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## Supplement — Estimation and prediction for the half-normal distribution based on progressively type-II censored samples

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### 1. SUPPLEMENTARY FILE

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CSs	$k$	$j$		$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
(5*m)	$k=10$	$j=2$	CPs	0.0448(-0.1081)	0.0332(-0.0125)	0.0353(-0.0145)	0.0332(-0.0125)	0.0353(-0.0145)
			ALs	[0.8912]	[0.9502]	[0.9384]	[0.9316]	[0.9216]
		$j=3$	CPs	[0.6566]	[0.6935]	[0.6889]	[0.7604]	[0.7550]
			ALs	0.0574(-0.0840)	0.0504(-0.0206)	0.0558(-0.0235)	0.0504(-0.0206)	0.0558(-0.0235)
		$j=4$	CPs	[0.9312]	[0.9576]	[0.9384]	[0.9348]	[0.9214]
			ALs	[0.9317]	[0.8775]	[0.8720]	[0.9587]	[0.9524]
		$j=5$	CPs	0.0907(-0.0908)	0.0850(-0.0577)	0.0940(-0.0603)	0.0850(-0.0577)	0.0940(-0.0603)
			ALs	[0.9320]	[0.9516]	[0.9334]	[0.9382]	[0.9266]
	$k=20$	$j=2$	CPs	[1.1305]	[1.0956]	[1.0914]	[1.2104]	[1.2054]
			ALs	0.1600(-0.1032)	0.1581(-0.1233)	0.1787(-0.1262)	0.1581(-0.1233)	0.1787(-0.1262)
		$j=3$	CPs	[0.9342]	[0.9538]	[0.9364]	[0.9480]	[0.9350]
			ALs	[1.3442]	[1.5139]	[1.5094]	[1.7620]	[1.7564]
		$j=4$	CPs	[0.8906]	[0.9474]	[0.9370]	[0.9328]	[0.9228]
			ALs	[0.6575]	[0.6707]	[0.6675]	[0.7330]	[0.7289]
	$k=30$	$j=3$	CPs	0.0559(-0.0869)	0.0486(-0.0234)	0.0535(-0.0251)	0.0486(-0.0234)	0.0535(-0.0251)
			ALs	[0.9264]	[0.9516]	[0.9364]	[0.9386]	[0.9274]
		$j=4$	CPs	[0.8354]	[0.8538]	[0.8506]	[0.9311]	[0.9268]
			ALs	0.0844(-0.0859)	0.0791(-0.0509)	0.0869(-0.0555)	0.0791(-0.0509)	0.0869(-0.0555)
		$j=5$	CPs	[0.9356]	[0.9528]	[0.9338]	[0.9382]	[0.9330]
			ALs	[1.0703]	[1.0730]	[1.0656]	[1.1838]	[1.1750]
		$j=5$	CPs	0.1605(-0.1081)	0.1603(-0.1266)	0.1774(-0.1296)	0.1603(-0.1266)	0.1774(-0.1296)
			ALs	[0.9336]	[0.9544]	[0.9338]	[0.9466]	[0.9314]
			CPs	[1.5441]	[1.4927]	[1.4881]	[1.7343]	[1.7281]

**Table 1:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=1$ ,  $m=40$ ,  $\mathbf{r}=(5,5,\dots,5)$

CSs	$k$	$j$	$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$(10^*m)$	$k=10$	$j=2$	0.0149(-0.0680) [0.8538]	0.0103(-0.0034) [0.9540]	0.0108(-0.0036) [0.9478]	0.0103(-0.0034) [0.9420]	0.0108(-0.0036) [0.9386]
		$j=3$	0.0192(-0.0590) [0.9056]	0.0157(-0.0055) [0.9492]	0.0171(-0.0069) [0.9358]	0.0157(-0.0055) [0.9406]	0.0171(-0.0069) [0.9296]
		$j=4$	0.0224(-0.0496) [0.9316]	0.0199(-0.0057) [0.9538]	0.0227(-0.0051) [0.9324]	0.0199(-0.0057) [0.9438]	0.0227(-0.0051) [0.9256]
		$j=5$	0.0265(-0.0439) [0.9428]	0.0247(-0.0080) [0.9554]	0.0282(-0.0098) [0.9314]	0.0247(-0.0080) [0.9398]	0.0282(-0.0098) [0.9266]
		$j=6$	0.0323(-0.0431) [0.9458]	0.0306(-0.0151) [0.9556]	0.0362(-0.0156) [0.9310]	0.0306(-0.0151) [0.9474]	0.0362(-0.0156) [0.9220]
		$j=7$	0.0403(-0.0406) [0.9446]	0.0389(-0.0206) [0.6884]	0.0480(-0.0211) [0.6878]	0.0389(-0.0206) [0.7227]	0.0480(-0.0211) [0.7219]
		$j=8$	0.0535(-0.0480) [0.9392]	0.0519(-0.0371) [0.9494]	0.0658(-0.0412) [0.9130]	0.0519(-0.0371) [0.9458]	0.0658(-0.0412) [0.9120]
		$j=9$	0.0749(-0.0567) [0.9370]	0.0746(-0.0602) [0.9536]	0.0918(-0.0660) [0.9170]	0.0746(-0.0602) [0.9462]	0.0918(-0.0660) [0.9164]
		$j=10$	0.1438(-0.0882) [0.9304]	0.1473(-0.1353) [0.9532]	0.1812(-0.1397) [0.9198]	0.1473(-0.1353) [0.9510]	0.1812(-0.1397) [0.9240]
			ALs [1.3090]	ALs [1.4030]	ALs [1.4038]	ALs [1.6078]	ALs [1.6017]
$k=20$	$k=20$	$j=2$	0.0135(-0.0631) [0.8510]	0.0096(0.0001) [0.9472]	0.0101(-0.0002) [0.9390]	0.0096(0.0001) [0.9334]	0.0101(-0.0001) [0.9278]
		$j=3$	0.0184(-0.0579) [0.3395]	0.0151(-0.0052) [0.3787]	0.0163(-0.0063) [0.3778]	0.0151(-0.0052) [0.4008]	0.0163(-0.0062) [0.3995]
		$j=4$	0.0219(-0.0532) [0.9040]	0.0191(-0.0093) [0.9468]	0.0216(-0.0111) [0.9350]	0.0191(-0.0093) [0.9368]	0.0216(-0.0111) [0.9252]
		$j=5$	0.0262(-0.0441) [0.4613]	0.0243(-0.0081) [0.4644]	0.0280(-0.0105) [0.4623]	0.0243(-0.0081) [0.4892]	0.0280(-0.0105) [0.4867]
		$j=6$	0.0325(-0.0435) [0.9260]	0.0307(-0.0152) [0.5420]	0.0366(-0.0166) [0.5349]	0.0307(-0.0152) [0.5648]	0.0366(-0.0166) [0.5614]
		$j=7$	0.0416(-0.0470) [0.6037]	0.0399(-0.0264) [0.6070]	0.0482(-0.0294) [0.6035]	0.0399(-0.0264) [0.6366]	0.0482(-0.0294) [0.6326]
		$j=8$	0.0531(-0.0507) [0.9432]	0.0515(-0.0401) [0.6720]	0.0643(-0.0410) [0.6783]	0.0515(-0.0401) [0.7119]	0.0643(-0.0410) [0.7096]
		$j=9$	0.0735(-0.0652) [0.7736]	0.0730(-0.0693) [0.7595]	0.0910(-0.0707) [0.7557]	0.0730(-0.0693) [0.7998]	0.0910(-0.0707) [0.7956]
		$j=10$	0.1389(-0.0806) [0.9344]	0.1451(-0.1287) [0.9504]	0.1716(-0.1293) [0.9162]	0.1451(-0.1287) [0.9480]	0.1716(-0.1293) [0.9248]
			ALs [1.3275]	ALs [1.4004]	ALs [1.3998]	ALs [1.5966]	ALs [1.5955]
$k=30$	$k=30$	$j=2$	0.0133(-0.0632) [0.8494]	0.0093(-0.0021) [0.9514]	0.0099(-0.0061) [0.9380]	0.0093(-0.0021) [0.9356]	0.0099(-0.0060) [0.9290]
		$j=3$	0.0167(-0.0558) [0.9068]	0.0136(-0.0042) [0.9512]	0.0148(-0.0083) [0.9354]	0.0136(-0.0042) [0.9412]	0.0148(-0.0083) [0.9280]
		$j=4$	0.0213(-0.0509) [0.9254]	0.0187(-0.0075) [0.4485]	0.0210(-0.0139) [0.9268]	0.0187(-0.0075) [0.9376]	0.0210(-0.0138) [0.9238]
		$j=5$	0.0253(-0.0461) [0.5290]	0.0231(-0.0103) [0.5215]	0.0278(-0.0158) [0.5108]	0.0231(-0.0103) [0.5468]	0.0278(-0.0158) [0.5356]
		$j=6$	0.0312(-0.0458) [0.6090]	0.0293(-0.0170) [0.5906]	0.0344(-0.0232) [0.1027]	0.0293(-0.0170) [0.6187]	0.0344(-0.0231) [0.6100]
		$j=7$	0.0386(-0.0446) [0.7549]	0.0371(-0.0238) [0.7439]	0.0451(-0.0252) [0.7422]	0.0371(-0.0238) [0.7829]	0.0451(-0.0252) [0.7805]
		$j=8$	0.0473(-0.0392) [0.9424]	0.0460(-0.0274) [0.8428]	0.0588(-0.0303) [0.8490]	0.0460(-0.0274) [0.9008]	0.0588(-0.0303) [0.8967]
		$j=9$	0.0719(-0.0555) [1.0627]	0.0710(-0.0575) [1.0128]	0.0905(-0.0642) [1.0054]	0.0710(-0.0575) [1.0939]	0.0905(-0.0642) [1.0854]
		$j=10$	0.1394(-0.0947) [0.9300]	0.1455(-0.1412) [0.9486]	0.1753(-0.1436) [0.9098]	0.1455(-0.1412) [0.9480]	0.1753(-0.1436) [0.9230]
			ALs [1.2196]	ALs [1.3861]	ALs [1.3834]	ALs [1.5782]	ALs [1.5743]

**Table 2:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=1$ ,  $m=40$ ,  $\mathbf{r}=(10, 10, \dots, 10)$

CSs	$k$	$j$		$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$(5^*m)$	$k=25$	$j=2$	CPs	0.0450(-0.1051) [0.8930]	0.0341(-0.0104) [0.9466]	0.0347(-0.0110) [0.9466]	0.0341(-0.0104) [0.9290]	0.0347(-0.0110) [0.9242]
			ALs	[0.6930]	[0.6934]	[0.6920]	[0.7602]	[0.7585]
		$j=3$	CPs	0.0600(-0.0840) [0.9310]	0.0534(-0.0230) [0.9492]	0.0553(-0.0238) [0.9426]	0.0534(-0.0230) [0.9310]	0.0553(-0.0238) [0.9258]
			ALs	[0.9070]	[0.8773]	[0.8760]	[0.9585]	[0.9568]
		$j=4$	CPs	0.0899(-0.0829) [0.9350]	0.0854(-0.0527) [0.9430]	0.0893(-0.0541) [0.9378]	0.0854(-0.0527) [0.9350]	0.0893(-0.0541) [0.9300]
			ALs	[1.1202]	[1.0954]	[1.0931]	[1.2102]	[1.2075]
			CPs	0.1683(-0.1153) [0.9264]	0.1701(-0.1322) [0.9500]	0.1781(-0.1342) [0.9406]	0.1701(-0.1322) [0.9442]	0.1781(-0.1342) [0.9386]
		$j=5$	ALs	[1.3327]	[1.5137]	[1.5105]	[1.7617]	[1.7579]
			CPs					
	$k=50$	$j=2$	CPs	0.0441(-0.1102) [0.8800]	0.0323(-0.0172) [0.9490]	0.0330(-0.0179) [0.9458]	0.0323(-0.0172) [0.9304]	0.0330(-0.0178) [0.9272]
			ALs	[0.6650]	[0.6700]	[0.6686]	[0.7322]	[0.7303]
		$j=3$	CPs	0.0563(-0.0844) [0.9316]	0.0496(-0.0227) [0.9488]	0.0517(-0.0244) [0.9404]	0.0496(-0.0227) [0.9320]	0.0517(-0.0244) [0.9310]
			ALs	[0.8715]	[0.8535]	[0.8503]	[0.9307]	[0.9270]
		$j=4$	CPs	0.0844(-0.0888) [0.9360]	0.0795(-0.0573) [0.9530]	0.0829(-0.0578) [0.9454]	0.0795(-0.0573) [0.9398]	0.0829(-0.0578) [0.9344]
			ALs	[1.0753]	[1.0723]	[1.0716]	[1.1830]	[1.1818]
			CPs	0.1594(-0.1094) [0.9300]	0.1592(-0.1236) [0.9480]	0.1692(-0.1262) [0.9406]	0.1592(-0.1236) [0.9424]	0.1692(-0.1262) [0.9334]
		$j=5$	ALs	[1.4583]	[1.4923]	[1.4882]	[1.7337]	[1.7287]
			CPs					
$k=75$	$j=2$	$j=2$	CPs	0.0390(-0.1037) [0.8732]	0.0284(-0.0137) [0.9520]	0.0293(-0.0145) [0.9454]	0.0284(-0.0137) [0.9346]	0.0293(-0.0144) [0.9282]
			ALs	[0.6079]	[0.6351]	[0.6332]	[0.6905]	[0.6880]
			CPs	0.0543(-0.0910) [0.9198]	0.0467(-0.0291) [0.9496]	0.0488(-0.0300) [0.9462]	0.0467(-0.0291) [0.9384]	0.0488(-0.0300) [0.9298]
		$j=4$	ALs	[0.8280]	[0.8169]	[0.8151]	[0.8880]	[0.8855]
			CPs	0.0815(-0.0914) [0.9282]	0.0761(-0.0571) [0.9436]	0.0796(-0.0593) [0.9378]	0.0761(-0.0571) [0.9400]	0.0796(-0.0592) [0.9334]
	$j=5$	$j=4$	ALs	[1.0832]	[1.0366]	[1.0332]	[1.1408]	[1.1366]
			CPs	0.1543(-0.1135) [0.9244]	0.1553(-0.1259) [0.9512]	0.1620(-0.1256) [0.9402]	0.1553(-0.1259) [0.9456]	0.1620(-0.1256) [0.9380]
			ALs	[1.3306]	[1.4578]	[1.4582]	[1.6884]	[1.6882]
		$j=5$	CPs					
			ALs					

**Table 3:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=1$ ,  $m=100$ ,  $\mathbf{r}=(5,5,\dots,5)$

CSs	$k$	$j$	$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$(10^*m)$	$k=25$	$j=2$	0.1532(-0.0670) [0.8500] [0.3516]	0.0108(-0.0025) [0.9502] [0.3879]	0.0109(-0.0031) [0.9464] [0.3865]	0.0108(-0.0025) [0.9388] [0.4113]	0.0109(-0.0031) [0.9344] [0.4096]
		$j=3$	0.0189(-0.0480) [0.9078] [0.4695]	0.0154(-0.0050) [0.9496] [0.4744]	0.0159(-0.0060) [0.9442] [0.4745]	0.0154(-0.0060) [0.9364] [0.5003]	0.0159(-0.0060) [0.9346] [0.5004]
		$j=4$	0.0229(-0.0536) [0.9300] [0.5547]	0.0201(-0.0103) [0.9546] [0.5482]	0.0212(-0.0113) [0.9464] [0.5465]	0.0201(-0.0103) [0.9450] [0.5761]	0.0212(-0.0113) [0.9372] [0.5743]
		$j=5$	0.0288(-0.0476) [0.9326] [0.6301]	0.0267(-0.0129) [0.9448] [0.6174]	0.0283(-0.0140) [0.9336] [0.6158]	0.0267(-0.0129) [0.9376] [0.6478]	0.0283(-0.0140) [0.9304] [0.6461]
		$j=6$	0.0336(-0.0433) [0.9392] [0.6970]	0.0320(-0.0167) [0.9520] [0.6884]	0.0347(-0.0175) [0.9370] [0.6873]	0.0320(-0.0167) [0.9438] [0.7227]	0.0347(-0.0175) [0.9302] [0.7216]
		$j=7$	0.0410(-0.0440) [0.9504] [0.7888]	0.0396(-0.0257) [0.9512] [0.7691]	0.0433(-0.0267) [0.9392] [0.7678]	0.0396(-0.0257) [0.9384] [0.8102]	0.0433(-0.0267) [0.9308] [0.8089]
		$j=8$	0.0526(-0.0462) [0.9460] [0.8646]	0.0517(-0.0374) [0.9510] [0.8732]	0.0568(-0.0390) [0.9394] [0.8714]	0.0517(-0.0374) [0.9470] [0.9275]	0.0568(-0.0390) [0.9338] [0.9255]
		$j=9$	0.0701(-0.0527) [0.9450] [1.0540]	0.0701(-0.0572) [0.9524] [1.0360]	0.0780(-0.0598) [0.9338] [1.0330]	0.0701(-0.0572) [0.9476] [1.1204]	0.0780(-0.0598) [0.9372] [1.1172]
		$j=10$	0.1454(-0.0982) [0.9228] [1.4886]	0.1520(-0.1369) [0.9478] [1.4089]	0.1638(-0.1361) [0.9358] [1.4099]	0.1520(-0.1369) [0.9476] [1.6077]	0.1638(-0.1361) [0.9358] [1.6087]
$m=50$	$k=50$	$j=2$	0.0144(-0.0659) [0.8514] [0.3377]	0.0100(-0.0028) [0.9520] [0.3786]	0.0103(-0.0029) [0.9482] [0.3783]	0.0100(-0.0028) [0.9396] [0.4006]	0.0103(-0.0029) [0.9352] [0.4002]
		$j=3$	0.0178(-0.0567) [0.9070] [0.4506]	0.0146(-0.0044) [0.9526] [0.4642]	0.0151(-0.0049) [0.9442] [0.4632]	0.0146(-0.0044) [0.9414] [0.4889]	0.0151(-0.0049) [0.9376] [0.4878]
		$j=4$	0.0220(-0.0502) [0.9284] [0.5454]	0.0195(-0.0072) [0.9516] [0.5376]	0.0205(-0.0080) [0.9442] [0.5364]	0.0195(-0.0072) [0.9408] [0.5646]	0.0205(-0.0080) [0.9350] [0.5631]
		$j=5$	0.0269(-0.0469) [0.9380] [0.6267]	0.0248(-0.0122) [0.9524] [0.6069]	0.0262(-0.0130) [0.9430] [0.6057]	0.0248(-0.0122) [0.9424] [0.6364]	0.0262(-0.0130) [0.9340] [0.6351]
		$j=6$	0.0349(-0.0454) [0.9362] [0.6889]	0.0332(-0.0186) [0.9432] [0.6781]	0.0353(-0.0195) [0.9330] [0.6769]	0.0332(-0.0186) [0.9320] [0.7117]	0.0353(-0.0195) [0.9252] [0.7103]
		$j=7$	0.0401(-0.0420) [0.9438] [0.7597]	0.0387(-0.0234) [0.9494] [0.7592]	0.0427(-0.0239) [0.9334] [0.7586]	0.0387(-0.0234) [0.9424] [0.7995]	0.0427(-0.0239) [0.9304] [0.7988]
		$j=8$	0.0539(-0.0511) [0.9374] [0.8610]	0.0530(-0.0421) [0.9444] [0.8638]	0.0574(-0.0419) [0.9356] [0.8640]	0.0530(-0.0421) [0.9416] [0.9170]	0.0574(-0.0419) [0.9278] [0.9171]
		$j=9$	0.0730(-0.0641) [0.9384] [1.0173]	0.0728(-0.0681) [0.9496] [1.0270]	0.0813(-0.0702) [0.9336] [1.0246]	0.0728(-0.0681) [0.9470] [1.1101]	0.0813(-0.0702) [0.9370] [1.1075]
		$j=10$	0.1384(-0.0887) [0.9296] [1.3282]	0.1434(-0.1259) [0.9472] [1.4001]	0.1568(-0.1265) [0.9358] [1.3995]	0.1434(-0.1259) [0.9486] [1.5963]	0.1568(-0.1265) [0.9416] [1.5954]
$m=75$	$k=75$	$j=2$	0.0133(-0.0637) [0.8500] [0.3232]	0.0092(-0.0028) [0.9520] [0.3640]	0.0095(-0.0032) [0.9452] [0.3632]	0.0092(-0.0028) [0.9428] [0.3841]	0.0095(-0.0031) [0.9364] [0.3831]
		$j=3$	0.0171(-0.0551) [0.9032] [0.4389]	0.0141(-0.0039) [0.9468] [0.4481]	0.0146(-0.0043) [0.9442] [0.4475]	0.0141(-0.0039) [0.9348] [0.4711]	0.0146(-0.0042) [0.9320] [0.4702]
		$j=4$	0.0211(-0.0499) [0.9292] [0.5177]	0.0186(-0.0075) [0.9464] [0.5209]	0.0197(-0.0071) [0.9430] [0.5214]	0.0186(-0.0075) [0.9390] [0.5462]	0.0197(-0.0071) [0.9318] [0.5464]
		$j=5$	0.0249(-0.0472) [0.9400] [0.5898]	0.0228(-0.0125) [0.9554] [0.5901]	0.0243(-0.0145) [0.9446] [0.5872]	0.0228(-0.0125) [0.9438] [0.6182]	0.0243(-0.0145) [0.9406] [0.6150]
		$j=6$	0.0308(-0.0440) [0.9430] [0.6746]	0.0292(-0.0168) [0.9546] [0.6618]	0.0313(-0.0195) [0.9398] [0.6583]	0.0292(-0.0168) [0.9472] [0.6939]	0.0313(-0.0194) [0.9396] [0.6901]
		$j=7$	0.0367(-0.0395) [0.9476] [0.7591]	0.0355(-0.0201) [0.9522] [0.7434]	0.0387(-0.0217) [0.9408] [0.7416]	0.0355(-0.0201) [0.9448] [0.7824]	0.0387(-0.0216) [0.9342] [0.7802]
		$j=8$	0.0533(-0.0477) [0.9396] [0.8587]	0.0521(-0.0375) [0.9420] [0.8486]	0.0578(-0.0368) [0.9398] [0.8493]	0.0521(-0.0375) [0.9364] [0.9002]	0.0578(-0.0368) [0.9196] [0.9007]
		$j=9$	0.0703(-0.0593) [0.9380] [0.9899]	0.0701(-0.0626) [0.9528] [1.0123]	0.0769(-0.0559) [0.9372] [1.0197]	0.0701(-0.0626) [0.9486] [1.0932]	0.0769(-0.0559) [0.9330] [1.1008]
		$j=10$	0.1488(-0.1081) [0.9156] [1.1685]	0.1548(-0.1430) [0.9456] [1.3858]	0.1623(-0.1235) [0.9324] [1.4088]	0.1548(-0.1430) [0.9444] [1.5777]	0.1623(-0.1235) [0.9320] [1.6031]

**Table 4:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=1$ ,  $m=100$ ,  $\mathbf{r}=(10,10,\dots,10)$

$n$	$m$	Censoring Schemes	$\hat{\theta}$	$\tilde{\theta}$	$\tilde{\theta}_{revised}$	$\theta^*$	$\theta^{*(a)}$	$\theta^{*(a)}_{revised}$
10	10	(10*0)	0.0121 (-0.0126)	0.0121 (-0.0126)	0.0121 (-0.0126)	0.0141 (-0.0673)	0.0129 (-0.0482)	0.0124 (-0.0399)
20	10	(10*1)	0.0146 (-0.0122)	0.0120	0.0120	0.0096	0.0106	0.0108
10	(5, 8*, 5)	0.0146 (-0.0126)	0.0155 (0.0005)	0.0146 (-0.0122)	0.0164 (-0.0722)	0.0150 (-0.0481)	0.0146 (-0.0423)	
10	(5, 5, 8*)	0.0126 (-0.0123)	0.0127 (-0.0051)	0.0126 (-0.0123)	0.0164 (-0.0684)	0.0148 (-0.0493)	0.0146 (-0.0403)	
10	(8*, 0, 5)	0.0158 (-0.0116)	0.0150	0.0144	0.0112	0.0127	0.0129	
10	(4*, 0, 5, 5*)	0.0158 (-0.0116)	0.0160 (-0.0079)	0.0158 (-0.0116)	0.0175 (-0.0744)	0.0158 (-0.0457)	0.0157 (-0.0433)	
10	(4*, 0, 5, 5*)	0.0104 (-0.0123)	0.0141 (-0.0106)	0.0140 (-0.0123)	0.0159 (-0.0711)	0.0148 (-0.0510)	0.0142 (-0.0416)	
20	(20*0)	0.0061 (-0.0050)	0.0139	0.0140	0.0139	0.0109	0.0122	0.0125
40	(20*1)	0.0061 (-0.0050)	0.0061	0.0061	0.0061	0.0055	0.0059	0.0059
20	(10, 18*, 0)	0.0072 (-0.0067)	0.0079 (0.0051)	0.0072 (-0.0067)	0.0078 (-0.0394)	0.0074 (-0.0257)	0.0073 (-0.0224)	
20	(10, 18*, 10)	0.0077 (-0.0052)	0.0071	0.0079	0.0071	0.0063	0.0067	0.0068
20	(10, 10, 18*)	0.0063 (-0.0060)	0.0063 (-0.0055)	0.0063 (-0.0060)	0.0069 (-0.0363)	0.0066 (-0.0252)	0.0064 (-0.0205)	
20	(18*, 0, 10, 10)	0.0083 (-0.0086)	0.0062	0.0062	0.0062	0.0056	0.0060	0.0060
20	(9*, 0, 10, 10, 9*)	0.0070 (-0.0073)	0.0071 (-0.0064)	0.0070 (-0.0073)	0.0082 (-0.0381)	0.0077 (-0.0224)	0.0077 (-0.0211)	
50	(50*0)	0.0025 (-0.0020)	0.0025 (-0.0020)	0.0025 (-0.0020)	0.0091 (-0.0430)	0.0085 (-0.0262)	0.0085 (-0.0253)	
100	(50*1)	0.0030 (-0.0029)	0.0036 (0.0071)	0.0030 (-0.0029)	0.0078 (-0.0392)	0.0075 (-0.0279)	0.0073 (-0.0225)	
50	(25, 48*, 0, 25)	0.0030 (-0.0025)	0.0030 (-0.0069)	0.0030 (-0.0025)	0.0063	0.0067	0.0068	
50	(25, 25, 48*)	0.0024 (-0.0025)	0.0024 (-0.0024)	0.0024 (-0.0025)	0.0026 (-0.0154)	0.0025 (-0.0106)	0.0025 (-0.0086)	
50	(48*, 0, 25, 25)	0.0032 (-0.0025)	0.0032 (-0.0018)	0.0032 (-0.0025)	0.0033 (-0.0173)	0.0032 (-0.0098)	0.0032 (-0.0095)	
50	(24*, 0, 25, 24*)	0.3321 (-0.0019)	0.0028 (-0.0016)	0.00281 (-0.0019)	0.0029 (-0.0154)	0.0029 (-0.0106)	0.0028 (-0.0082)	

**Table 5:** MSEs, bias (in parenthesis) and variances for estimates of the scale parameter ( $\hat{\theta} = 0.5$ )

$n$	$m$	Censoring Schemes	$\hat{\theta}$	$\tilde{\theta}$	$\hat{\theta}_{revised}$	$\theta^*$	$\theta^{*(a)}$	$\hat{\theta}^{*(a)}_{revised}$
10	10	(10*0)	0.0277 (-0.0189)	0.0277 (-0.0189)	0.0277 (-0.0189)	0.0321 (-0.1008)	0.0295 (-0.0726)	0.0284 (-0.0597)
20	10	(10*1)	0.029 (-0.0184)	0.0277	0.0273	0.0219	0.0243	0.0248
10	(5, 8*, 5)	0.0329 (-0.0185)	0.0325	0.0350 (0.0007)	0.0329 (-0.1841)	0.0370 (-0.1083)	0.0337 (-0.0721)	0.0330 (-0.0634)
10	(5, 5, 8*)	0.0291 (-0.0194)	0.0288	0.0326	0.0337	0.0325	0.0142	0.0285
10	(8*, 0, 5)	0.0365 (-0.1883)	0.0369 (-0.0132)	0.0338 (-0.0077)	0.0329 (-0.0185)	0.0370 (-0.1085)	0.0333 (-0.0682)	0.0330 (-0.0636)
10	(4*, 0, 5, 5*, 0)	0.0316 (-0.0184)	0.0317 (-0.0160)	0.0292 (-0.0178)	0.0291 (-0.0194)	0.0335 (-0.1030)	0.0310 (-0.0742)	0.0298 (-0.0609)
20	(20*0)	0.0139 (-0.0068)	0.0312	0.0139 (-0.0068)	0.0369 (-0.0188)	0.0288	0.0229	0.0255
20	(20*1)	0.0172 (-0.0091)	0.0186 (-0.0094)	0.0171	0.0177 (0.0001)	0.0316 (-0.0184)	0.0402 (-0.1129)	0.0275
20	(10, 18*, 0)	0.0173 (-0.0066)	0.0171	0.0173	0.0177	0.0317	0.0363 (-0.0699)	0.0314
20	(18*, 0, 10)	0.0140 (-0.0103)	0.0140 (-0.0096)	0.0140 (-0.0103)	0.0173 (-0.0066)	0.0359 (-0.1066)	0.0334 (-0.0765)	0.0275
20	(10, 10, 18*)	0.0139	0.0139	0.0139	0.0139	0.0315	0.0245	0.0276
20	(18*, 0, 10, 10)	0.0193 (-0.0076)	0.0194 (-0.0048)	0.0194	0.0193 (-0.0076)	0.0139	0.0153 (-0.0523)	0.0146 (-0.0357)
40	(20*1)	0.0139	0.0139	0.0139	0.0139	0.0125	0.0125	0.0133
40	(9*, 0, 10, 9*, 0)	0.0158 (-0.0058)	0.0159 (-0.0046)	0.0158	0.0158 (-0.0058)	0.0186 (-0.0584)	0.0178 (-0.0379)	0.0175 (-0.0329)
50	(50*0)	0.0056 (-0.0041)	0.0056 (-0.0041)	0.0055	0.0055	0.0172 (-0.0091)	0.0184 (-0.0565)	0.0153
50	(50*1)	0.0055	0.0055	0.0055	0.0055	0.0171	0.0174 (-0.0328)	0.0164
50	(25, 48*, 0, 25)	0.0067 (-0.0049)	0.0081 (0.0098)	0.0067	0.0067 (-0.0049)	0.0156 (-0.0562)	0.0148 (-0.0398)	0.0164
50	(25, 25, 48*, 0)	0.0067 (-0.0027)	0.0068 (0.0001)	0.0068	0.0067	0.0140 (-0.0103)	0.0125	0.0132
50	(48*, 0, 25, 25)	0.0067 (-0.0027)	0.0067	0.0067	0.0067	0.0203 (-0.0596)	0.0192 (-0.0342)	0.0173 (-0.0309)
100	(50*1)	0.0067 (-0.0049)	0.0081 (0.0098)	0.0067	0.0067 (-0.0049)	0.0170 (-0.0541)	0.0164 (-0.0368)	0.0144 (-0.0326)
50	(25, 48*, 0, 25)	0.0067	0.0067	0.0067	0.0067	0.0158	0.0141	0.0132
50	(50*0)	0.0067	0.0067	0.0067	0.0067	0.0059 (-0.0231)	0.0058 (-0.0159)	0.0191 (-0.0329)
100	(50*1)	0.0067	0.0067	0.0067	0.0067	0.0054	0.0054	0.0056
50	(25, 48*, 0, 25)	0.0056 (-0.0033)	0.0056 (-0.0031)	0.0056	0.0056	0.0071 (-0.0256)	0.0069 (-0.0168)	0.0160 (-0.0288)
50	(48*, 0, 25, 25)	0.0075 (-0.0010)	0.0075 (0.0004)	0.0075	0.0075 (-0.0010)	0.0069 (-0.0227)	0.0059 (-0.0227)	0.0152
50	(24*, 0, 25, 24*, 0)	0.0064 (-0.0046)	0.0064 (-0.0041)	0.0064	0.0064	0.0075 (-0.0233)	0.0076 (-0.0132)	0.0066
50	(24*, 0, 25, 24*, 0)	0.0064	0.0064	0.0064	0.0064	0.0069 (-0.0250)	0.0071	0.0073
50	(24*, 0, 25, 24*, 0)	0.0064	0.0064	0.0064	0.0064	0.0062	0.0064	0.0064

**Table 6:** MSEs, bias (in parenthesis) and variances for estimates of the scale parameter ( $\hat{\theta} = 0.75$ )

$n$	$m$	Censoring Schemes	$\hat{\theta}$	$\tilde{\theta}$	$\hat{\theta}_{\text{renised}}$	$\tilde{\theta}_{\text{renised}}$	$\theta^*$	$\theta^{*(a)}$	$\theta^{*(a)}$
10	10	(10*0)	0.1119 (-0.0405)	0.1119 (-0.0405)	0.1119 (-0.0405)	0.1106 (-0.0405)	0.1306 (-0.2062)	0.1198 (-0.1496)	0.1152 (-0.1242)
20	10	(10*1)	0.1102	0.1102	0.1102	0.1102	0.0881	0.0974	0.098
10	(5, 8*0, 5)	0.1302 (-0.0341)	0.1383 (0.0054)	0.1302 (-0.0341)	0.1467 (-0.2148)	0.1337 (-0.1423)	0.1309 (-0.1249)		
10	(5, 5, 8*)	0.1355 (-0.0389)	0.1387 (-0.0172)	0.1355 (-0.0389)	0.1522 (-0.2187)	0.1374 (-0.1382)	0.1363 (-0.1292)	0.1153	
10	(8*0, 5, 5)	0.1132 (-0.0325)	0.1137 (-0.0292)	0.1132 (-0.0325)	0.1297 (-0.2008)	0.1198 (-0.1433)	0.1151 (-0.1165)	0.1196	
10	(8*0, 5, 5)	0.1122	0.1128	0.1122	0.0893	0.0992	0.1016		
10	(4*0, 5, 5, 4*0)	0.1468 (-0.0332)	0.1483 (-0.0221)	0.1468 (-0.0332)	0.1610 (-0.2216)	0.1461 (-0.1354)	0.1453 (-0.1283)		
10	(20*0)	0.1457	0.1479	0.1457	0.1119	0.1278	0.1289		
20	(20*1)	0.1295 (-0.0430)	0.1303 (-0.0384)	0.1295 (-0.0430)	0.1489 (-0.2193)	0.1389 (-0.1594)	0.1328 (-0.1314)		
20	(10, 18*, 0, 10)	0.1277	0.1288	0.1277	0.1008	0.1134	0.1155		
40	(20*1)	0.0542 (-0.0207)	0.0542 (-0.0207)	0.0542 (-0.0207)	0.0611 (-0.1107)	0.0579 (-0.0775)	0.0564 (-0.0640)		
20	(10, 18*, 0, 10)	0.0538	0.0538	0.0538	0.0489	0.0519	0.0523		
20	(10, 10, 18*, 0)	0.0691 (-0.0212)	0.0770 (0.0153)	0.0691 (-0.0212)	0.07476 (-0.1202)	0.0706 (-0.0792)	0.0696 (-0.0692)		
20	(18*, 0, 10, 10)	0.0685 (-0.0157)	0.0699 (-0.0028)	0.0685 (-0.0157)	0.0733 (-0.1145)	0.0690 (-0.0671)	0.0688 (-0.0633)		
20	(10, 10, 18*, 0)	0.0683	0.0699	0.0683	0.0602	0.0645	0.0648		
20	(50*)	0.0555 (-0.0190)	0.0556 (-0.0174)	0.0555 (-0.0190)	0.0620 (-0.1097)	0.0590 (-0.0765)	0.0574 (-0.0623)		
20	(18*, 0, 10, 10)	0.0551	0.0553	0.0551	0.0500	0.0532	0.0535		
50	(50*)	0.0776 (-0.0190)	0.0780 (-0.0133)	0.0776 (-0.0190)	0.0827 (-0.1229)	0.0780 (-0.0723)	0.0778 (-0.0696)		
20	(9*, 0, 10, 9*)	0.0772	0.0778	0.0772	0.0676	0.0727	0.0730		
50	(50*)	0.0648 (-0.0195)	0.0650 (-0.0170)	0.0648 (-0.0195)	0.0710 (-0.1155)	0.0683 (-0.0811)	0.0663 (-0.0653)		
50	(50*)	0.0644	0.0647	0.0644	0.0577	0.0618	0.0621		
100	(50*)	0.0223 (-0.0074)	0.0223 (-0.0073)	0.0223 (-0.0073)	0.0233 (-0.0450)	0.0228 (-0.0305)	0.0225 (-0.0246)		
50	(50*)	0.0222	0.0222	0.0222	0.02137	0.0219	0.0219		
100	(50*)	0.0278 (-0.0062)	0.0336 (0.0254)	0.0278 (-0.0061)	0.0289 (-0.0485)	0.0283 (-0.0310)	0.0281 (-0.0262)		
50	(25, 48*, 0, 25)	0.0267 (-0.0042)	0.0270 (0.0012)	0.0267 (-0.0042)	0.0278 (-0.0459)	0.0270 (-0.0250)	0.0270 (-0.0236)		
50	(25, 25, 48*)	0.0267	0.0270	0.0267	0.0257	0.0264	0.0265		
50	(48*, 0, 25, 25)	0.0228 (-0.0061)	0.0228 (-0.0056)	0.0228 (-0.0061)	0.0241 (-0.0443)	0.0237 (-0.0298)	0.0234 (-0.0239)		
50	(24*, 0, 25, 24*)	0.0295	0.0297	0.0228	0.0228	0.0228	0.0228		
50	(24*, 0, 25, 24*)	0.0248 (-0.0086)	0.0248 (-0.0076)	0.0248 (-0.0086)	0.0280	0.0289	0.0289		
50	(24*, 0, 25, 24*)	0.0247	0.0247	0.0247	0.0240	0.0247	0.0247		

**Table 7:** MSEs, bias (in parenthesis) and variances for estimates of the scale parameter ( $\hat{\theta} = 1.5$ )

$n$	$m$	Censoring Schemes	$\hat{\theta}$	$\tilde{\theta}$	$\tilde{\theta}_{revised}$	$\theta^*$	$\theta^{*(a)}$	$\theta^{*(a)}_{revised}$
10	10	(10*0)	0.1953 (-0.0458)	0.1953 (-0.0458)	0.1953 (-0.0458)	0.2253 (-0.2667)	0.2069 (-0.1904)	0.1992 (-0.1568)
20	10	(10*1)	0.1933	0.1933	0.1933	0.1542	0.1707	0.1746
10	10	(5,8*0,5)	0.2312 (-0.0537)	0.2443 (-0.0027)	0.2312 (-0.0537)	0.2637 (-0.2931)	0.2391 (-0.1964)	0.2340 (-0.1737)
10	10	(5,5,8*0)	0.2384	0.2443	0.2284	0.17781	0.2006	0.2038
10	10	(8*0,5,5)	0.2387 (-0.0458)	0.2438 (-0.0169)	0.2387 (-0.0458)	0.2667 (-0.2868)	0.2412 (-0.1792)	0.2382 (-0.1670)
10	10	(4*0,5,5,4*0)	0.2023 (-0.0454)	0.2028 (-0.0409)	0.2023 (-0.0454)	0.2314 (-0.2681)	0.2138 (-0.1910)	0.2056 (-0.1555)
20	20	(20*0)	0.2003	0.2012	0.2003	0.1596	0.1773	0.1814
40	20	(20*1)	0.2537 (-0.0496)	0.2563 (-0.0349)	0.2537 (-0.0496)	0.2827 (-0.3002)	0.2544 (-0.1856)	0.2529 (-0.1762)
20	20	(10,18*0,10)	0.2513	0.2552	0.2513	0.1926	0.2200	0.2218
40	20	(10,10,18*0)	0.2238 (-0.0439)	0.2254 (-0.0373)	0.2238 (-0.0439)	0.2530 (-0.2795)	0.2354 (-0.1986)	0.2263 (-0.1612)
20	20	(18*0,10,10)	0.2219	0.2240	0.2219	0.1748	0.1960	0.2003
100	50	(50*0)	0.0985 (-0.0288)	0.0995 (-0.0288)	0.0985 (-0.0288)	0.1114 (-0.1484)	0.1059 (-0.1041)	0.1031 (-0.0862)
100	50	(50*1)	0.0987	0.0987	0.0987	0.0894	0.0951	0.0956
50	50	(25,48*0,25)	0.1183 (-0.0242)	0.1305 (0.0238)	0.1183 (-0.0242)	0.1286 (-0.1554)	0.1248 (-0.1005)	0.1200 (-0.0872)
50	50	(48*0,25,25)	0.1177	0.1299	0.1177	0.1044	0.1117	0.1124
20	20	(10,10,10,10)	0.1182 (-0.0246)	0.1203 (-0.0075)	0.1182 (-0.0246)	0.1277 (-0.1558)	0.1194 (-0.0928)	0.1190 (-0.0877)
20	20	(9*0,10,10,9*0)	0.1176	0.1203	0.1176	0.1034	0.1108	0.1113
20	20	(9*0,10,10,9*0)	0.1013 (-0.0232)	0.1014 (-0.0212)	0.1013 (-0.0232)	0.1114 (-0.1449)	0.1061 (-0.1007)	0.1035 (-0.0818)
20	20	(18*0,10,10)	0.1007	0.1010	0.1007	0.0904	0.0960	0.0968
50	50	(50*0)	0.1331 (-0.0241)	0.1339 (-0.0166)	0.1331 (-0.0241)	0.1419 (-0.1622)	0.1333 (-0.0948)	0.1330 (-0.0911)
50	50	(50*1)	0.1326	0.1337	0.1326	0.1156	0.1243	0.1247
100	50	(25,25,48*0)	0.1153 (-0.0186)	0.1160 (-0.0154)	0.1153 (-0.0186)	0.1233 (-0.1481)	0.1241 (-0.1025)	0.1178 (-0.0809)
50	50	(48*0,25,25)	0.1150	0.1157	0.1150	0.1034	0.1106	0.1113
100	50	(50*0)	0.0388 (-0.0136)	0.0388 (-0.0136)	0.0388 (-0.0136)	0.04186 (-0.0641)	0.0407 (-0.0449)	0.0402 (-0.0371)
100	50	(50*1)	0.0386	0.0386	0.0386	0.0377	0.0387	0.0388
50	50	(25,48*0,25)	0.0481 (-0.0098)	0.0571 (0.0311)	0.0481 (-0.0098)	0.05091 (-0.0658)	0.04978 (-0.0425)	0.0493 (-0.0361)
50	50	(48*0,25,25)	0.0480	0.0561	0.0480	0.0465	0.0479	0.0480
50	50	(25,25,48*0)	0.0483 (-0.0122)	0.0487 (-0.0047)	0.0483 (-0.0122)	0.0509 (-0.0678)	0.0493 (-0.0400)	0.0492 (0.0382)
50	50	(48*0,25,25)	0.0482	0.0487	0.0482	0.0463	0.0477	0.0477
50	50	(24*0,25,25,24*0)	0.0452 (-0.0062)	0.0452 (-0.0049)	0.0452 (-0.0062)	0.0472 (-0.0606)	0.0465 (-0.0414)	0.0459 (-0.0315)
50	50	(24*0,25,25,24*0)	0.0451	0.0452	0.0451	0.0436	0.0448	0.0449

**Table 8:** MSEs, bias (in parenthesis) and variances for estimates of the scale parameter ( $\hat{\theta} = 2$ )

$n$	$m$	Censoring Schemes	CPs				ALs			
			CI1	CI2	CI3	CI4	CI1	CI2	CI3	CI4
10	10	(10*0)	0.9018	0.9494	0.9490	0.9462	0.4264	0.5214	0.4902	0.4805
20	10	(10*1)	0.8960	0.9450	0.9446	0.9446	0.4722	0.5820	0.5405	0.5379
	10	(5, 8*0, 5)	0.8956	0.9480	0.9452	0.9440	0.4723	0.5807	0.5348	0.5382
	10	(5, 5, 8*0)	0.8996	0.9478	0.9484	0.9484	0.4364	0.5359	0.5046	0.4929
	10	(8*0, 5, 5)	0.8994	0.9510	0.9502	0.9502	0.4930	0.6050	0.5597	0.5636
	10	(4*0, 5, 5, 4*0)	0.9034	0.9518	0.9532	0.9506	0.4606	0.5692	0.5365	0.5233
	20	(20*0)	0.9222	0.9492	0.9508	0.9482	0.3058	0.3398	0.3319	0.3245
40	20	(20*1)	0.9180	0.9502	0.9504	0.9494	0.3371	0.3753	0.3630	0.3596
	20	(10, 18*0, 10)	0.9210	0.9532	0.9490	0.9490	0.3372	0.3743	0.3597	0.3598
	20	(10, 10, 18*0)	0.9304	0.9496	0.9538	0.9484	0.3097	0.3444	0.3366	0.3288
	20	(18*0, 10, 10)	0.9248	0.9504	0.9478	0.9494	0.3549	0.3935	0.3789	0.3794
	20	(9*0, 10, 10, 9*0)	0.9226	0.9520	0.9512	0.9486	0.3285	0.3672	0.3589	0.3499
50	50	(50*0)	0.9402	0.9536	0.9538	0.9522	0.1946	0.2044	0.2033	0.1993
100	50	(50*1)	0.9420	0.9522	0.9538	0.9518	0.2152	0.2259	0.2233	0.2208
	50	(25, 48*0, 25)	0.9372	0.9476	0.9472	0.9462	0.2147	0.2248	0.2213	0.2204
	50	(25, 25, 48*0)	0.9436	0.9518	0.9546	0.9518	0.1959	0.2059	0.2048	0.2006
	50	(48*0, 25, 25)	0.9416	0.9496	0.9502	0.9494	0.2258	0.2359	0.2325	0.2319
	50	(24*0, 25, 25, 24*0)	0.9368	0.9508	0.9484	0.9496	0.2093	0.2207	0.2196	0.2146

**Table 9:** CPs and ALs of CI for the scale parameter  $\hat{\theta}$  at the 0.95 confidence level ( $\hat{\theta}=0.5$ ).

$n$	$m$	Censoring Schemes	CPs				ALs			
			CI1	CI2	CI3	CI4	CI1	CI2	CI3	CI4
10	10	(10*0)	0.8986	0.9514	0.9514	0.9496	0.6360	0.7795	0.7324	0.7168
20	10	(10*1)	0.9018	0.9486	0.9502	0.9462	0.7107	0.8761	0.8136	0.8096
	10	(5, 8*0, 5)	0.9002	0.9518	0.9478	0.9490	0.7063	0.8675	0.7993	0.8048
	10	(5, 5, 8*0)	0.9048	0.9566	0.9602	0.9522	0.6540	0.8032	0.7562	0.7387
	10	(8*0, 5, 5)	0.9008	0.9512	0.9510	0.9492	0.7433	0.9129	0.8444	0.8497
	10	(4*0, 5, 5, 4*0)	0.9034	0.9496	0.9514	0.9476	0.6947	0.8574	0.8081	0.7892
	20	(20*0)	0.9262	0.9504	0.9510	0.9462	0.4587	0.5093	0.4976	0.4867
40	20	(20*1)	0.9242	0.9494	0.9494	0.9486	0.5073	0.5649	0.5464	0.5411
	20	(10, 18*0, 10)	0.9158	0.9420	0.9390	0.9378	0.5073	0.5635	0.5415	0.5413
	20	(10, 10, 18*0)	0.9278	0.9528	0.9558	0.9504	0.4637	0.5164	0.5044	0.4923
	20	(18*0, 10, 10)	0.9214	0.9466	0.9474	0.9450	0.5531	0.5916	0.5696	0.5699
	20	(9*0, 10, 10, 9*0)	0.9282	0.9522	0.9548	0.9534	0.4922	0.5507	0.5381	0.5242
50	50	(50*0)	0.9410	0.9496	0.9514	0.9482	0.2921	0.3067	0.3051	0.2990
100	50	(50*1)	0.9406	0.9534	0.9538	0.9542	0.3223	0.3383	0.3344	0.3307
	50	(25, 48*0, 25)	0.9396	0.9496	0.9480	0.9496	0.3229	0.3379	0.3326	0.3313
	50	(25, 25, 48*0)	0.9374	0.9506	0.9516	0.9486	0.2937	0.3086	0.3070	0.3007
	50	(48*0, 25, 25)	0.9402	0.9586	0.9564	0.9564	0.3384	0.3534	0.3482	0.3475
	50	(24*0, 25, 25, 24*0)	0.9358	0.9494	0.9526	0.9482	0.3130	0.3299	0.3283	0.3209

**Table 10:** CPs and ALs of CI for the scale parameter  $\hat{\theta}$  at the 0.95 confidence level ( $\hat{\theta}=0.75$ ).

$n$	$m$	Censoring Schemes	CPs				ALs			
			CI1	CI2	CI3	CI4	CI1	CI2	CI3	CI4
10	10	(10*0)	0.8988	0.9526	0.9496	0.9444	1.2835	1.5694	1.4756	1.4465
20	10	(10*1)	0.9008	0.9534	0.9482	0.9460	1.4170	1.7468	1.6221	1.6141
	10	(5, 8*0, 5)	0.8944	0.9474	0.9446	0.9448	1.4105	1.7327	1.5962	1.6073
	10	(5, 5, 8*0)	0.9050	0.9524	0.9558	0.9502	1.3113	1.6116	1.5162	1.4812
	10	(8*0, 5, 5)	0.8958	0.9462	0.9444	0.9452	1.4809	1.8192	1.6826	1.6930
	10	(4*0, 5, 5, 4*0)	0.8986	0.9506	0.953	0.9462	1.3789	1.7029	1.6057	1.5663
	20	(20*0)	0.9252	0.9494	0.9488	0.9482	0.9164	1.0175	0.9941	0.9724
40	20	(20*1)	0.9192	0.9488	0.9484	0.9492	1.0103	1.1248	1.0882	1.0778
	20	(10, 18*0, 10)	0.9174	0.9462	0.9450	0.9450	1.0115	1.1233	1.0794	1.0793
	20	(10, 10, 18*0)	0.9252	0.9536	0.9540	0.9530	0.9295	1.0350	1.0111	0.9868
	20	(18*0, 10, 10)	0.9200	0.9458	0.9454	0.944	1.0646	1.1802	1.1366	1.1380
	20	(9*0, 10, 10, 9*0)	0.9196	0.9440	0.9460	0.9414	0.9853	1.1025	1.0772	1.0494
50	50	(50*0)	0.9402	0.9494	0.9502	0.9484	0.5850	0.6144	0.6112	0.5990
100	50	(50*1)	0.9388	0.9490	0.9494	0.9476	0.6447	0.6765	0.6689	0.6615
	50	(25, 48*0, 25)	0.9406	0.9514	0.9508	0.9508	0.6445	0.6742	0.6638	0.6614
	50	(25, 25, 48*0)	0.9416	0.9494	0.9530	0.9498	0.5871	0.6168	0.6136	0.6012
	50	(48*0, 25, 25)	0.9348	0.9476	0.9486	0.9476	0.6767	0.7070	0.6966	0.6949
	50	(24*0, 25, 25, 24*0)	0.9480	0.9588	0.9600	0.9574	0.6280	0.6624	0.6590	0.6439

**Table 11:** CPs and ALs of CI for the scale parameter  $\hat{\theta}$  at the 0.95 confidence level ( $\hat{\theta}=1.5$ ).

$n$	$m$	Censoring Schemes	CPs				ALs			
			CI1	CI2	CI3	CI4	CI1	CI2	CI3	CI4
10	10	(10*0)	0.8980	0.9522	0.9528	0.9500	1.7083	2.0888	1.9636	1.9252
20	10	(10*1)	0.8996	0.9498	0.9478	0.9458	1.8848	2.3206	2.1560	2.1470
	10	(5, 8*0, 5)	0.9026	0.9522	0.9490	0.9496	1.8828	2.3145	2.1314	2.1455
	10	(5, 5, 8*0)	0.8966	0.9500	0.9510	0.9466	1.7348	2.1318	2.0064	1.9595
	10	(8*0, 5, 5)	0.8956	0.9476	0.9454	0.9440	1.9872	2.4406	2.2576	2.2719
	10	(4*0, 5, 5, 4*0)	0.8988	0.9478	0.9450	0.9462	1.8562	2.2945	2.1613	2.1086
	20	(20*0)	0.9296	0.9534	0.9552	0.9530	1.2243	1.3587	1.3278	1.2989
40	20	(20*1)	0.9212	0.9494	0.9492	0.9456	1.3481	1.5014	1.4521	1.4381
	20	(10, 18*0, 10)	0.9210	0.9512	0.9492	0.9490	1.3476	1.4966	1.4382	1.4379
	20	(10, 10, 18*0)	0.9244	0.9510	0.9530	0.9514	1.2359	1.3766	1.3446	1.3121
	20	(18*0, 10, 10)	0.9232	0.9496	0.9456	0.9470	1.4168	1.5717	1.5135	1.5145
	20	(9*0, 10, 10, 9*0)	0.9230	0.9256	0.9514	0.9502	1.3129	1.4681	1.4351	1.3983
50	50	(50*0)	0.9430	0.9516	0.9560	0.9518	0.7812	0.8200	0.8159	0.7998
100	50	(50*1)	0.9396	0.9516	0.9514	0.9514	0.8587	0.9010	0.8909	0.8810
	50	(25, 48*0, 25)	0.9422	0.9536	0.9544	0.9530	0.8597	0.8996	0.8857	0.8822
	50	(25, 25, 48*0)	0.9418	0.9502	0.9516	0.9524	0.7839	0.8240	0.8196	0.8026
	50	(48*0, 25, 25)	0.9342	0.9470	0.9476	0.9470	0.9028	0.9435	0.9296	0.9272
	50	(24*0, 25, 25, 24*0)	0.9428	0.9528	0.9530	0.9504	0.8367	0.8820	0.8779	0.8579

**Table 12:** CPs and ALs of CI for the scale parameter  $\hat{\theta}$  at the 0.95 confidence level ( $\hat{\theta}=2$ ).

CSs	$k$	$j$		$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
(5*m)	$k=5$	$j=2$	CPs	0.1834(-0.2168)	0.1369(-0.0228)	0.1508(-0.047)	0.1369(-0.0228)	0.1508(-0.047)
			ALs	[0.8884] [1.3923]	[0.9500] [1.3878]	[0.9266] [1.3314]	[0.9280] [1.5216]	[0.9146] [1.4597]
		$j=3$	CPs	0.2413(-0.1793)	0.2094(-0.0451)	0.2440(-0.0782)	0.2094(-0.0451)	0.2440(-0.0782)
			ALs	[0.9212] [1.6828]	[0.9500] [1.7558]	[0.9146] [1.6936]	[0.9322] [1.9182]	[0.9104] [1.8501]
		$j=4$	CPs	0.3611(-0.1864)	0.3293(-0.1103)	0.4010(-0.1267)	0.3293(-0.1103)	0.4033(-0.1243)
			ALs	[0.9332] [2.2954]	[0.9504] [2.1919]	[0.9124] [2.1692]	[0.9368] [2.4215]	[0.9106] [2.3953]
		$j=5$	CPs	0.7056(-0.2140)	0.6880(-0.2653)	0.7926(-0.3787)	0.6865(-0.2622)	0.7938(-0.2000)
			ALs	[0.9276] [2.7686]	[0.9488] [3.0284]	[0.9156] [3.0714]	[0.9388] [3.5248]	[0.9096] [3.6353]
	$k=10$	$j=2$	CPs	0.1791(-0.2248)	0.1296(-0.0338)	0.1450(-0.0591)	0.1296(-0.0338)	0.1450(-0.0589)
			ALs	[0.8776] [1.2489]	[0.9498] [1.3430]	[0.9250] [1.2837]	[0.9304] [1.4679]	[0.9130] [1.4032]
		$j=3$	CPs	0.2378(-0.1860)	0.2045(-0.0520)	0.2380(-0.0788)	0.2045(-0.0520)	0.2380(-0.0787)
			ALs	[0.9132] [1.6296]	[0.9430] [1.7096]	[0.9108] [1.6592]	[0.9300] [1.8644]	[0.9048] [1.8085]
		$j=4$	CPs	0.3376(-0.1691)	0.3108(-0.0923)	0.3704(-0.1062)	0.3108(-0.0923)	0.3759(-0.1012)
			ALs	[0.9344] [2.1739]	[0.9540] [2.1475]	[0.9152] [2.133]	[0.9366] [2.3692]	[0.9108] [2.3505]
		$j=5$	CPs	0.6901(-0.2176)	0.6906(-0.3071)	0.7957(-0.4117)	0.6667(-0.266)	0.7794(-0.1934)
			ALs	[0.9248] [2.7461]	[0.9494] [2.9864]	[0.9126] [3.0398]	[0.9442] [3.4697]	[0.9084] [3.595]
	$k=15$	$j=2$	CPs	0.1665(-0.2135)	0.1210(-0.0284)	0.1377(-0.0511)	0.1210(-0.0284)	0.1377(-0.0504)
			ALs	[0.8646] [1.2317]	[0.9442] [1.2761]	[0.9146] [1.2231]	[0.9308] [1.3880]	[0.9056] [1.3300]
		$j=3$	CPs	0.2096(-0.1805)	0.1777(-0.046)	0.2108(-0.0697)	0.1777(-0.046)	0.2111(-0.069)
			ALs	[0.9182] [1.4247]	[0.9548] [1.6402]	[0.9202] [1.5963]	[0.9422] [1.7834]	[0.916] [1.7331]
		$j=4$	CPs	0.3356(-0.1916)	0.3037(-0.1123)	0.3615(-0.1263)	0.3037(-0.1123)	0.3700(-0.1137)
			ALs	[0.9284] [1.9802]	[0.9478] [2.0790]	[0.9110] [2.0767]	[0.9412] [2.2883]	[0.9142] [2.2797]
		$j=5$	CPs	0.6610(-0.2031)	0.7156(-0.3651)	0.7987(-0.4439)	0.6404(-0.2462)	0.7413(-0.1691)
			ALs	[0.9294] [2.6132]	[0.9476] [2.9227]	[0.9140] [2.9756]	[0.9418] [3.3862]	[0.9056] [3.5138]

**Table 13:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=20$ ,  $\mathbf{r}=(5,5,\dots,5)$

CSs ( $10^*m$ )	$k$	$j$	$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$k=5$	$j=2$	CPs	0.0587(-0.1321)	0.0412(-0.0024)	0.0452(-0.0167)	0.0412(-0.0024)	0.0452(-0.0167)
		ALs	[0.8546] [0.6848]	[0.9528] [0.7762]	[0.9288] [0.7416]	[0.9390] [0.8229]	[0.9232] [0.7863]
	$j=3$	CPs	0.0747(-0.1167)	0.0610(-0.0085)	0.0726(-0.0296)	0.0610(-0.0085)	0.0726(-0.0296)
		ALs	[0.9080] [0.9262]	[0.9510] [0.9493]	[0.9160] [0.9080]	[0.9382] [1.0012]	[0.9164] [0.9576]
	$j=4$	CPs	0.0940(-0.1061)	0.0829(-0.0153)	0.1006(-0.0428)	0.0829(-0.0153)	0.1006(-0.0428)
		ALs	[0.9232] [1.1319]	[0.9496] [1.0968]	[0.9054] [1.0511]	[0.9358] [1.1527]	[0.9048] [1.1046]
	$j=5$	CPs	0.1137(-0.1047)	0.1033(-0.0289)	0.1326(-0.0598)	0.1033(-0.0289)	0.1326(-0.0598)
		ALs	[0.9330] [1.2767]	[0.9468] [1.2352]	[0.8936] [1.1899]	[0.9424] [1.2962]	[0.9046] [1.2486]
	$j=6$	CPs	0.1342(-0.0794)	0.1267(-0.0186)	0.1736(-0.0398)	0.1267(-0.0186)	0.1736(-0.0398)
		ALs	[0.9420] [1.4334]	[0.9468] [1.3773]	[0.8880] [1.3493]	[0.9374] [1.4461]	[0.8846] [1.4164]
	$j=7$	CPs	0.1657(-0.0897)	0.1572(-0.0432)	0.2218(-0.0613)	0.1572(-0.0432)	0.2229(-0.0606)
		ALs	[0.9426] [1.6254]	[0.9482] [1.5387]	[0.8884] [1.5176]	[0.9438] [1.6211]	[0.8928] [1.5985]
	$j=8$	CPs	0.2137(-0.0971)	0.2051(-0.0707)	0.2792(-0.0775)	0.2051(-0.0707)	0.2930(-0.0631)
		ALs	[0.9452] [1.7620]	[0.949] [1.7469]	[0.8898] [1.7553]	[0.9418] [1.8553]	[0.8856] [1.8638]
	$j=9$	CPs	0.3050(-0.1275)	0.2957(-0.1343)	0.3678(-0.2097)	0.2957(-0.1343)	0.4207(-0.083)
		ALs	[0.9376] [2.2037]	[0.9514] [2.0724]	[0.8878] [2.1277]	[0.9496] [2.2413]	[0.8846] [2.3017]
	$j=10$	CPs	0.5969(-0.1481)	0.9968(-0.6808)	1.0272(-0.6985)	0.6076(-0.2729)	0.7551(-0.0891)
		ALs	[0.9338] [2.5685]	[0.9496] [2.8182]	[0.8980] [2.8563]	[0.9520] [3.2158]	[0.8870] [3.4624]
$k=10$	$j=2$	CPs	0.0603(-0.1334)	0.0426(-0.0062)	0.0467(-0.0215)	0.0426(-0.0062)	0.0467(-0.0214)
		ALs	[0.8424] [0.6756]	[0.9462] [0.7584]	[0.9226] [0.7213]	[0.9366] [0.8027]	[0.9202] [0.7636]
	$j=3$	CPs	0.0735(-0.1190)	0.0594(-0.0121)	0.0701(-0.0314)	0.0594(-0.0121)	0.0701(-0.0313)
		ALs	[0.9034] [0.9210]	[0.9496] [0.9292]	[0.9134] [0.8916]	[0.9398] [0.9789]	[0.9142] [0.9391]
	$j=4$	CPs	0.0902(-0.1078)	0.0787(-0.0176)	0.0971(-0.0423)	0.0787(-0.0176)	0.0971(-0.0422)
		ALs	[0.9234] [1.1161]	[0.9536] [1.0764]	[0.9084] [1.0354]	[0.9446] [1.1304]	[0.9112] [1.0871]
	$j=5$	CPs	0.1100(-0.0975)	0.1006(-0.0223)	0.1307(-0.0456)	0.1006(-0.0223)	0.1307(-0.0456)
		ALs	[0.9310] [1.2015]	[0.9492] [1.2147]	[0.8970] [1.1805]	[0.9406] [1.2739]	[0.8974] [1.2375]
	$j=6$	CPs	0.1337(-0.0927)	0.1247(-0.0305)	0.1711(-0.058)	0.1247(-0.0305)	0.1711(-0.0579)
		ALs	[0.9368] [1.4258]	[0.9438] [1.3576]	[0.8890] [1.3214]	[0.9378] [1.4247]	[0.8882] [1.3863]
	$j=7$	CPs	0.1610(-0.0928)	0.1526(-0.0451)	0.2123(-0.0651)	0.1526(-0.0451)	0.2136(-0.0640)
		ALs	[0.9414] [1.5105]	[0.9494] [1.5199]	[0.8918] [1.4970]	[0.9448] [1.6006]	[0.8932] [1.5757]
	$j=8$	CPs	0.2091(-0.1031)	0.2001(-0.0761)	0.2693(-0.0849)	0.2001(-0.0761)	0.2876(-0.0659)
		ALs	[0.9384] [1.7520]	[0.9518] [1.7288]	[0.8936] [1.7404]	[0.947] [1.8354]	[0.8942] [1.8461]
	$j=9$	CPs	0.2999(-0.1269)	0.2927(-0.1330)	0.3621(-0.2226)	0.2927(-0.1330)	0.4102(-0.0779)
		ALs	[0.9374] [2.1469]	[0.9504] [2.0552]	[0.8950] [2.1147]	[0.9456] [2.2217]	[0.8942] [2.2853]
	$j=10$	CPs	0.5627(-0.1347)	0.9888(-0.6949)	1.0111(-0.7088)	0.5749(-0.2634)	0.7225(-0.0662)
		ALs	[0.9410] [3.1001]	[0.9524] [2.8013]	[0.8984] [2.8415]	[0.9504] [3.1940]	[0.8884] [3.4559]
$k=15$	$j=2$	CPs	0.0540(-0.1279)	0.0376(-0.0049)	0.0424(-0.0179)	0.0376(-0.0049)	0.0424(-0.0176)
		ALs	[0.8480] [0.6320]	[0.9504] [0.7304]	[0.9252] [0.6987]	[0.9402] [0.7709]	[0.9202] [0.7374]
	$j=3$	CPs	0.0705(-0.1151)	0.0573(-0.0104)	0.0675(-0.0303)	0.0573(-0.0104)	0.0675(-0.0301)
		ALs	[0.9022] [0.8824]	[0.9426] [0.8993]	[0.9082] [0.8603]	[0.9352] [0.9456]	[0.9054] [0.9046]
	$j=4$	CPs	0.0823(-0.0969)	0.0728(-0.0078)	0.0913(-0.0297)	0.0728(-0.0078)	0.0913(-0.0295)
		ALs	[0.9292] [1.0646]	[0.9500] [1.0445]	[0.9046] [1.0080]	[0.9356] [1.0954]	[0.9054] [1.0566]
	$j=5$	CPs	0.1045(-0.0999)	0.0944(-0.0245)	0.1262(-0.0483)	0.0944(-0.0245)	0.1262(-0.0481)
		ALs	[0.9308] [1.2013]	[0.9538] [1.1831]	[0.8914] [1.1484]	[0.9434] [1.2396]	[0.8984] [1.2023]
	$j=6$	CPs	0.1268(-0.0959)	0.1180(-0.0337)	0.1608(-0.0542)	0.1180(-0.0337)	0.1610(-0.0539)
		ALs	[0.9390] [1.3807]	[0.9496] [1.3264]	[0.8982] [1.2998]	[0.9412] [1.3910]	[0.8948] [1.3615]
	$j=7$	CPs	0.1554(-0.0892)	0.1476(-0.0426)	0.2035(-0.0530)	0.1476(-0.0426)	0.2060(-0.0506)
		ALs	[0.9430] [1.5502]	[0.9524] [1.4895]	[0.8968] [1.4798]	[0.9426] [1.5676]	[0.8950] [1.5552]
	$j=8$	CPs	0.2035(-0.0971)	0.1955(-0.0685)	0.2581(-0.0852)	0.1955(-0.0685)	0.2815(-0.0534)
		ALs	[0.9386] [1.7655]	[0.9480] [1.6996]	[0.8834] [1.7169]	[0.9404] [1.8032]	[0.8788] [1.8181]
	$j=9$	CPs	0.2885(-0.1198)	0.2837(-0.1297)	0.3546(-0.2382)	0.2826(-0.1260)	0.3934(-0.0620)
		ALs	[0.9410] [1.6929]	[0.9540] [2.0269]	[0.8960] [2.0964]	[0.9510] [2.1893]	[0.8930] [2.2610]
	$j=10$	CPs	0.5464(-0.1415)	1.0277(-0.7333)	1.0494(-0.7469)	0.5583(-0.2632)	0.7089(-0.0714)
		ALs	[0.9398] [2.3312]	[0.9528] [2.7741]	[0.8968] [2.7970]	[0.9532] [3.1588]	[0.8840] [3.4096]

**Table 14:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=20$ ,  $\mathbf{r}=(10, 10, \dots, 10)$

CSs	$k$	$j$		$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
(5*m)	$k=10$	$j=2$	CPs	0.1755(-0.2072)	0.1327(-0.0163)	0.1404(-0.0284)	0.1327(-0.0163)	0.1404(-0.0284)
			ALs	[0.8922]	[0.9552]	[0.9394]	[0.9308]	[0.9224]
		$j=3$	CPs	[1.3232]	[1.3872]	[1.3587]	[1.5208]	[1.4896]
			ALs	0.2442(-0.1870)	0.2118(-0.0603)	0.2321(-0.0768)	0.2118(-0.0603)	0.2321(-0.0768)
		$j=4$	CPs	[0.9262]	[0.9526]	[0.9316]	[0.9344]	[0.9238]
			ALs	[1.8786]	[1.7553]	[1.7242]	[1.9176]	[1.8836]
		$j=5$	CPs	0.3595(-0.1769)	0.3373(-0.111)	0.3722(-0.1169)	0.3373(-0.111)	0.3724(-0.1168)
			ALs	[0.9366]	[0.9486]	[0.9262]	[0.9338]	[0.9232]
		$j=6$	CPs	[2.0334]	[2.1911]	[2.1816]	[2.4206]	[2.4095]
			ALs	0.6894(-0.2208)	0.6902(-0.2626)	0.7636(-0.3503)	0.6892(-0.2608)	0.7372(-0.2285)
		$j=7$	CPs	[0.9254]	[0.9474]	[0.9314]	[0.9374]	[0.9286]
			ALs	[3.2888]	[3.0279]	[3.0661]	[3.5242]	[3.5817]
	$k=20$	$j=2$	CPs	0.1781(-0.2245)	0.1288(-0.0368)	0.1370(-0.0498)	0.1288(-0.0368)	0.1370(-0.0497)
			ALs	[0.8768]	[0.9510]	[0.9362]	[0.9328]	[0.9254]
		$j=3$	CPs	[1.3209]	[1.3414]	[1.3111]	[1.4660]	[1.4330]
			ALs	0.2328(-0.1793)	0.2024(-0.0521)	0.2216(-0.0657)	0.2024(-0.0521)	0.2216(-0.0656)
		$j=4$	CPs	[0.9194]	[0.9520]	[0.9304]	[0.9358]	[0.9266]
			ALs	[1.6662]	[1.7078]	[1.6824]	[1.8624]	[1.8341]
		$j=5$	CPs	0.3363(-0.1783)	0.3123(-0.1095)	0.3475(-0.1160)	0.3123(-0.1095)	0.3478(-0.1155)
			ALs	[0.9364]	[0.9526]	[0.9348]	[0.943]	[0.9276]
		$j=6$	CPs	[2.2454]	[2.1460]	[2.1363]	[2.3675]	[2.3555]
			ALs	0.6750(-0.2220)	0.6843(-0.2974)	0.7576(-0.3776)	0.6613(-0.2557)	0.7311(-0.2244)
		$j=7$	CPs	[0.9314]	[0.9480]	[0.9270]	[0.9372]	[0.9158]
			ALs	[2.9664]	[2.9855]	[3.0206]	[3.4686]	[3.5223]
	$k=30$	$j=2$	CPs	0.1603(-0.2081)	0.1174(-0.026)	0.1259(-0.0389)	0.1174(-0.026)	0.1259(-0.0386)
			ALs	[0.8736]	[0.9470]	[0.9322]	[0.9326]	[0.9204]
		$j=3$	CPs	[1.1710]	[1.2731]	[1.2430]	[1.3845]	[1.3520]
			ALs	0.2172(-0.1835)	0.1867(-0.0562)	0.2009(-0.0664)	0.1867(-0.0562)	0.2009(-0.0661)
		$j=4$	CPs	[0.9190]	[0.9508]	[0.9332]	[0.9362]	[0.9264]
			ALs	[1.7134]	[1.6357]	[1.6168]	[1.7781]	[1.7561]
		$j=5$	CPs	0.3146(-0.1707)	0.2895(-0.098)	0.3281(-0.1040)	0.2895(-0.098)	0.3303(-0.1013)
			ALs	[0.9312]	[0.9518]	[0.9300]	[0.9398]	[0.9244]
		$j=6$	CPs	[2.1338]	[2.0759]	[2.0704]	[2.2846]	[2.2758]
			ALs	0.6394(-0.2236)	0.7159(-0.3769)	0.76(-0.4268)	0.6366(-0.2532)	0.6809(-0.2155)
		$j=7$	CPs	[0.9252]	[0.9436]	[0.9306]	[0.9438]	[0.9290]
			ALs	[2.7159]	[2.9187]	[2.9605]	[3.3810]	[3.4432]

**Table 15:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=40$ ,  $\mathbf{r}=(5,5,\dots,5)$

CSs ( $10^*m$ )	$k$	$j$	$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$k=10$	$j=2$	CPs	0.0583(-0.1317)	0.0409(-0.0025)	0.0432(-0.0110)	0.0409(-0.0025)	0.0432(-0.011)
		ALs	[0.8590]	[0.9520]	[0.9394]	[0.9366]	[0.9306]
		CPs	[0.7042]	[0.7761]	[0.7555]	[0.8228]	[0.8009]
		ALs	0.0706(-0.1110)	0.0583(-0.0042)	0.0633(-0.0162)	0.0583(-0.0042)	0.0633(-0.0162)
		CPs	[0.9188]	[0.9518]	[0.9382]	[0.9430]	[0.9290]
		ALs	[0.9398]	[0.9491]	[0.9257]	[1.0010]	[0.9763]
		CPs	0.0952(-0.1039)	0.0845(-0.0159)	0.0954(-0.0299)	0.0845(-0.0159)	0.0954(-0.0299)
		ALs	[0.9288]	[0.9448]	[0.9192]	[0.9336]	[0.9164]
		CPs	[1.1308]	[1.0966]	[1.0734]	[1.1525]	[1.1281]
		ALs	0.1134(-0.1015)	0.1039(-0.0297)	0.1190(-0.0456)	0.1039(-0.0297)	0.1190(-0.0456)
$k=20$	$j=2$	CPs	[0.9336]	[0.9492]	[0.9248]	[0.9420]	[0.9188]
		ALs	[1.2104]	[1.235]	[1.2118]	[1.2959]	[1.2714]
		CPs	[0.9394]	[0.9570]	[0.9252]	[0.9472]	[0.9214]
		ALs	[1.4195]	[1.3771]	[1.3575]	[1.4458]	[1.4252]
		CPs	0.1339(-0.0989)	0.1254(-0.0426)	0.1494(-0.0574)	0.1254(-0.0426)	0.1494(-0.0574)
		ALs	[1.5223]	[1.5384]	[1.5252]	[1.6208]	[1.6066]
		CPs	0.2062(-0.0942)	0.2009(-0.0733)	0.2447(-0.0719)	0.2009(-0.0733)	0.2487(-0.0676)
		ALs	[1.7163]	[1.7467]	[1.7532]	[1.8551]	[1.8616]
		CPs	[0.9436]	[0.9510]	[0.9192]	[0.9470]	[0.9158]
		ALs	0.3024(-0.1175)	0.2985(-0.1259)	0.3436(-0.1771)	0.2985(-0.1259)	0.3644(-0.1008)
$k=30$	$j=2$	CPs	[0.9376]	[0.9490]	[0.9138]	[0.9448]	[0.9148]
		ALs	[2.0686]	[2.0721]	[2.0998]	[2.2411]	[2.2706]
		CPs	0.5849(-0.1701)	0.9828(-0.6726)	0.9963(-0.6814)	0.6002(-0.2645)	0.6804(-0.1689)
		ALs	[0.9292]	[0.9498]	[0.9204]	[0.9508]	[0.9100]
		CPs	[2.7000]	[2.8181]	[2.8635]	[3.2156]	[3.3438]
		CPs	[0.8482]	[0.9488]	[0.9358]	[0.9372]	[0.9300]
		ALs	[0.6717]	[0.7576]	[0.7411]	[0.8017]	[0.7843]
		CPs	0.0736(-0.1191)	0.0597(-0.0137)	0.0643(-0.0243)	0.0597(-0.0137)	0.0643(-0.0243)
		ALs	[0.9038]	[0.9516]	[0.9364]	[0.9438]	[0.9326]
		CPs	[0.9169]	[0.9288]	[0.9081]	[0.9784]	[0.9566]
$k=40$	$j=2$	CPs	0.0890(-0.1000)	0.0791(-0.0125)	0.0891(-0.0260)	0.0791(-0.0125)	0.0891(-0.0260)
		ALs	[0.9262]	[0.9470]	[0.9276]	[0.9394]	[0.9224]
		CPs	[1.0837]	[1.0758]	[1.0532]	[1.1297]	[1.1059]
		ALs	0.1121(-0.1014)	0.1026(-0.0301)	0.1169(-0.0405)	0.1026(-0.0301)	0.1169(-0.0404)
		CPs	[0.9336]	[0.9506]	[0.9258]	[0.9430]	[0.9222]
		ALs	[1.1458]	[1.2140]	[1.1989]	[1.2731]	[1.2569]
		CPs	0.1328(-0.0995)	0.1242(-0.0429)	0.1484(-0.0545)	0.1242(-0.0429)	0.1484(-0.0545)
		ALs	[1.3739]	[1.3566]	[1.3414]	[1.4237]	[1.4073]
		CPs	[0.9394]	[0.9482]	[0.9206]	[0.9398]	[0.9176]
		ALs	0.1622(-0.0895)	0.1556(-0.0484)	0.1899(-0.0563)	0.1556(-0.0484)	0.1900(-0.0562)
$k=50$	$j=2$	CPs	[0.9416]	[0.9482]	[0.9168]	[0.9400]	[0.9122]
		ALs	[1.4939]	[1.5190]	[1.5096]	[1.5997]	[1.5892]
		CPs	0.1999(-0.0924)	0.1949(-0.0716)	0.2351(-0.0672)	0.1949(-0.0716)	0.2394(-0.0617)
		ALs	[0.9464]	[0.9550]	[0.9208]	[0.9456]	[0.9166]
		CPs	[1.7808]	[1.7280]	[1.7392]	[1.8346]	[1.8455]
		ALs	0.2902(-0.1200)	0.2870(-0.1268)	0.3310(-0.1914)	0.2870(-0.1268)	0.3482(-0.1024)
		CPs	[0.9416]	[0.9512]	[0.9188]	[0.9476]	[0.9154]
		ALs	[2.0174]	[2.0545]	[2.0814]	[2.2209]	[2.2489]
		CPs	0.6131(-0.1895)	1.0651(-0.7175)	1.0756(-0.7237)	0.6314(-0.2851)	0.7060(-0.183)
		ALs	[0.9246]	[0.942]	[0.9114]	[0.9470]	[0.9046]
$k=60$	$j=2$	CPs	[3.0425]	[2.8007]	[2.8501]	[3.1932]	[3.3287]
		CPs	[0.8460]	[0.9546]	[0.9404]	[0.9402]	[0.9294]
		ALs	[0.6406]	[0.7289]	[0.7115]	[0.7693]	[0.7509]
		CPs	0.0660(-0.1074)	0.0544(-0.0044)	0.0601(-0.0131)	0.0544(-0.0044)	0.0601(-0.0129)
		ALs	[0.9140]	[0.9538]	[0.9336]	[0.9410]	[0.9244]
		CPs	[0.8575]	[0.8972]	[0.8802]	[0.9433]	[0.9252]
		ALs	0.0820(-0.0956)	0.0729(-0.0091)	0.0829(-0.0202)	0.0729(-0.0091)	0.0829(-0.0201)
		CPs	[0.9322]	[0.9472]	[0.9292]	[0.9368]	[0.9222]
		ALs	[1.0407]	[1.0429]	[1.0245]	[1.0937]	[1.0740]
		CPs	0.1016(-0.0926)	0.0931(-0.0210)	0.1094(-0.0336)	0.0931(-0.0210)	0.1094(-0.0335)
$k=70$	$j=2$	CPs	[0.9368]	[0.9534]	[0.9274]	[0.9428]	[0.9224]
		ALs	[1.1871]	[1.1814]	[1.1630]	[1.2377]	[1.2181]
		CPs	0.1296(-0.0913)	0.1221(-0.0337)	0.1445(-0.0462)	0.1221(-0.0337)	0.1445(-0.0461)
		ALs	[0.9390]	[0.9456]	[0.9170]	[0.9378]	[0.9128]
		CPs	[1.2616]	[1.3247]	[1.3084]	[1.3891]	[1.3713]
		ALs	0.1563(-0.0925)	0.1489(-0.0501)	0.1834(-0.0585)	0.1489(-0.0501)	0.1836(-0.0582)
		CPs	[0.9400]	[0.9456]	[0.9118]	[0.9432]	[0.9126]
		ALs	[1.5055]	[1.4878]	[1.4779]	[1.5658]	[1.5544]
		CPs	0.1965(-0.0980)	0.1912(-0.0750)	0.2278(-0.0754)	0.1912(-0.0750)	0.2349(-0.0649)
		ALs	[0.9464]	[0.9556]	[0.9198]	[0.9470]	[0.9164]
$k=80$	$j=2$	CPs	[1.6884]	[1.6979]	[1.7095]	[1.8013]	[1.8117]
		ALs	0.2935(-0.1235)	0.2894(-0.1302)	0.3409(-0.2162)	0.2888(-0.1283)	0.3546(-0.1018)
		CPs	[0.9354]	[0.9484]	[0.9182]	[0.9470]	[0.9096]
		ALs	[1.9878]	[2.0258]	[2.0551]	[2.1880]	[2.2173]
		CPs	0.5670(-0.1760)	1.0681(-0.7433)	1.0758(-0.7482)	0.5884(-0.2705)	0.6539(-0.1624)
		ALs	[0.9272]	[0.9450]	[0.9224]	[0.9444]	[0.9166]
		CPs	[2.1975]	[2.7722]	[2.8188]	[3.1564]	[3.2977]
		ALs					

**Table 16:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=40$ ,  $\mathbf{r}=(10, 10, \dots, 10)$

CSs	$k$	$j$		$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
(5*m)	$k=25$	$j=2$	CPs	0.1796(-0.2099)	0.1359(-0.0204)	0.1391(-0.0262)	0.1359(-0.0204)	0.1391(-0.0262)
			ALs	[0.8924]	[0.9474]	[0.9436]	[0.9306]	[0.9258]
		$j=3$	CPs	0.2368(-0.1688)	0.2105(-0.0460)	0.2168(-0.0561)	0.2105(-0.0460)	0.2168(-0.0561)
			ALs	[0.9316]	[0.9488]	[0.9438]	[0.9318]	[0.9284]
		$j=4$	CPs	0.3554(-0.1658)	0.3377(-0.1049)	0.3525(-0.1102)	0.3377(-0.1049)	0.3525(-0.1102)
			ALs	[0.9338]	[0.9488]	[0.9428]	[0.9410]	[0.9346]
		$j=5$	CPs	0.6783(-0.2312)	0.6882(-0.2631)	0.7307(-0.3248)	0.6879(-0.2625)	0.7066(-0.2552)
			ALs	[0.9282]	[0.9486]	[0.9426]	[0.9436]	[0.9380]
	$k=50$	$j=2$	CPs	0.1711(-0.2141)	0.1258(-0.0281)	0.1303(-0.0335)	0.1258(-0.0281)	0.1303(-0.0334)
			ALs	[0.8796]	[0.9524]	[0.9470]	[0.9368]	[0.9304]
		$j=3$	CPs	0.2246(-0.1764)	0.1958(-0.0535)	0.2046(-0.0586)	0.1958(-0.0535)	0.2046(-0.0586)
			ALs	[0.9262]	[0.9480]	[0.9426]	[0.9346]	[0.9310]
		$j=4$	CPs	0.3373(-0.1717)	0.3182(-0.1082)	0.3329(-0.1110)	0.3182(-0.1082)	0.3329(-0.1110)
			ALs	[0.9380]	[0.9480]	[0.9394]	[0.9382]	[0.9306]
		$j=5$	CPs	0.6357(-0.2250)	0.6683(-0.3006)	0.7003(-0.3457)	0.6440(-0.2574)	0.6610(-0.2384)
			ALs	[0.9280]	[0.9524]	[0.9458]	[0.9440]	[0.9334]
	$k=75$	$j=2$	CPs	0.1494(-0.1992)	0.1101(-0.0192)	0.1126(-0.0241)	0.1101(-0.0192)	0.1126(-0.0240)
			ALs	[0.8830]	[0.9512]	[0.9466]	[0.9336]	[0.9316]
		$j=3$	CPs	0.2029(-0.1712)	0.1758(-0.0472)	0.1818(-0.0529)	0.1758(-0.0472)	0.1818(-0.0528)
			ALs	[0.9288]	[0.9530]	[0.9502]	[0.9406]	[0.9350]
		$j=4$	CPs	0.3108(-0.1735)	0.2903(-0.1057)	0.3049(-0.1072)	0.2903(-0.1057)	0.3050(-0.1071)
			ALs	[0.9358]	[0.9506]	[0.9406]	[0.9404]	[0.9362]
		$j=5$	CPs	0.6333(-0.2367)	0.7211(-0.3884)	0.7399(-0.4107)	0.6378(-0.2614)	0.6548(-0.2421)
			ALs	[0.9230]	[0.9526]	[0.9418]	[0.9454]	[0.9386]

**Table 17:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=100$ ,  $\mathbf{r}=(5,5,\dots,5)$

CSs ( $10^*m$ )	$k$	$j$	$\hat{Y}_1$ [PI1]	$\hat{Y}_2$ [PI2]	$\hat{Y}_3$ [PI3]	$\hat{Y}_4$ [PI4]	$\hat{Y}_5$ [PI5]
$k=25$	$j=2$	CPs	0.0597(-0.1347)	0.0416(-0.0057)	0.0425(-0.0069)	0.0416(-0.0057)	0.0425(-0.0069)
		ALs	[0.8538] [0.6992]	[0.9522] [0.7760]	[0.9476] [0.7733]	[0.9360] [0.8227]	[0.9326] [0.8197]
		CPs	0.0751(-0.1169)	0.0615(-0.0109)	0.0633(-0.0130)	0.0615(-0.0109)	0.0633(-0.0130)
		ALs	[0.9124] [0.9422]	[0.9466] [0.9490]	[0.9454] [0.9448]	[0.9410] [1.0008]	[0.9386] [0.9964]
		CPs	0.0928(-0.1030)	0.0824(-0.0165)	0.0859(-0.0177)	0.0824(-0.0165)	0.0859(-0.0177)
		ALs	[0.9278] [1.1057]	[0.9454] [1.0964]	[0.9422] [1.0943]	[0.9386] [1.1523]	[0.9340] [1.1500]
		CPs	0.1067(-0.0813)	0.1001(-0.0121)	0.1073(-0.0119)	0.1001(-0.0121)	0.1073(-0.0119)
		ALs	[0.9436] [1.2409]	[0.9500] [1.2347]	[0.9416] [1.2349]	[0.9368] [1.2956]	[0.9314] [1.2957]
		CPs	0.1334(-0.0852)	0.1269(-0.0324)	0.1373(-0.0312)	0.1269(-0.0324)	0.1373(-0.0312)
		ALs	[0.9452] [1.4082]	[0.9504] [1.3767]	[0.9406] [1.3784]	[0.9422] [1.4455]	[0.9338] [1.4470]
$k=50$	$j=2$	CPs	0.1665(-0.0901)	0.1609(-0.0538)	0.1750(-0.0554)	0.1609(-0.0538)	0.1750(-0.0554)
		ALs	[0.9440] [1.5668]	[0.9472] [1.5382]	[0.9324] [1.5362]	[0.9424] [1.6205]	[0.9280] [1.6183]
		CPs	0.2043(-0.0948)	0.2006(-0.0779)	0.2209(-0.0779)	0.2006(-0.0779)	0.2211(-0.0777)
		ALs	[0.9448] [1.7438]	[0.9544] [1.7465]	[0.9376] [1.7467]	[0.9466] [1.8550]	[0.9352] [1.8551]
		CPs	0.2946(-0.1146)	0.2948(-0.1245)	0.3211(-0.1613)	0.2948(-0.1245)	0.3257(-0.1274)
		ALs	[0.9402] [1.9925]	[0.9464] [2.0720]	[0.9326] [2.0688]	[0.9456] [2.2409]	[0.9322] [2.2373]
		CPs	0.5801(-0.1962)	0.9929(-0.6806)	0.9962(-0.6828)	0.6039(-0.2722)	0.6567(-0.2739)
		ALs	[0.9262] [2.5731]	[0.9508] [2.8179]	[0.9334] [2.8092]	[0.9470] [3.2154]	[0.9350] [3.2130]
		CPs	0.0568(-0.1309)	0.0396(-0.0047)	0.0406(-0.0055)	0.0396(-0.0047)	0.0406(-0.0054)
		ALs	[0.8454] [0.6798]	[0.9562] [0.7572]	[0.9480] [0.7553]	[0.9426] [0.8012]	[0.9390] [0.7991]
$k=75$	$j=2$	CPs	0.0745(-0.1175)	0.0608(-0.0130)	0.0628(-0.0139)	0.0608(-0.0130)	0.0628(-0.0139)
		ALs	[0.9018] [0.9162]	[0.9484] [0.9284]	[0.9436] [0.9266]	[0.9362] [0.9779]	[0.9340] [0.9757]
		CPs	0.0885(-0.1036)	0.0780(-0.0177)	0.0818(-0.0176)	0.0780(-0.0177)	0.0818(-0.0175)
		ALs	[0.9244] [1.0759]	[0.9524] [1.0752]	[0.9456] [1.0755]	[0.9436] [1.1291]	[0.9370] [1.1290]
		CPs	0.1059(-0.0889)	0.0984(-0.0194)	0.1040(-0.0218)	0.0984(-0.0194)	0.1040(-0.0218)
		ALs	[0.9398] [1.2355]	[0.9524] [1.2137]	[0.9476] [1.2101]	[0.9460] [1.2728]	[0.9426] [1.2688]
		CPs	0.1299(-0.0816)	0.1237(-0.0281)	0.1346(-0.0296)	0.1237(-0.0281)	0.1346(-0.0296)
		ALs	[0.9462] [1.4083]	[0.9512] [1.3563]	[0.9380] [1.3544]	[0.9388] [1.4234]	[0.9290] [1.4211]
		CPs	0.1631(-0.0883)	0.1574(-0.0510)	0.1726(-0.0533)	0.1574(-0.0510)	0.1726(-0.0533)
		ALs	[0.9430] [1.5172]	[0.9472] [1.5185]	[0.9342] [1.5157]	[0.9398] [1.5991]	[0.9280] [1.5959]
$k=75$	$j=2$	CPs	0.2074(-0.0946)	0.2033(-0.0759)	0.2243(-0.0796)	0.2033(-0.0759)	0.2245(-0.0792)
		ALs	[0.9394] [1.7085]	[0.9496] [1.7277]	[0.9312] [1.7240]	[0.9454] [1.8342]	[0.9336] [1.8300]
		CPs	0.2898(-0.1143)	0.2899(-0.1234)	0.3173(-0.1683)	0.2899(-0.1234)	0.3191(-0.1246)
		ALs	[0.9374] [1.9844]	[0.9546] [2.0540]	[0.9374] [2.0526]	[0.9464] [2.2203]	[0.9338] [2.2185]
		CPs	0.5679(-0.1993)	1.0173(-0.7053)	1.0198(-0.7068)	0.5939(-0.2726)	0.6407(-0.2768)
		ALs	[0.9224] [2.5364]	[0.9484] [2.8004]	[0.9320] [2.7891]	[0.9470] [3.1929]	[0.9354] [3.1869]
		CPs	0.0554(-0.1308)	0.0383(-0.0091)	0.0391(-0.0115)	0.0383(-0.0091)	0.0391(-0.0114)
		ALs	[0.8412] [0.6435]	[0.9470] [0.7279]	[0.9430] [0.7221]	[0.9362] [0.7681]	[0.9328] [0.7619]
		CPs	0.0664(-0.1113)	0.0541(-0.0091)	0.0561(-0.0136)	0.0541(-0.0091)	0.0561(-0.0136)
		ALs	[0.9100] [0.8827]	[0.9496] [0.8963]	[0.9434] [0.8875]	[0.9402] [0.9423]	[0.9328] [0.9330]
$k=75$	$j=4$	CPs	0.0821(-0.0979)	0.0727(-0.0128)	0.0763(-0.0182)	0.0727(-0.0128)	0.0763(-0.0181)
		ALs	[0.9286] [1.0505]	[0.9514] [1.0419]	[0.9440] [1.0330]	[0.9450] [1.0926]	[0.9392] [1.0832]
		CPs	0.1010(-0.0948)	0.0925(-0.0257)	0.0994(-0.0284)	0.0925(-0.0257)	0.0994(-0.0284)
		ALs	[0.9408] [1.2073]	[0.9526] [1.1802]	[0.9440] [1.1762]	[0.9420] [1.2363]	[0.9346] [1.2318]
		CPs	0.1206(-0.0883)	0.1138(-0.0342)	0.1233(-0.0371)	0.1138(-0.0342)	0.1233(-0.0370)
		ALs	[0.9468] [1.3379]	[0.9540] [1.3234]	[0.9410] [1.3197]	[0.9476] [1.3877]	[0.9384] [1.3834]
		CPs	0.1594(-0.0913)	0.1532(-0.0523)	0.1685(-0.0569)	0.1532(-0.0523)	0.1685(-0.0569)
		ALs	[0.9408] [1.5123]	[0.9452] [1.4869]	[0.9316] [1.4813]	[0.9364] [1.5648]	[0.9280] [1.5585]
		CPs	0.1979(-0.0913)	0.1937(-0.0713)	0.2130(-0.0687)	0.1937(-0.0713)	0.2139(-0.0676)
		ALs	[0.9400] [1.6822]	[0.9504] [1.6970]	[0.9350] [1.7012]	[0.9470] [1.8003]	[0.9306] [1.8040]
$k=75$	$j=10$	CPs	0.2722(-0.1163)	0.2723(-0.1234)	0.2982(-0.1821)	0.2722(-0.1228)	0.2971(-0.1101)
		ALs	[0.9410] [2.0140]	[0.9556] [2.0245]	[0.9430] [2.0387]	[0.9538] [2.1865]	[0.9404] [2.2007]
		CPs	0.5848(-0.2147)	1.1044(-0.7600)	1.1052(-0.7605)	0.6087(-0.2861)	0.6382(-0.2438)
		ALs	[0.9162] [2.7810]	[0.9492] [2.7715]	[0.9330] [2.8081]	[0.9484] [3.1554]	[0.9332] [3.2107]

**Table 18:** MSEs, bias (in parenthesis) for  $\hat{Y}_i$  and CPs [ ], ALs [ ] for PI<sub>i</sub> when  $\hat{\theta}=2$ ,  $m=100$ ,  $\mathbf{r}=(10,10,\dots,10)$