25th Quantile estimation
Only β_0 effective
datasize $= 200$
simulation $= 2000$

May 19, 2020

1. Beta estimation by Crq function

Table 1: Crq function : $t_0 = 0$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.606	0.099	0.099	0.857	0.000	0.148	0.144	0.920
10	1.607	0.102	0.102	0.853	-0.000	0.151	0.146	0.919
30	1.608	0.106	0.107	0.847	-0.000	0.158	0.154	0.920
50	1.610	0.112	0.112	0.840	-0.001	0.170	0.163	0.921
70	1.612	0.123	0.123	0.825	0.001	0.187	0.176	0.912

Table 2: Crq function : $t_0 = 1$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.407	0.120	0.122	0.863	0.003	0.176	0.172	0.928
10	1.409	0.122	0.126	0.855	-0.002	0.182	0.171	0.934
30	1.408	0.131	0.129	0.866	-0.004	0.195	0.183	0.929
50	1.417	0.137	0.139	0.847	-0.006	0.204	0.198	0.917
70	1.420	0.153	0.154	0.846	-0.006	0.234	0.225	0.911

Table 3: Crq function : $t_0 = 2$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.218	0.141	0.142	0.857	-0.010	0.208	0.197	0.927
10	1.217	0.144	0.148	0.855	-0.001	0.213	0.206	0.925
30	1.217	0.151	0.153	0.852	-0.003	0.228	0.216	0.929
50	1.219	0.164	0.168	0.826	-0.001	0.249	0.236	0.920
70	1.217	0.198	0.187	0.800	0.006	0.302	0.265	0.904

Table 4: Crq function : $t_0 = 3$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.038	0.158	0.163	0.869	-0.002	0.233	0.230	0.916
10	1.034	0.164	0.163	0.870	0.000	0.246	0.236	0.920
30	1.040	0.182	0.177	0.838	-0.001	0.271	0.252	0.911
50	1.039	0.201	0.193	0.816	-0.003	0.307	0.266	0.924
70	1.057	0.223	0.229	0.831	-0.009	0.342	0.320	0.919

2. Beta estimation by rq with jump weight

Table 5: rq function : $t_0 = 0$

| censor | β_0 | | | | β_1 | | | |
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.608	0.103	0.098	0.942	-0.001	0.146	0.141	0.952
10	1.608	0.108	0.104	0.936	-0.001	0.155	0.152	0.942
30	1.607	0.118	0.112	0.942	0.000	0.170	0.166	0.948
50	1.607	0.149	0.132	0.954	-0.004	0.214	0.212	0.936
70	1.576	0.251	0.239	0.883	0.015	0.378	0.446	0.920

Table 6: rq function : $t_0 = 1$

| censor | β_0 | | | | β_1 | | | |
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.409	0.125	0.121	0.940	0.002	0.177	0.169	0.956
10	1.409	0.131	0.127	0.941	-0.000	0.188	0.175	0.961
30	1.408	0.146	0.132	0.950	-0.006	0.212	0.196	0.963
50	1.406	0.192	0.167	0.965	0.001	0.278	0.271	0.943
70	1.363	0.327	0.324	0.876	0.002	0.491	0.607	0.902

Table 7: rq function : $t_0 = 2$

| censor | β_0 | | | | β_1 | | | |
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.218	0.147	0.141	0.929	-0.009	0.208	0.192	0.959
10	1.217	0.155	0.149	0.933	-0.003	0.222	0.210	0.949
30	1.217	0.174	0.159	0.944	-0.004	0.251	0.236	0.951
50	1.209	0.241	0.213	0.949	-0.001	0.346	0.347	0.938
70	1.139	0.411	0.423	0.870	0.013	0.607	0.782	0.902

Table 8: rq function : $t_0 = 3$

| censor | β_0 | | | | β_1 | | | |
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.038	0.165	0.161	0.938	-0.002	0.235	0.223	0.947
10	1.037	0.177	0.165	0.940	-0.003	0.255	0.242	0.955
30	1.039	0.204	0.189	0.951	-0.003	0.294	0.278	0.950
50	1.026	0.291	0.255	0.957	-0.013	0.421	0.417	0.954
70	0.947	0.492	0.512	0.872	0.006	0.724	0.941	0.889

3. Beta estimation by Induced smoothing with jump weight-out

Table 9: Suggested method : $t_0 = 0$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.603	0.096	0.096	0.917	-0.004	0.137	0.138	0.935
10	1.604	0.099	0.099	0.911	-0.004	0.141	0.143	0.922
30	1.603	0.107	0.107	0.910	-0.003	0.155	0.157	0.922
50	1.604	0.138	0.128	0.911	-0.009	0.200	0.204	0.915
70	1.571	0.234	0.235	0.810	0.013	0.366	0.441	0.855

Table 10: Suggested method : $t_0 = 1$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.406	0.117	0.118	0.914	-0.000	0.167	0.167	0.936
10	1.405	0.121	0.122	0.905	-0.004	0.174	0.168	0.939
30	1.404	0.135	0.128	0.915	-0.008	0.196	0.189	0.934
50	1.401	0.178	0.163	0.919	-0.003	0.261	0.264	0.915
70	1.359	0.306	0.319	0.772	-0.001	0.471	0.599	0.791

Table 11: Suggested method : $t_0 = 2$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.215	0.139	0.139	0.893	-0.013	0.200	0.189	0.934
10	1.214	0.143	0.144	0.892	-0.005	0.207	0.202	0.922
30	1.212	0.158	0.154	0.898	-0.006	0.233	0.227	0.920
50	1.205	0.218	0.208	0.883	-0.005	0.322	0.341	0.890
70	1.133	0.389	0.414	0.732	0.008	0.594	0.769	0.754

Table 12: Suggested method : $t_0 = 3$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.035	0.154	0.161	0.890	-0.004	0.225	0.224	0.919
10	1.033	0.162	0.161	0.889	-0.004	0.239	0.232	0.926
30	1.036	0.187	0.184	0.884	-0.005	0.277	0.273	0.908
50	1.023	0.262	0.249	0.879	-0.015	0.392	0.411	0.888
70	0.942	0.411	0.502	0.690	0.000	0.647	0.922	0.697

4. Beta estimation by Induced smoothing with jump weight-in

Table 13: Suggested method : $t_0 = 0$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.603	0.096	0.096	0.917	-0.004	0.137	0.138	0.935
10	1.604	0.099	0.099	0.912	-0.004	0.141	0.142	0.931
30	1.604	0.104	0.104	0.899	-0.003	0.149	0.149	0.926
50	1.606	0.111	0.109	0.901	-0.005	0.160	0.158	0.927
70	1.609	0.122	0.121	0.897	-0.004	0.177	0.172	0.929

Table 14: Suggested method : $t_0 = 1$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.406	0.117	0.118	0.914	-0.000	0.167	0.167	0.936
10	1.396	0.121	0.124	0.904	-0.004	0.174	0.167	0.941
30	1.375	0.130	0.128	0.909	-0.006	0.189	0.183	0.926
50	1.364	0.142	0.141	0.881	-0.008	0.205	0.200	0.911
70	1.340	0.162	0.159	0.856	-0.012	0.240	0.229	0.904

Table 15: Suggested method : $t_0 = 2$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.215	0.139	0.139	0.893	-0.013	0.200	0.189	0.934
10	1.189	0.146	0.146	0.894	-0.004	0.210	0.204	0.922
30	1.144	0.160	0.160	0.883	-0.006	0.232	0.224	0.927
50	1.098	0.174	0.181	0.827	-0.003	0.257	0.254	0.907
70	1.033	0.203	0.211	0.755	-0.003	0.307	0.297	0.892

Table 16: Suggested method : $t_0 = 3$

censor	β_0				β_1			
	β_0	SE	SD	Coverage	β_1	SE	SD	Coverage
0	1.035	0.154	0.161	0.890	-0.004	0.225	0.224	0.919
10	0.989	0.166	0.166	0.881	-0.003	0.244	0.237	0.920
30	0.913	0.189	0.188	0.839	-0.002	0.279	0.269	0.915
50	0.829	0.236	0.220	0.753	-0.008	0.340	0.304	0.908
70	0.717	0.286	0.273	0.636	-0.015	0.428	0.383	0.883