APPENDIX A

Average values of CRx and CRy versus λ under different D_u / D_l for $\sigma = 1.0$

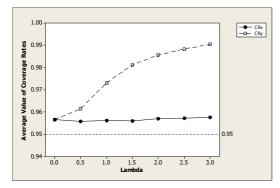


Figure 1. Average values of CR_x and CR_y versus λ under $D_u / D_l = 3/1$.

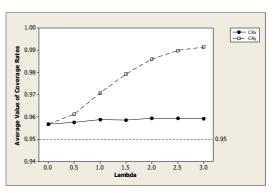


Figure 2. Average values of CR_x and CR_y versus λ under $D_u / D_l = 2/1$.

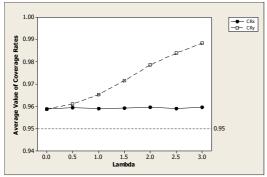


Figure 3. Average values of CRx and CRy versus λ under $D_u/D_t = 1/1$.

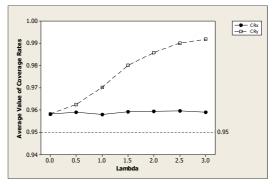


Figure 4. Average values of CR_x and CR_y versus λ under $D_u/D_l = 1/2$.

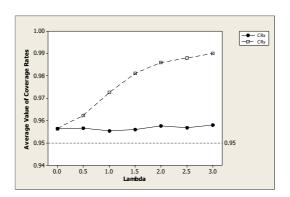


Figure 5. Average values of CR_x and CR_y versus λ under $D_u/D_l=1/3$.

Appendix B

$\label{eq:confidence limits with and without considering GME} \label{eq:confidence limits with and without considering GME}$

Table 1. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, σ = 0.5 and D_u/D_l = 3/1

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
·		$\overline{L}_{\!\scriptscriptstyle X}$	$ar{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$ar{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$ar{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\!\scriptscriptstyle x}$	$ar{L}_{\scriptscriptstyle m y}$
	25	0.2256	0.2256	0.2203	0.2200	0.2027	0.2017	0.1835	0.1816
	75	0.2578	0.2578	0.2520	0.2516	0.2394	0.2381	0.2241	0.2214
-1	100	0.2634	0.2634	0.2577	0.2573	0.2459	0.2445	0.2305	0.2277
	150	0.2707	0.2707	0.2670	0.2666	0.2561	0.2545	0.2438	0.2406
	200	0.2757	0.2757	0.2720	0.2715	0.2625	0.2608	0.2511	0.2477
	25	0.7320	0.7320	0.6976	0.6877	0.6221	0.5927	0.5318	0.4870
	75	0.8812	0.8812	0.8529	0.8386	0.7863	0.7418	0.7101	0.6379
-0.5	100	0.9116	0.9116	0.8838	0.8684	0.8227	0.7743	0.7555	0.6737
	150	0.9515	0.9515	0.9278	0.9106	0.8689	0.8146	0.8074	0.7144
	200	0.9784	0.9784	0.9574	0.9388	0.9044	0.8449	0.8449	0.7424
	25	2.0316	2.0316	1.9192	1.7798	1.6604	1.3477	1.4374	1.0079
	75	2.3218	2.3218	2.2477	2.0455	2.0614	1.5772	1.8616	1.2169
0	100	2.3688	2.3688	2.3005	2.0863	2.1386	1.6148	1.9334	1.2462
	150	2.4225	2.4225	2.3702	2.1391	2.2257	1.6551	2.0483	1.2812
	200	2.4517	2.4517	2.4035	2.1642	2.2763	1.6774	2.1049	1.2976
	25	2.0166	2.0166	1.9225	1.7833	1.7356	1.3931	1.5353	1.0817
	75	2.2606	2.2606	2.1920	2.0017	2.0300	1.5606	1.8412	1.2127
0.5	100	2.3058	2.3058	2.2427	2.0413	2.0988	1.5942	1.9167	1.2388
	150	2.3544	2.3544	2.3066	2.0902	2.1695	1.6280	2.0055	1.2670
	200	2.3867	2.3867	2.3383	2.1143	2.2202	1.6509	2.0608	1.2836
	25	1.5484	1.5484	1.4947	1.4251	1.3657	1.1783	1.2009	0.9473
	75	1.7213	1.7213	1.6811	1.5878	1.5891	1.3258	1.4649	1.0788
1	100	1.7524	1.7524	1.7222	1.6229	1.6292	1.3505	1.5276	1.1058
	150	1.7919	1.7919	1.7641	1.6583	1.6862	1.3843	1.5931	1.1324
	200	1.8153	1.8153	1.7884	1.6787	1.7227	1.4053	1.6342	1.1490

Table 2. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma=1.0$ and $D_u/D_l=3/1$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
·	•	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\!\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle m y}$
	25	0.1773	0.1773	0.1737	0.1736	0.1683	0.1676	0.1601	0.1585
	75	0.2160	0.2160	0.2145	0.2143	0.2082	0.2071	0.1999	0.1978
-1	10	0.2264	0.2264	0.2234	0.2231	0.2184	0.2173	0.2103	0.2080
	15	0.2377	0.2377	0.2359	0.2355	0.2295	0.2283	0.2228	0.2202
	20	0.2442	0.2442	0.2424	0.2420	0.2385	0.2371	0.2319	0.2291
	25	0.4748	0.4748	0.4601	0.4566	0.4305	0.4188	0.3990	0.3778
	75	0.6166	0.6166	0.6081	0.6024	0.5861	0.5658	0.5501	0.5131
-0.5	10	0.6486	0.6486	0.6399	0.6335	0.6170	0.5947	0.5903	0.5476
	15	0.6912	0.6912	0.6856	0.6782	0.6659	0.6395	0.6401	0.5898
	20	0.7197	0.7197	0.7143	0.7061	0.6954	0.6665	0.6732	0.6171
	25	0.9486	0.9486	0.9216	0.9038	0.8710	0.8135	0.8029	0.7043
	75	1.1445	1.1445	1.1361	1.1070	1.1032	1.0063	1.0567	0.8866
0	10	1.1759	1.1759	1.1658	1.1347	1.1384	1.0339	1.0951	0.9109
	15	1.2072	1.2072	1.1993	1.1658	1.1746	1.0616	1.1433	0.9400
	20	1.2235	1.2235	1.2173	1.1825	1.1990	1.0800	1.1686	0.9547
	25	1.0200	1.0200	1.0055	0.9840	0.9687	0.8968	0.9185	0.7922
	75	1.1474	1.1474	1.1381	1.1088	1.1086	1.0101	1.0712	0.8953
0.5	10	1.1684	1.1684	1.1606	1.1297	1.1395	1.0340	1.0997	0.9127
	15	1.1971	1.1971	1.1890	1.1561	1.1681	1.0559	1.1365	0.9348
	20	1.2117	1.2117	1.2059	1.1716	1.1888	1.0715	1.1596	0.9482
	25	0.8999	0.8999	0.8872	0.8716	0.8584	0.8048	0.8093	0.7153
	75	1.0254	1.0254	1.0189	0.9969	0.9952	0.9195	0.9630	0.8247
1	10	1.0498	1.0498	1.0435	1.0200	1.0219	0.9410	0.9911	0.8432
	15	1.0786	1.0786	1.0722	1.0469	1.0547	0.9671	1.0268	0.8662
	20	1.0942	1.0942	1.0879	1.0617	1.0720	0.9807	1.0501	0.8807

Table 3. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 0.5$ and $D_u/D_l = 2/1$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
·	•	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$ar{L}_{\!\scriptscriptstyle x}$	$ar{L}_{\scriptscriptstyle m y}$
	25	0.4018	0.4018	0.3896	0.3887	0.3716	0.3684	0.3474	0.3412
	75	0.4515	0.4515	0.4467	0.4455	0.4312	0.4268	0.4117	0.4030
-1	10	0.4636	0.4636	0.4584	0.4571	0.4438	0.4391	0.4268	0.4173
	15	0.4757	0.4757	0.4715	0.4701	0.4598	0.4546	0.4450	0.4345
	20	0.4841	0.4841	0.4807	0.4792	0.4697	0.4643	0.4577	0.4465
	25	1.1690	1.1690	1.1278	1.1077	1.0460	0.9840	0.9359	0.8368
	75	1.3804	1.3804	1.3547	1.3245	1.2974	1.1981	1.2169	1.0472
-0.5	10	1.4254	1.4254	1.3985	1.3659	1.3488	1.2402	1.2708	1.0853
	15	1.4772	1.4772	1.4594	1.4231	1.4127	1.2922	1.3435	1.1345
	20	1.5113	1.5113	1.4963	1.4577	1.4540	1.3248	1.3914	1.1654
	25	2.0696	2.0696	2.0119	1.9191	1.8695	1.6064	1.6843	1.3050
	75	2.3256	2.3256	2.2811	2.1554	2.1773	1.8139	2.0361	1.4863
0	10	2.3704	2.3704	2.3338	2.2005	2.2321	1.8479	2.0963	1.5130
	15	2.4239	2.4239	2.3888	2.2473	2.3028	1.8899	2.1816	1.5485
	20	2.4562	2.4562	2.4277	2.2800	2.3491	1.9163	2.2424	1.5717
	25	1.9755	1.9755	1.9290	1.8463	1.7969	1.5601	1.6404	1.2822
	75	2.2175	2.2175	2.1851	2.0724	2.0804	1.7532	1.9428	1.4443
0.5	10	2.2641	2.2641	2.2306	2.1117	2.1396	1.7902	2.0177	1.4770
	15	2.3163	2.3163	2.2866	2.1597	2.2071	1.8313	2.0976	1.5117
	20	2.3486	2.3486	2.3201	2.1883	2.2546	1.8593	2.1444	1.5312
	25	1.3544	1.3544	1.3190	1.2901	1.2455	1.1536	1.1574	1.0049
	75	1.5015	1.5015	1.4864	1.4474	1.4359	1.3078	1.3688	1.1466
1	10	1.5299	1.5299	1.5113	1.4705	1.4713	1.3353	1.4097	1.1725
	15	1.5654	1.5654	1.5511	1.5074	1.5149	1.3687	1.4607	1.2033
	20	1.5849	1.5849	1.5705	1.5254	1.5395	1.3873	1.4957	1.2239

Table 4. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 1.0$ and $D_u/D_l = 2/1$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
·	•	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\!\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle m y}$
	25	0.3038	0.3038	0.3014	0.3009	0.2930	0.2910	0.2903	0.2857
	75	0.3711	0.3711	0.3693	0.3686	0.3628	0.3599	0.3528	0.3468
-1	10	0.3869	0.3869	0.3842	0.3833	0.3768	0.3737	0.3710	0.3643
	15	0.4050	0.4050	0.4035	0.4026	0.3988	0.3953	0.3897	0.3823
	20	0.4164	0.4164	0.4145	0.4135	0.4094	0.4057	0.4019	0.3939
	25	0.6749	0.6749	0.6647	0.6601	0.6503	0.6334	0.6172	0.5848
	75	0.8630	0.8630	0.8545	0.8466	0.8385	0.8093	0.8146	0.7572
-0.5	10	0.8977	0.8977	0.8980	0.8890	0.8792	0.8466	0.8569	0.7924
	15	0.9495	0.9495	0.9436	0.9334	0.9300	0.8927	0.9047	0.8317
	20	0.9735	0.9735	0.9676	0.9568	0.9585	0.9183	0.9450	0.8640
	25	1.0018	1.0018	0.9916	0.9797	0.9692	0.9263	0.9268	0.8466
	75	1.1582	1.1582	1.1487	1.1316	1.1358	1.0735	1.1068	0.9875
0	10	1.1815	1.1815	1.1769	1.1586	1.1629	1.0967	1.1424	1.0135
	15	1.2096	1.2096	1.2058	1.1864	1.1945	1.1236	1.1761	1.0378
	20	1.2265	1.2265	1.2228	1.2025	1.2128	1.1391	1.1930	1.0497
	25	0.9982	0.9982	0.9902	0.9783	0.9705	0.9275	0.9363	0.8545
	75	1.1361	1.1361	1.1299	1.1133	1.1145	1.0546	1.0886	0.9730
0.5	10	1.1583	1.1583	1.1509	1.1335	1.1400	1.0766	1.1194	0.9956
	15	1.1852	1.1852	1.1824	1.1637	1.1681	1.1006	1.1517	1.0191
	20	1.2036	1.2036	1.1985	1.1791	1.1903	1.1193	1.1738	1.0347
	25	0.8257	0.8257	0.8168	0.8095	0.7984	0.7718	0.7733	0.7214
	75	0.9534	0.9534	0.9502	0.9396	0.9337	0.8952	0.9191	0.8417
1	10	0.9767	0.9767	0.9743	0.9630	0.9616	0.9201	0.9450	0.8623
	15	1.0054	1.0054	1.0029	0.9907	0.9916	0.9467	0.9781	0.8882
	20	1.0231	1.0231	1.0177	1.0050	1.0103	0.9632	0.9965	0.9023

Table 5. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 0.5$ and $D_u/D_l = 1/1$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
•	•	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle m y}$
	25	0.8450	0.8450	0.8354	0.8317	0.8135	0.7995	0.7882	0.7600
	75	0.9480	0.9480	0.9437	0.9387	0.9284	0.9096	0.9095	0.8706
-1	10	0.9702	0.9702	0.9639	0.9586	0.9528	0.9327	0.9338	0.8925
	15	0.9945	0.9945	0.9920	0.9864	0.9804	0.9589	0.9621	0.9177
	20	1.0102	1.0102	1.0070	1.0011	0.9968	0.9744	0.9810	0.9345
	25	1.7446	1.7446	1.7312	1.7026	1.6714	1.5735	1.5887	1.4121
	75	2.0131	2.0131	1.9913	1.9505	1.9560	1.8132	1.8868	1.6269
-0.5	10	2.0598	2.0598	2.0469	2.0030	2.0075	1.8552	1.9446	1.6659
	15	2.1161	2.1161	2.1028	2.0556	2.0694	1.9049	2.0181	1.7137
	20	2.1468	2.1468	2.1358	2.0866	2.1039	1.9323	2.0632	1.7423
	25	2.0845	2.0845	2.0562	2.0107	1.9817	1.8307	1.8923	1.6233
	75	2.3248	2.3248	2.3049	2.2446	2.2531	2.0496	2.1807	1.8158
0	10	2.3698	2.3698	2.3506	2.2872	2.3034	2.0884	2.2338	1.8485
	15	2.4232	2.4232	2.4088	2.3411	2.3659	2.1360	2.3091	1.8931
	20	2.4567	2.4567	2.4400	2.3699	2.4019	2.1630	2.3460	1.9144
	25	1.7585	1.7585	1.7333	1.7044	1.6746	1.5761	1.5792	1.4060
	75	2.0140	2.0140	1.9953	1.9543	1.9532	1.8110	1.8877	1.6278
0.5	10	2.0610	2.0610	2.0471	2.0032	2.0094	1.8566	1.9464	1.6669
	15	2.1132	2.1132	2.1031	2.0559	2.0691	1.9047	2.0196	1.7146
	20	2.1456	2.1456	2.1353	2.0861	2.1082	1.9356	2.0654	1.7436
	25	0.8403	0.8403	0.8367	0.8329	0.8138	0.7999	0.7823	0.7546
	75	0.9497	0.9497	0.9431	0.9381	0.9280	0.9092	0.9083	0.8696
1	10	0.9684	0.9684	0.9638	0.9585	0.9512	0.9313	0.9304	0.8895
	15	0.9952	0.9952	0.9902	0.9845	0.9814	0.9598	0.9626	0.9182
	20	1.0107	1.0107	1.0060	1.0001	0.9959	0.9735	0.9831	0.9363

Table 6. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 1.0$ and $D_u/D_l = 1/1$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
·	•	$\overline{L}_{\scriptscriptstyle x}$	$\overline{L}_{ m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle m y}$
	25	0.5790	0.5790	0.5757	0.5743	0.5678	0.5624	0.5587	0.5472
	75	0.6967	0.6967	0.6961	0.6940	0.6908	0.6825	0.6821	0.6645
-1	10	0.7182	0.7182	0.7196	0.7173	0.7125	0.7037	0.7077	0.6886
	15	0.7487	0.7487	0.7462	0.7437	0.7414	0.7317	0.7359	0.7149
	20	0.7643	0.7643	0.7645	0.7619	0.7612	0.7508	0.7562	0.7338
	25	0.9118	0.9118	0.9046	0.9003	0.9036	0.8865	0.8840	0.8490
	75	1.0756	1.0756	1.0740	1.0674	1.0659	1.0407	1.0553	1.0024
-0.5	10	1.1064	1.1064	1.1022	1.0951	1.0996	1.0723	1.0862	1.0294
	15	1.1398	1.1398	1.1356	1.1279	1.1320	1.1025	1.1222	1.0605
	20	1.1568	1.1568	1.1556	1.1476	1.1515	1.1207	1.1441	1.0792
	25	1.0211	1.0211	1.0220	1.0162	1.0078	0.9861	0.9958	0.9500
	75	1.1591	1.1591	1.1579	1.1500	1.1506	1.1205	1.1396	1.0767
0	10	1.1838	1.1838	1.1804	1.1722	1.1749	1.1431	1.1656	1.0990
	15	1.2087	1.2087	1.2081	1.1993	1.2026	1.1688	1.1950	1.1240
	20	1.2256	1.2256	1.2249	1.2157	1.2182	1.1833	1.2129	1.1391
	25	0.9163	0.9163	0.9112	0.9068	0.8993	0.8826	0.8780	0.8438
	75	1.0770	1.0770	1.0711	1.0645	1.0655	1.0403	1.0523	0.9998
0.5	10	1.1060	1.1060	1.1037	1.0966	1.0955	1.0685	1.0870	1.0301
	15	1.1382	1.1382	1.1377	1.1300	1.1318	1.1024	1.1239	1.0619
	20	1.1574	1.1574	1.1554	1.1474	1.1511	1.1204	1.1433	1.0785
	25	0.5810	0.5810	0.5796	0.5782	0.5723	0.5669	0.5592	0.5476
	75	0.6943	0.6943	0.6946	0.6925	0.6907	0.6825	0.6829	0.6653
1	10	0.7188	0.7188	0.7180	0.7158	0.7141	0.7052	0.7092	0.6900
	15	0.7459	0.7459	0.7470	0.7445	0.7415	0.7318	0.7380	0.7169
	20	0.7650	0.7650	0.7625	0.7599	0.7617	0.7513	0.7560	0.7336

Table 7. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 0.5$ and $D_u/D_l = 1/2$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
•	•	$ar{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{ m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\!\scriptscriptstyle \mathrm{y}}$	$ar{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle m y}$
	25	1.3478	1.3478	1.3217	1.2926	1.2484	1.1566	1.1475	0.9980
	75	1.5007	1.5007	1.4790	1.4406	1.4377	1.3092	1.3657	1.1452
-1	10	1.5315	1.5315	1.5153	1.4742	1.4693	1.3337	1.4111	1.1733
	15	1.5631	1.5631	1.5497	1.5062	1.5149	1.3686	1.4652	1.2059
	20	1.5828	1.5828	1.5724	1.5271	1.5398	1.3875	1.4954	1.2238
	25	1.9740	1.9740	1.9214	1.8395	1.7919	1.5567	1.6258	1.2775
	75	2.2248	2.2248	2.1846	2.0719	2.0804	1.7531	1.9503	1.4473
-0.5	10	2.2632	2.2632	2.2300	2.1112	2.1398	1.7902	2.0104	1.4750
	15	2.3157	2.3157	2.2850	2.1584	2.2074	1.8315	2.0922	1.5102
	20	2.3468	2.3468	2.3184	2.1868	2.2494	1.8564	2.1479	1.5325
	25	2.0710	2.0710	2.0147	1.9218	1.8531	1.5990	1.6959	1.3031
	75	2.3201	2.3201	2.2801	2.1545	2.1821	1.8167	2.0327	1.4845
0	10	2.3681	2.3681	2.3285	2.1960	2.2359	1.8501	2.1023	1.5150
	15	2.4201	2.4201	2.3937	2.2513	2.3016	1.8891	2.1893	1.5513
	20	2.4548	2.4548	2.4275	2.2798	2.3517	1.9178	2.2406	1.5712
	25	1.1693	1.1693	1.1254	1.1055	1.0449	0.9821	0.9387	0.8385
	75	1.3804	1.3804	1.3523	1.3223	1.2956	1.1968	1.2128	1.0447
0.5	10	1.4275	1.4275	1.3997	1.3671	1.3435	1.2363	1.2771	1.0895
	15	1.4792	1.4792	1.4612	1.4248	1.4110	1.2909	1.3427	1.1342
	20	1.5152	1.5152	1.4941	1.4557	1.4487	1.3209	1.3941	1.1670
	25	0.3988	0.3988	0.3913	0.3904	0.3723	0.3690	0.3467	0.3405
	75	0.4514	0.4514	0.4453	0.4441	0.4317	0.4273	0.4127	0.4039
1	10	0.4614	0.4614	0.4569	0.4556	0.4438	0.4391	0.4272	0.4177
	15	0.4766	0.4766	0.4717	0.4703	0.4591	0.4540	0.4450	0.4345
	20	0.4842	0.4842	0.4808	0.4794	0.4692	0.4638	0.4553	0.4443

Table 8. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 1.0$ and $D_u/D_l = 1/2$

μ	n	λ =	=0	$\lambda =$	0.1	$\lambda =$	0.2	$\lambda =$	0.3
•	•	$ar{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\!\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$
	25	0.8190	0.8190	0.8146	0.8074	0.8006	0.7739	0.7746	0.7222
	75	0.9535	0.9535	0.9497	0.9392	0.9363	0.8976	0.9170	0.8400
-1	10	0.9786	0.9786	0.9754	0.9641	0.9629	0.9213	0.9447	0.8622
	15	1.0059	1.0059	1.0014	0.9892	0.9921	0.9472	0.9779	0.8880
	20	1.0216	1.0216	1.0201	1.0074	1.0118	0.9646	0.9987	0.9040
	25	0.9992	0.9992	0.9895	0.9777	0.9700	0.9272	0.9345	0.8531
	75	1.1357	1.1357	1.1270	1.1105	1.1143	1.0544	1.0917	0.9752
-0.5	10	1.1575	1.1575	1.1540	1.1365	1.1382	1.0751	1.1217	0.9971
	15	1.1856	1.1856	1.1819	1.1632	1.1711	1.1030	1.1529	1.0199
	20	1.2020	1.2020	1.1996	1.1802	1.1863	1.1159	1.1718	1.0334
	25	0.9988	0.9988	0.9908	0.9789	0.9635	0.9213	0.9268	0.8469
	75	1.1529	1.1529	1.1529	1.1356	1.1316	1.0699	1.1096	0.9894
0	10	1.1819	1.1819	1.1763	1.1581	1.1628	1.0967	1.1383	1.0106
	15	1.2115	1.2115	1.2071	1.1876	1.1926	1.1221	1.1760	1.0376
	20	1.2272	1.2272	1.2241	1.2037	1.2111	1.1376	1.1955	1.0514
	25	0.6767	0.6767	0.6713	0.6666	0.6506	0.6337	0.6118	0.5801
	75	0.8628	0.8628	0.8587	0.8507	0.8424	0.8128	0.8161	0.7584
0.5	10	0.8976	0.8976	0.8954	0.8865	0.8816	0.8487	0.8583	0.7936
	15	0.9433	0.9433	0.9389	0.9289	0.9301	0.8927	0.9113	0.8369
	20	0.9727	0.9727	0.9704	0.9595	0.9582	0.9181	0.9408	0.8608
	25	0.3026	0.3026	0.3021	0.3016	0.2965	0.2944	0.2826	0.2784
	75	0.3718	0.3718	0.3687	0.3680	0.3637	0.3608	0.3549	0.3488
1	10	0.3852	0.3852	0.3829	0.3821	0.3780	0.3749	0.3692	0.3626
	15	0.4030	0.4030	0.4036	0.4027	0.3967	0.3932	0.3895	0.3821
	20	0.4169	0.4169	0.4151	0.4141	0.4092	0.4055	0.4035	0.3955

Table 9. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, $\sigma = 0.5$ and $D_u/D_l = 1/3$

μ	n	λ =	=0	$\lambda =$	0.1	λ=0	0.2	λ=().3
·	•	$\overline{L}_{\scriptscriptstyle \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	$\overline{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\scriptscriptstyle \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$
	25	0.225	0.225	0.2203	0.2200	0.2027	0.2017	0.1835	0.1816
	75	0.257	0.257	0.2520	0.2516	0.2394	0.2381	0.2241	0.2214
-1	10	0.263	0.263	0.2577	0.2573	0.2459	0.2445	0.2305	0.2277
	15	0.270	0.270	0.2670	0.2666	0.2561	0.2545	0.2438	0.2406
	20	0.275	0.275	0.2720	0.2715	0.2625	0.2608	0.2511	0.2477
	25	0.732	0.732	0.6976	0.6877	0.6221	0.5927	0.5318	0.4870
	75	0.881	0.881	0.8529	0.8386	0.7863	0.7418	0.7101	0.6379
- 0.5	10	0.911	0.911	0.8838	0.8684	0.8227	0.7743	0.7555	0.6737
0.5	15	0.951	0.951	0.9278	0.9106	0.8689	0.8146	0.8074	0.7144
	20	0.978	0.978	0.9574	0.9388	0.9044	0.8449	0.8449	0.7424
	25	2.031	2.031	1.9192	1.7798	1.6604	1.3477	1.4374	1.0079
	75	2.321	2.321	2.2477	2.0455	2.0614	1.5772	1.8616	1.2169
0	10	2.368	2.368	2.3005	2.0863	2.1386	1.6148	1.9334	1.2462
	15	2.422	2.422	2.3702	2.1391	2.2257	1.6551	2.0483	1.2812
	20	2.451	2.451	2.4035	2.1642	2.2763	1.6774	2.1049	1.2976
	25	2.016	2.016	1.9225	1.7833	1.7356	1.3931	1.5353	1.0817
	75	2.260	2.260	2.1920	2.0017	2.0300	1.5606	1.8412	1.2127
0.5	10	2.305	2.305	2.2427	2.0413	2.0988	1.5942	1.9167	1.2388
	15	2.354	2.354	2.3066	2.0902	2.1695	1.6280	2.0055	1.2670
	20	2.386	2.386	2.3383	2.1143	2.2202	1.6509	2.0608	1.2836
	25	1.548	1.548	1.4947	1.4251	1.3657	1.1783	1.2009	0.9473
	75	1.721	1.721	1.6811	1.5878	1.5891	1.3258	1.4649	1.0788
1	10	1.752	1.752	1.7222	1.6229	1.6292	1.3505	1.5276	1.1058
	15	1.791	1.791	1.7641	1.6583	1.6862	1.3843	1.5931	1.1324
	20	1.815	1.815	1.7884	1.6787	1.7227	1.4053	1.6342	1.1490

Table 10. Average values of generalized lower confidence limits with and without considering GME for different λ under 95% confidence level, σ = 1.0 and D_u/D_l = 1/3

μ	n	λ =	=0	$\lambda =$	-0.1	$\lambda =$	0.2	$\lambda = 0$	0.3
·	-	$\overline{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle X}$	$\overline{L}_{\scriptscriptstyle m y}$	$\overline{L}_{\scriptscriptstyle \! x}$	$\overline{L}_{\scriptscriptstyle \mathrm{y}}$	$\overline{L}_{\!\scriptscriptstyle x}$	$\overline{L}_{\!\scriptscriptstyle \mathrm{y}}$
	25	0.8957	0.8957	0.8863	0.8708	0.8537	0.8012	0.9616	0.8239
	75	1.0262	1.0262	1.0189	0.9969	0.9972	0.9212	0.9908	0.8432
-1	100	1.0496	1.0496	1.0452	1.0216	1.0222	0.9413	1.0277	0.8668
	150	1.0755	1.0755	1.0729	1.0476	1.0543	0.9667	1.0492	0.8803
	200	1.0931	1.0931	1.0880	1.0617	1.0744	0.9826	0.9129	0.7886
	25	1.0168	1.0168	1.0029	0.9815	0.9700	0.8978	1.0721	0.8957
	75	1.1424	1.1424	1.1365	1.1072	1.1104	1.0115	1.1042	0.9155
- 0.5	100	1.1685	1.1685	1.1584	1.1277	1.1326	1.0289	1.1353	0.9342
0.5	150	1.1936	1.1936	1.1890	1.1561	1.1680	1.0559	1.1592	0.9480
	200	1.2128	1.2128	1.2057	1.1715	1.1889	1.0716	0.8011	0.7041
	25	0.9404	0.9404	0.9271	0.9092	0.8729	0.8148	1.0548	0.8852
	75	1.1434	1.1434	1.1344	1.1055	1.1048	1.0075	1.0954	0.9109
0	100	1.1747	1.1747	1.1655	1.1345	1.1399	1.0350	1.1436	0.9401
	150	1.2056	1.2056	1.2009	1.1673	1.1784	1.0644	1.1674	0.9540
	200	1.2242	1.2242	1.2188	1.1839	1.1984	1.0795	0.3931	0.3727
	25	0.4715	0.4715	0.4608	0.4573	0.4305	0.4188	0.5558	0.5177
	75	0.6175	0.6175	0.6064	0.6007	0.5822	0.5623	0.5906	0.5478
0.5	100	0.6483	0.6483	0.6428	0.6364	0.6206	0.5980	0.6402	0.5897
	150	0.6911	0.6911	0.6847	0.6774	0.6653	0.6391	0.6726	0.6168
	200	0.7197	0.7197	0.7106	0.7026	0.6928	0.6642	0.1574	0.1558
	25	0.1774	0.1774	0.1728	0.1726	0.1678	0.1671	0.1999	0.1978
	75	0.2172	0.2172	0.2153	0.2151	0.2073	0.2063	0.2100	0.2077
1	100	0.2251	0.2251	0.2236	0.2233	0.2174	0.2163	0.2236	0.2210
	150	0.2375	0.2375	0.2346	0.2343	0.2295	0.2283	0.2331	0.2302
	200	0.2449	0.2449	0.2438	0.2435	0.2381	0.2367	0.9616	0.8239

Appendix C

Average values of $\overline{L}_{\!_{X}}$ and $\overline{L}_{\!_{y}}$ versus λ under different $D_{\!_{u}}$ / $D_{\!_{l}}$ for σ =1.0

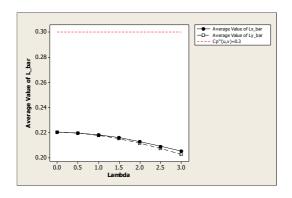
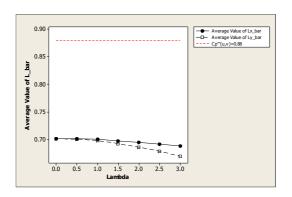


Figure 1. Average values of \overline{L}_x and \overline{L}_y against λ under $D_u/D_l=3/1$.

Figure 2. Values of \overline{L}_x and \overline{L}_y against λ under $D_u/D_l=2/1$.



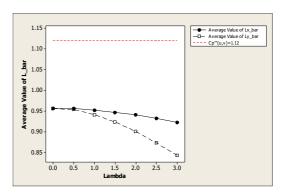


Figure 3. Average values of \overline{L}_x and \overline{L}_y against λ under $D_u/D_l=1/1$.

Figure 4. Average values of \overline{L}_x and \overline{L}_y against λ under $D_u/D_l=1/2$.

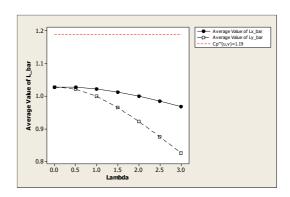
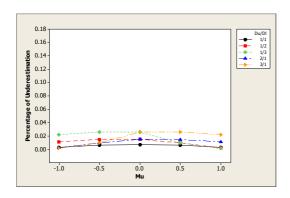
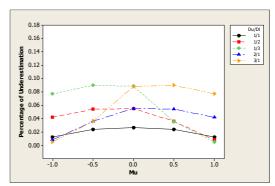


Figure 5. Average values of \overline{L}_x and \overline{L}_y against λ under $D_u/D_l=1/3$.

Appendix D

Percentage of underestimation





 μ and D_u/D_l under $\lambda = 0.1$.

Figure 1. UP for different combinations of Figure 2. UP for different combinations of μ and D_u/D_l under $\lambda = 0.2$.

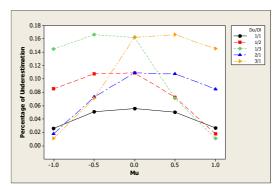


Figure 3. UP for different combinations of μ and D_{u}/D_{t} under $\lambda = 0.3$.

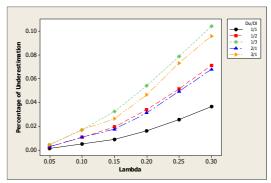


Figure 4. UP versus λ under different $D_{\scriptscriptstyle u}/D_{\scriptscriptstyle l}$ and σ = 0.5 .