

Table 0.1: Simulations results, 10,000 iterations,  $\lambda_Z = 1$ . 27 November 2020.

model	n=100					n=200					n=500					n=1000				
	bias	MAE	RMSE	Coverage rate	Quantile .95	bias	MAE	RMSE	Coverage rate	Quantile .95	bias	MAE	RMSE	Coverage rate	Quantile .95	bias	MAE	RMSE	Coverage rate	Quantile
	$\lambda_X=0.2, \alpha_Y=6 - b_2 + d_2=0.97$																			
standard	-4.196	4.196	0.257	0.0	-37.17	-4.103	4.103	0.255	0.0	-51.427	-3.982	3.982	0.245	0.0	-79.039	-3.899	3.899	0.225	0.0	-109.92
smoothed	-4.22	4.22	0.245	0.092	-37.664	-4.126	4.126	0.243	0.174	-52.094	-4.005	4.005	0.234	0.313	-79.958	-3.921	3.921	0.215	0.421	-111.30
	$\lambda_X=0.2, \alpha_Y=7 - b_2 + d_2=0.94$																			
standard	-1.86	1.86	0.192	0.001	-15.129	-1.785	1.785	0.185	0.0	-20.459	-1.697	1.697	0.174	0.0	-30.86	-1.631	1.631	0.165	0.0	-41.959
smoothed	-1.878	1.878	0.183	0.095	-15.483	-1.803	1.803	0.176	0.169	-20.958	-1.714	1.714	0.167	0.296	-31.535	-1.647	1.647	0.158	0.411	-43.036
	$\lambda_X=0.2, \alpha_Y=10 - b_2 + d_2=0.9$																			
standard	-0.596	0.597	0.108	0.004	-3.995	-0.558	0.558	0.099	0.003	-5.369	-0.507	0.508	0.09	0.002	-7.736	-0.473	0.474	0.085	0.002	-10.086
smoothed	-0.607	0.607	0.103	0.09	-4.201	-0.568	0.568	0.095	0.15	-5.612	-0.517	0.517	0.087	0.261	-8.082	-0.482	0.482	0.081	0.352	-10.594
	$\lambda_X=0.3, \alpha_Y=4 - b_2 + d_2=0.95$																			
standard	-3.827	3.828	0.453	0.002	-30.235	-3.69	3.691	0.442	0.002	-40.895	-3.541	3.543	0.405	0.001	-63.854	-3.435	3.435	0.34	0.0	-88.338
smoothed	-3.875	3.876	0.423	0.164	-31.148	-3.738	3.739	0.413	0.268	-42.362	-3.586	3.588	0.381	0.45	-66.113	-3.477	3.477	0.321	0.588	-90.861
	$\lambda_X=0.3, \alpha_Y=6 - b_2 + d_2=0.87$																			
standard	-0.622	0.627	0.186	0.036	-2.866	-0.569	0.574	0.169	0.028	-3.743	-0.504	0.508	0.15	0.025	-4.973	-0.463	0.465	0.126	0.016	-7.3
smoothed	-0.644	0.647	0.175	0.167	-3.249	-0.589	0.593	0.159	0.249	-4.26	-0.522	0.525	0.141	0.381	-5.809	-0.48	0.481	0.119	0.497	-8.217
	$\lambda_X=0.3, \alpha_Y=7 - b_2 + d_2=0.84$																			
standard	-0.402	0.407	0.137	0.055	-1.488	-0.362	0.367	0.129	0.048	-1.925	-0.313	0.318	0.109	0.038	-2.636	-0.282	0.284	0.094	0.035	-3.369
smoothed	-0.419	0.422	0.13	0.17	-1.785	-0.377	0.381	0.122	0.248	-2.307	-0.327	0.33	0.103	0.368	-3.198	-0.294	0.296	0.089	0.468	-4.091
	$\lambda_X=0.3, \alpha_Y=10 - b_2 + d_2=0.8$																			
standard	-0.18	0.184	0.076	0.109	-0.377	-0.156	0.16	0.068	0.095	-0.457	-0.13	0.133	0.057	0.091	-0.589	-0.113	0.116	0.049	0.083	-0.677
smoothed	-0.19	0.192	0.072	0.201	-0.532	-0.165	0.168	0.065	0.256	-0.68	-0.137	0.139	0.054	0.351	-0.845	-0.12	0.122	0.046	0.433	-1.032
	$\lambda_X=0.5, \alpha_Y=3 - b_2 + d_2=0.83$																			
standard	-0.791	0.876	0.63	0.168	0.713	-0.708	0.781	0.538	0.156	0.292	-0.616	0.665	0.369	0.131	0.401	-0.567	0.593	0.284	0.11	-2.339
smoothed	-0.853	0.918	0.561	0.32	-0.742	-0.766	0.82	0.473	0.436	-1.462	-0.665	0.701	0.343	0.605	-1.96	-0.608	0.627	0.267	0.741	-4.499
	$\lambda_X=0.5, \alpha_Y=4 - b_2 + d_2=0.75$																			
standard	-0.26	0.311	0.256	0.344	1.521	-0.219	0.264	0.212	0.34	2.001	-0.174	0.207	0.158	0.332	2.482	-0.154	0.176	0.124	0.305	2.177
smoothed	-0.291	0.33	0.237	0.436	0.861	-0.247	0.28	0.197	0.505	1.207	-0.197	0.221	0.147	0.636	1.578	-0.173	0.188	0.116	0.711	1.091
	$\lambda_X=0.5, \alpha_Y=6 - b_2 + d_2=0.67$																			
standard	-0.087	0.117	0.105	0.504	1.051	-0.071	0.095	0.086	0.513	1.161	-0.05	0.07	0.066	0.538	1.519	-0.041	0.056	0.051	0.534	1.62
smoothed	-0.102	0.124	0.098	0.554	0.814	-0.083	0.101	0.081	0.595	0.852	-0.059	0.074	0.063	0.682	1.14	-0.049	0.059	0.048	0.741	1.177
	$\lambda_X=0.5, \alpha_Y=7 - b_2 + d_2=0.64$																			
standard	-0.061	0.087	0.082	0.544	0.91	-0.049	0.069	0.065	0.571	0.98	-0.035	0.05	0.048	0.588	1.116	-0.028	0.04	0.038	0.591	1.224
smoothed	-0.073	0.092	0.077	0.588	0.695	-0.059	0.073	0.061	0.635	0.743	-0.043	0.053	0.045	0.705	0.85	-0.034	0.042	0.036	0.758	0.95
	$\lambda_X=0.5, \alpha_Y=10 - b_2 + d_2=0.6$																			
standard	-0.033	0.048	0.047	0.614	0.511	-0.024	0.037	0.037	0.651	0.601	-0.017	0.026	0.026	0.672	0.641	-0.013	0.02	0.021	0.674	0.705
smoothed	-0.039	0.051	0.044	0.642	0.398	-0.03	0.039	0.035	0.698	0.476	-0.021	0.028	0.025	0.752	0.502	-0.016	0.022	0.02	0.781	0.561
	$\lambda_X=0.8, \alpha_Y=1.5 - b_2 + d_2=0.87$																			
standard	-1.378	3.364	44.961	0.253	16.805	-1.717	2.603	4.237	0.248	20.075	-1.614	2.255	2.902	0.22	23.537	-1.581	2.046	4.145	0.189	15.366
smoothed	-1.78	3.3	34.889	0.373	9.177	-1.987	2.653	3.697	0.459	9.703	-1.826	2.328	2.592	0.625	9.406	-1.741	2.136	4.076	0.75	2.921
	$\lambda_X=0.8, \alpha_Y=2 - b_2 + d_2=0.7$																			
standard	-0.216	0.577	0.982	0.587	9.491	-0.174	0.476	0.758	0.592	11.438	-0.149	0.37	1.065	0.585	13.011	-0.139	0.286	0.393	0.587	12.822
smoothed	-0.307	0.581	0.882	0.623	7.03	-0.254	0.475	0.647	0.676	8.556	-0.207	0.377	0.972	0.752	9.762	-0.184	0.293	0.361	0.827	9.831
	$\lambda_X=0.8, \alpha_Y=3 - b_2 + d_2=0.53$																			

standard	-0.042	0.161	0.214	0.774	3.233	-0.031	0.126	0.171	0.785	3.637	-0.021	0.087	0.112	0.799	4.026	-0.015	0.066	0.086	0.817	4.099
smoothed	-0.07	0.16	0.195	0.784	2.642	-0.053	0.126	0.156	0.814	2.957	-0.036	0.087	0.104	0.859	3.284	-0.026	0.066	0.081	0.899	3.454
	$\lambda_X=0.8, \alpha_Y=4 - b_2 + d_2=0.45$																			
standard	-0.019	0.088	0.117	0.824	1.847	-0.013	0.066	0.085	0.841	1.954	-0.008	0.045	0.057	0.857	2.056	-0.005	0.033	0.042	0.87	2.112
smoothed	-0.034	0.087	0.108	0.831	1.54	-0.024	0.066	0.08	0.864	1.655	-0.016	0.045	0.054	0.891	1.755	-0.011	0.033	0.04	0.92	1.826
	$\lambda_X=0.8, \alpha_Y=6 - b_2 + d_2=0.37$																			
standard	-0.008	0.044	0.056	0.858	0.934	-0.005	0.033	0.042	0.876	0.949	-0.003	0.021	0.027	0.898	0.968	-0.002	0.016	0.02	0.9	1.025
smoothed	-0.015	0.044	0.053	0.867	0.816	-0.01	0.033	0.04	0.888	0.825	-0.006	0.021	0.026	0.92	0.857	-0.004	0.016	0.019	0.933	0.92
	$\lambda_X=0.8, \alpha_Y=7 - b_2 + d_2=0.34$																			
standard	-0.006	0.035	0.045	0.864	0.731	-0.004	0.026	0.033	0.879	0.753	-0.002	0.017	0.021	0.902	0.794	-0.002	0.012	0.015	0.907	0.802
smoothed	-0.011	0.035	0.042	0.871	0.632	-0.008	0.026	0.031	0.892	0.657	-0.005	0.017	0.021	0.922	0.712	-0.003	0.012	0.015	0.936	0.727
	$\lambda_X=0.8, \alpha_Y=10 - b_2 + d_2=0.3$																			
standard	-0.003	0.022	0.028	0.883	0.456	-0.002	0.016	0.02	0.899	0.474	-0.001	0.01	0.013	0.911	0.484	-0.001	0.007	0.009	0.92	0.483
smoothed	-0.006	0.022	0.026	0.887	0.395	-0.004	0.016	0.019	0.907	0.415	-0.002	0.01	0.013	0.927	0.435	-0.001	0.007	0.009	0.939	0.444
	$\lambda_X=0.9, \alpha_Y=1.5 - b_2 + d_2=0.77$																			
standard	-0.449	1.337	2.763	0.508	20.679	-0.269	1.249	4.585	0.514	26.627	-0.302	0.927	2.741	0.522	32.456	-0.305	0.774	2.375	0.5	32.546
smoothed	-0.654	1.317	2.47	0.543	14.991	-0.468	1.215	3.914	0.595	19.333	-0.442	0.925	2.606	0.697	23.453	-0.415	0.785	2.161	0.772	23.741
	$\lambda_X=0.9, \alpha_Y=2 - b_2 + d_2=0.6$																			
standard	-0.069	0.388	0.679	0.724	8.278	-0.047	0.308	0.606	0.743	9.592	-0.035	0.217	0.365	0.766	10.319	-0.032	0.165	0.343	0.774	10.706
smoothed	-0.136	0.379	0.609	0.731	6.536	-0.102	0.3	0.539	0.774	7.563	-0.074	0.212	0.321	0.83	8.267	-0.059	0.164	0.333	0.869	8.762
	$\lambda_X=0.9, \alpha_Y=3 - b_2 + d_2=0.43$																			
standard	-0.012	0.127	0.194	0.837	2.861	-0.008	0.095	0.129	0.853	3.044	-0.007	0.064	0.084	0.871	3.086	-0.004	0.046	0.06	0.883	3.196
smoothed	-0.034	0.123	0.181	0.843	2.35	-0.024	0.093	0.12	0.87	2.569	-0.017	0.063	0.079	0.897	2.651	-0.011	0.045	0.057	0.925	2.781
	$\lambda_X=0.9, \alpha_Y=4 - b_2 + d_2=0.35$																			
standard	-0.008	0.071	0.095	0.867	1.637	-0.004	0.053	0.069	0.882	1.673	-0.002	0.034	0.044	0.907	1.701	-0.002	0.025	0.031	0.914	1.694
smoothed	-0.019	0.07	0.088	0.87	1.368	-0.012	0.052	0.066	0.891	1.443	-0.007	0.034	0.042	0.928	1.506	-0.005	0.024	0.03	0.942	1.526
	$\lambda_X=0.9, \alpha_Y=6 - b_2 + d_2=0.27$																			
standard	-0.003	0.037	0.048	0.892	0.826	-0.001	0.027	0.035	0.909	0.84	-0.001	0.018	0.023	0.914	0.844	-0.0	0.013	0.016	0.926	0.843
smoothed	-0.009	0.037	0.045	0.897	0.713	-0.005	0.026	0.033	0.918	0.742	-0.003	0.018	0.022	0.929	0.765	-0.002	0.012	0.016	0.947	0.775
	$\lambda_X=0.9, \alpha_Y=7 - b_2 + d_2=0.24$																			
standard	-0.001	0.03	0.039	0.904	0.673	-0.001	0.022	0.028	0.906	0.683	-0.001	0.014	0.018	0.924	0.672	-0.0	0.01	0.013	0.93	0.682
smoothed	-0.006	0.029	0.037	0.908	0.598	-0.004	0.022	0.027	0.913	0.616	-0.002	0.014	0.017	0.936	0.614	-0.001	0.01	0.012	0.947	0.634
	$\lambda_X=0.9, \alpha_Y=10 - b_2 + d_2=0.2$																			
standard	-0.001	0.019	0.024	0.906	0.41	-0.001	0.013	0.017	0.92	0.409	-0.0	0.009	0.011	0.927	0.416	-0.0	0.006	0.008	0.93	0.421
smoothed	-0.004	0.018	0.023	0.911	0.365	-0.003	0.013	0.016	0.926	0.37	-0.001	0.009	0.011	0.937	0.386	-0.001	0.006	0.008	0.943	0.397