0.274	-0.187	-0.679	-0.627	-0.545	-0.524	-0.389	-0.208	-0.558	-0.074	-0.054	0.266	0.035	0.140	-0.441	-0.082	-0.013
SD	1.251	1.193	1.241	0.847	0.790	0.807	1.393	0.998	1.215	1.122	1.124	1.173	1.247	1.133	1.148	1.488	1.126	1.214
MSE	1.976	1.498	1.572	1.177	1.017	0.947	2.211	1.145	1.518	1.568	1.267	1.378	1.624	1.283	1.335	2.405	1.272	1.473
CI coverage	90.6%	93.9%	95%	83.9%	83.6%	87.7%	91.4%	91.8%	95.8%	92.5%	91.6%	94.6%	93.5%	91.9%	95.8%	92.9%	91.2%	94.9%
CI width	4.766	4.490	4.631	3.038	2.847	2.991	5.084	3.837	4.822	4.538	4.047	4.695	4.609	4.061	4.663	5.155	4.001	4.865
n=1000																		
Bias	-0.659	-0.232	-0.171	-0.653	-0.571	-0.522	-0.568	-0.350	-0.191	-0.619	-0.066	-0.052	0.376	0.067	0.144	-0.556	-0.067	-0.031
SD	0.972	0.924	0.949	0.728	0.688	0.712	1.048	0.789	0.941	0.825	0.836	0.861	0.884	0.848	0.859	1.117	0.837	0.907
MSE	1.378	0.906	0.929	0.955	0.799	0.778	1.419	0.745	0.921	1.062	0.703	0.742	0.922	0.723	0.757	1.555	0.705	0.823
CI coverage	86.7%	92.9%	93.7%	75.9%	74.4%	77.9%	88.9%	89.2%	93.5%	88.9%	92.4%	94.6%	92.5%	92.9%	94.3%	90.2%	91.4%	94.2%
CI width	3.559	3.371	3.438	2.277	2.099	2.212	3.796	2.813	3.457	3.226	2.956	3.261	3.385	3.026	3.348	3.634	2.912	3.370
n=2000																		
Bias	-0.591	-0.136	-0.096	-0.578	-0.478	-0.432	-0.488	-0.236	-0.090	-0.570	0.035	0.045	0.520	0.186	0.239	-0.480	0.038	0.078
SD	0.680	0.652	0.659	0.620	0.576	0.582	0.739	0.561	0.644	0.566	0.572	0.578	0.644	0.588	0.590	0.672	0.577	0.603
MSE	0.811	0.443	0.442	0.718	0.560	0.525	0.784	0.370	0.423	0.644	0.328	0.336	0.684	0.380	0.405	0.682	0.334	0.370
CI coverage	83.1%	93.3%	93.9%	65.9%	67.5%	71.2%	87.6%	90.1%	94.7%	86.1%	92.9%	94.7%	87.9%	93%	93.6%	87.9%	93%	94.2%
CI width	2.569	2.439	2.474	1.677	1.530	1.605	2.795	2.062	2.489	2.285	2.123	2.289	2.462	2.204	2.378	2.570	2.098	2.364