
Supplementary — Uncertainty Based Optimized Sampling Strategy for Population Mean Estimation under Correlated Measurement Errors

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This supplement to the main paper includes Appendix A mentioned in the text.

Appendix A

The Appendix A contains the simulation results reported from Tables 1-8 and real data results reported in Table 9.

Table 1: $PRE_N \in [PRE_L, PRE_U]$ of neutrosophic estimators when $\sigma_{x_N} = [25, 30]$, $\sigma_{y_N} = [25, 30]$, with different combinations of σ_{u_N} , σ_{v_N} , varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

σ_{u_N}	σ_{v_N}	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p		
[15, 20]	[15, 20]	[0, 0.1]	[0.0, 0.0]	[83.7, 83.3]	[113.2, 116.7]	[113.2, 116.9]	[113.2, 116.7]	[113.6, 117.7]		
			[0.25, 0.3]	[88.5, 90.0]	[114.1, 118.7]	[114.3, 119.2]	[114.1, 118.7]	[115.0, 120.7]		
			[0.45, 0.5]	[91.7, 94.8]	[115.1, 121.0]	[115.5, 121.6]	[115.2, 121.0]	[116.4, 123.5]		
			[0.65, 0.7]	[95.8, 100.4]	[117.0, 124.3]	[117.4, 124.9]	[117.1, 124.4]	[118.6, 127.3]		
			[0.85, 0.9]	[99.7, 106.0]	[119.3, 128.2]	[119.7, 128.9]	[119.4, 128.5]	[121.2, 131.8]		
		[0.45, 0.5]	[0.0, 0.0]	[103.3, 104.5]	[119.7, 124.9]	[120.3, 125.9]	[119.8, 125.2]	[122.1, 128.8]		
			[0.25, 0.3]	[112.8, 125.7]	[126.4, 140.9]	[127.0, 142.0]	[126.6, 141.9]	[129.2, 146.4]		
			[0.45, 0.5]	[120.1, 136.9]	[132.3, 151.1]	[133.0, 152.4]	[132.7, 152.8]	[135.6, 157.8]		
			[0.65, 0.7]	[138.1, 150.1]	[147.8, 164.3]	[148.8, 166.2]	[149.0, 167.2]	[152.2, 172.6]		
			[0.85, 0.9]	[149.5, 166.2]	[159.3, 181.6]	[160.7, 184.9]	[161.3, 186.8]	[164.8, 192.7]		
		[0.85, 0.9]	[0.0, 0.0]	[162.4, 162.5]	[173.8, 175.2]	[175.9, 178.0]	[177.2, 179.5]	[180.5, 185.3]		
			[0.25, 0.3]	[185.7, 198.5]	[205.9, 219.3]	[211.0, 228.1]	[213.6, 232.4]	[217.0, 238.5]		
			[0.45, 0.5]	[205.3, 226.3]	[236.3, 259.3]	[246.1, 278.0]	[249.8, 285.1]	[253.3, 291.7]		
			[0.65, 0.7]	[236.3, 262.0]	[280.8, 322.1]	[300.2, 369.0]	[305.0, 379.0]	[309.3, 385.5]		
			[0.85, 0.9]	[269.3, 295.7]	[350.0, 428.7]	[393.7, 578.4]	[400.3, 590.0]	[405.0, 593.1]		
		[15, 20]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[80.8, 80.4]	[113.1, 116.6]	[113.2, 116.8]	[113.1, 116.6]	[113.5, 117.7]
					[0.25, 0.3]	[85.9, 87.8]	[114.0, 118.8]	[114.3, 119.4]	[114.0, 118.8]	[115.1, 121.0]
					[0.45, 0.5]	[90.6, 93.7]	[115.6, 121.6]	[116.1, 122.4]	[115.6, 121.6]	[117.2, 124.6]
					[0.65, 0.7]	[95.8, 106.7]	[118.2, 129.3]	[118.7, 130.2]	[118.2, 129.6]	[120.3, 133.8]
					[0.85, 0.9]	[102.2, 116.0]	[122.0, 136.7]	[122.6, 137.6]	[122.1, 137.3]	[124.6, 142.0]
[0.45, 0.5]	[0.0, 0.0]			[101.0, 102.5]	[119.7, 125.2]	[120.5, 126.3]	[119.9, 125.4]	[122.4, 129.6]		
	[0.25, 0.3]			[113.8, 120.8]	[128.6, 138.6]	[129.5, 139.9]	[129.0, 139.3]	[132.1, 144.7]		
	[0.45, 0.5]			[125.1, 134.7]	[137.6, 150.2]	[138.6, 151.9]	[138.2, 151.8]	[141.8, 157.9]		
	[0.65, 0.7]			[138.2, 151.4]	[148.9, 165.6]	[150.2, 168.1]	[150.1, 168.7]	[154.2, 175.5]		
	[0.85, 0.9]			[153.9, 172.5]	[163.7, 186.7]	[165.6, 191.1]	[166.0, 192.7]	[170.5, 200.4]		
[0.85, 0.9]	[0.0, 0.0]			[148.4, 149.5]	[157.3, 161.8]	[158.9, 164.0]	[159.2, 164.4]	[163.3, 171.0]		
	[0.25, 0.3]			[174.6, 188.7]	[184.7, 201.2]	[188.0, 206.7]	[189.3, 210.0]	[194.0, 217.9]		
	[0.45, 0.5]			[199.8, 222.6]	[215.2, 240.6]	[222.0, 255.0]	[224.5, 259.7]	[229.66, 268.9]		
	[0.65, 0.7]			[231.8, 269.3]	[260.0, 303.6]	[275.2, 341.2]	[279.4, 349.5]	[284.9, 360.3]		
	[0.85, 0.9]			[286.2, 320.1]	[335.5, 416.3]	[373.6, 547.5]	[379.3, 562.0]	[387.5, 574.6]		
[20, 25]	[15, 20]			[0, 0.1]	[0.0, 0.0]	[77.2, 85.2]	[109.9, 118.9]	[110.0, 119.1]	[109.9, 118.9]	[110.3, 119.9]
					[0.25, 0.3]	[90.9, 92.8]	[116.3, 121.2]	[116.6, 121.8]	[116.3, 121.3]	[117.3, 123.4]
					[0.45, 0.5]	[95.3, 98.6]	[118.0, 124.2]	[118.3, 124.9]	[118.0, 124.3]	[119.5, 127.1]
					[0.65, 0.7]	[100.1, 110.5]	[120.5, 131.8]	[120.9, 132.3]	[120.6, 132.1]	[122.4, 135.7]
					[0.85, 0.9]	[105.2, 118.8]	[124.1, 139.1]	[124.4, 139.6]	[124.2, 139.8]	[126.3, 143.8]
		[0.45, 0.5]	[0.0, 0.0]	[107.5, 108.5]	[121.6, 127.6]	[122.1, 128.4]	[121.7, 127.8]	[123.9, 131.5]		
			[0.25, 0.3]	[118.6, 124.5]	[130.4, 140.8]	[130.9, 141.6]	[130.8, 141.6]	[133.4, 146.1]		
			[0.45, 0.5]	[128.4, 136.5]	[139.2, 152.2]	[139.9, 153.3]	[140.0, 154.0]	[142.9, 158.9]		
			[0.65, 0.7]	[139.4, 150.9]	[150.5, 167.5]	[151.4, 169.3]	[152.0, 171.0]	[155.1, 176.2]		
			[0.85, 0.9]	[152.4, 168.3]	[165.3, 188.3]	[166.8, 192.1]	[168.1, 195.3]	[171.3, 200.7]		
		[0.85, 0.9]	[0.0, 0.0]	[146.0, 147.8]	[158.9, 163.4]	[159.9, 164.9]	[161.2, 166.4]	[164.0, 171.3]		
			[0.25, 0.3]	[165.8, 178.4]	[186.0, 201.7]	[188.8, 207.7]	[191.5, 211.5]	[194.2, 217.0]		
			[0.45, 0.5]	[184.1, 204.5]	[216.0, 240.5]	[222.7, 255.2]	[227.0, 262.1]	[229.4, 267.0]		
			[0.65, 0.7]	[206.0, 235.4]	[259.8, 299.1]	[276.2, 338.0]	[282.7, 349.5]	[284.4, 353.4]		
			[0.85, 0.9]	[242.7, 266.0]	[332.0, 404.2]	[374.9, 542.6]	[383.1, 561.0]	[385.3, 562.5]		
		[20, 25]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[83.2, 82.4]	[115.3, 118.8]	[115.3, 119.0]	[115.3, 118.8]	[115.7, 119.8]
					[0.25, 0.3]	[89.8, 95.7]	[116.5, 122.8]	[116.9, 123.6]	[116.5, 122.9]	[117.9, 126.1]
					[0.45, 0.5]	[95.5, 103.7]	[118.9, 127.9]	[119.4, 128.7]	[119.0, 128.1]	[120.9, 132.0]
					[0.65, 0.7]	[100.4, 113.6]	[123.2, 143.7]	[123.8, 144.3]	[123.3, 144.3]	[126.1, 150.0]
					[0.85, 0.9]	[107.8, 123.6]	[128.5, 153.4]	[129.1, 153.8]	[128.8, 154.8]	[132.0, 160.8]
[0.45, 0.5]	[0.0, 0.0]			[102.9, 104.4]	[120.1, 126.8]	[120.8, 127.7]	[120.2, 127.0]	[122.7, 130.9]		
	[0.25, 0.3]			[116.4, 122.5]	[129.9, 140.1]	[130.7, 141.2]	[130.3, 140.9]	[133.5, 146.3]		
	[0.45, 0.5]			[128.6, 137.1]	[140.2, 153.0]	[141.1, 154.5]	[141.1, 154.9]	[144.7, 160.9]		
	[0.65, 0.7]			[143.5, 155.3]	[154.4, 171.2]	[155.7, 173.7]	[156.2, 175.2]	[160.3, 181.9]		
	[0.85, 0.9]			[162.3, 179.0]	[174.3, 197.4]	[176.8, 203.2]	[178.1, 206.3]	[182.6, 213.8]		
[0.85, 0.9]	[0.0, 0.0]			[137.5, 139.5]	[148.0, 153.8]	[149.0, 155.4]	[149.3, 155.7]	[153.0, 161.9]		
	[0.25, 0.3]			[164.2, 176.9]	[177.4, 193.3]	[179.9, 198.7]	[181.7, 201.3]	[185.78, 207.8]		
	[0.45, 0.5]			[187.3, 207.2]	[207.9, 231.5]	[213.9, 244.2]	[217.2, 249.8]	[221.4, 257.4]		
	[0.65, 0.7]			[216.9, 248.6]	[256.4, 295.4]	[272.5, 333.1]	[278.2, 343.5]	[282.3, 351.2]		
	[0.85, 0.9]			[269.8, 295.9]	[344.9, 417.5]	[394.8, 576.3]	[402.7, 593.3]	[408.5, 598.8]		

Table 2: $PRE_N \in [PRE_L, PRE_U]$ of neutrosophic estimators when $\sigma_{x_N} = [25, 30]$, $\sigma_{y_N} = [35, 40]$, with different combinations of σ_{u_N} , σ_{v_N} , varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

σ_{u_N}	σ_{v_N}	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p		
[15, 20]	[15, 20]	[0, 0.1]	[0.0, 0.0]	[81.9, 83.5]	[115.0, 120.5]	[115.0, 120.9]	[115.0, 120.5]	[115.5, 122.4]		
			[0.25, 0.3]	[85.6, 89.1]	[115.6, 122.5]	[115.9, 123.2]	[115.6, 122.5]	[116.7, 125.4]		
			[0.45, 0.5]	[87.9, 93.0]	[116.3, 124.5]	[116.6, 125.3]	[116.3, 124.5]	[117.6, 127.9]		
			[0.65, 0.7]	[91.0, 97.7]	[117.4, 127.2]	[117.9, 128.1]	[117.5, 127.3]	[119.1, 131.1]		
			[0.85, 0.9]	[93.8, 102.1]	[118.8, 130.2]	[119.3, 131.1]	[118.8, 130.4]	[120.7, 134.7]		
		[0.45, 0.5]	[0.0, 0.0]	[112.4, 112.0]	[129.3, 137.5]	[129.7, 137.8]	[129.6, 137.9]	[132.3, 141.5]		
			[0.25, 0.3]	[119.0, 120.5]	[135.1, 145.8]	[135.4, 145.9]	[135.6, 146.7]	[138.5, 150.5]		
			[0.45, 0.5]	[123.8, 133.8]	[139.6, 159.8]	[140.0, 159.8]	[140.4, 162.1]	[143.4, 165.9]		
			[0.65, 0.7]	[129.4, 141.4]	[145.6, 169.7]	[145.9, 170.0]	[146.7, 173.3]	[149.7, 176.9]		
			[0.85, 0.9]	[135.3, 149.8]	[152.0, 181.9]	[152.4, 183.0]	[153.7, 187.7]	[156.7, 191.0]		
		[0.85, 0.9]	[0.0, 0.0]	[164.4, 162.5]	[194.6, 197.7]	[197.7, 203.4]	[202.4, 206.9]	[203.5, 212.2]		
			[0.25, 0.3]	[178.9, 183.8]	[224.3, 238.8]	[232.2, 252.9]	[239.4, 262.2]	[240.0, 264.5]		
			[0.45, 0.5]	[190.0, 198.2]	[248.9, 272.2]	[262.7, 294.9]	[272.3, 313.0]	[274.9, 314.4]		
			[0.65, 0.7]	[195.7, 214.7]	[280.5, 319.8]	[306.3, 375.9]	[319.0, 397.4]	[321.9, 398.0]		
			[0.85, 0.9]	[208.0, 245.3]	[324.2, 393.1]	[374.8, 547.8]	[390.0, 556.7]	[393.2, 557.8]		
		[15, 20]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[78.8, 80.2]	[114.9, 120.2]	[114.9, 120.7]	[114.9, 120.3]	[115.5, 122.3]
					[0.25, 0.3]	[82.6, 86.4]	[115.5, 122.4]	[115.8, 123.3]	[115.5, 122.4]	[116.7, 125.6]
					[0.45, 0.5]	[86.1, 91.2]	[116.5, 124.8]	[117.0, 125.8]	[116.5, 124.9]	[118.2, 128.8]
					[0.65, 0.7]	[89.9, 98.1]	[118.0, 128.9]	[118.6, 129.8]	[118.0, 129.0]	[120.2, 133.4]
					[0.85, 0.9]	[94.4, 104.2]	[120.3, 133.2]	[121.0, 134.2]	[120.4, 133.5]	[122.9, 138.4]
[0.45, 0.5]	[0.0, 0.0]			[107.2, 111.4]	[126.4, 137.0]	[127.1, 137.6]	[126.6, 137.4]	[129.7, 141.9]		
	[0.25, 0.3]			[114.3, 123.8]	[132.0, 148.4]	[132.6, 148.9]	[132.4, 149.6]	[135.8, 154.5]		
	[0.45, 0.5]			[123.7, 132.5]	[140.3, 157.6]	[140.8, 158.0]	[141.1, 159.6]	[144.6, 164.6]		
	[0.65, 0.7]			[131.2, 142.1]	[147.8, 168.9]	[148.4, 169.6]	[149.2, 172.4]	[152.8, 177.3]		
	[0.85, 0.9]			[139.5, 153.0]	[156.9, 183.0]	[157.6, 184.7]	[159.0, 189.0]	[162.7, 193.9]		
[0.85, 0.9]	[0.0, 0.0]			[154.2, 153.8]	[173.6, 180.3]	[175.4, 181.8]	[177.8, 185.8]	[181.5, 191.4]		
	[0.25, 0.3]			[171.1, 177.9]	[197.4, 215.4]	[201.7, 222.1]	[205.7, 229.7]	[211.4, 233.3]		
	[0.45, 0.5]			[185.7, 195.8]	[221.4, 246.8]	[227.7, 254.4]	[235.6, 273.7]	[237.9, 278.2]		
	[0.65, 0.7]			[196.2, 217.1]	[252.5, 291.0]	[267.5, 325.0]	[278.1, 344.2]	[279.7, 345.3]		
	[0.85, 0.9]			[213.4, 254.2]	[294.8, 361.2]	[327.4, 457.7]	[341.1, 479.9]	[342.6, 480.0]		
[20, 25]	[15, 20]			[0, 0.1]	[0.0, 0.0]	[83.4, 84.7]	[116.4, 122.0]	[116.4, 122.5]	[116.4, 122.1]	[116.9, 124.0]
					[0.25, 0.3]	[87.5, 91.4]	[117.1, 124.6]	[117.4, 125.3]	[117.1, 124.6]	[118.2, 127.6]
					[0.45, 0.5]	[91.0, 96.3]	[118.2, 127.2]	[118.6, 128.0]	[118.2, 127.2]	[119.8, 130.9]
					[0.65, 0.7]	[94.7, 102.9]	[119.9, 131.5]	[120.4, 132.2]	[119.9, 131.7]	[121.9, 135.6]
					[0.85, 0.9]	[98.7, 108.8]	[122.1, 136.2]	[122.6, 136.8]	[122.2, 136.5]	[124.4, 140.9]
		[0.45, 0.5]	[0.0, 0.0]	[110.8, 114.6]	[128.7, 140.7]	[129.1, 140.9]	[129.0, 141.2]	[131.7, 145.0]		
			[0.25, 0.3]	[117.8, 125.8]	[134.9, 152.8]	[135.2, 152.5]	[135.4, 154.2]	[138.3, 157.9]		
			[0.45, 0.5]	[126.6, 133.6]	[144.8, 162.6]	[144.9, 162.3]	[146.0, 165.1]	[148.5, 168.6]		
			[0.65, 0.7]	[133.6, 142.3]	[153.3, 174.7]	[153.3, 174.7]	[155.1, 179.1]	[157.6, 182.2]		
			[0.85, 0.9]	[141.2, 152.0]	[163.6, 190.2]	[163.9, 190.5]	[166.5, 197.9]	[168.8, 200.0]		
		[0.85, 0.9]	[0.0, 0.0]	[153.1, 152.3]	[182.9, 188.6]	[184.1, 188.5]	[188.8, 195.8]	[189.7, 198.0]		
			[0.25, 0.3]	[167.5, 172.9]	[210.7, 227.9]	[216.6, 239.2]	[223.0, 247.6]	[227.0, 247.9]		
			[0.45, 0.5]	[179.9, 188.7]	[239.4, 264.2]	[250.3, 269.6]	[260.9, 302.7]	[262.9, 304.1]		
			[0.65, 0.7]	[188.0, 205.6]	[277.4, 315.9]	[302.7, 372.0]	[317.7, 395.7]	[318.9, 397.9]		
			[0.85, 0.9]	[201.9, 236.5]	[332.0, 401.2]	[393.6, 530.7]	[411.2, 597.7]	[412.4, 598.2]		
		[20, 25]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[80.4, 81.6]	[116.3, 121.8]	[116.3, 122.3]	[116.3, 121.8]	[116.9, 123.9]
					[0.25, 0.3]	[85.6, 89.4]	[117.1, 124.6]	[117.5, 125.6]	[117.1, 124.7]	[118.6, 128.2]
					[0.45, 0.5]	[90.0, 96.9]	[118.7, 128.9]	[119.3, 129.8]	[118.7, 129.0]	[120.8, 133.2]
					[0.65, 0.7]	[95.0, 103.5]	[121.1, 133.4]	[121.7, 134.4]	[121.2, 133.7]	[123.6, 138.5]
					[0.85, 0.9]	[100.5, 111.1]	[124.5, 139.5]	[125.1, 140.3]	[124.6, 140.0]	[127.4, 145.5]
[0.45, 0.5]	[0.0, 0.0]			[106.2, 109.1]	[126.2, 135.0]	[126.8, 135.8]	[126.4, 135.3]	[129.4, 140.2]		
	[0.25, 0.3]			[118.2, 124.5]	[136.2, 151.0]	[136.6, 151.2]	[136.8, 152.3]	[140.1, 157.1]		
	[0.45, 0.5]			[126.3, 124.5]	[144.1, 151.0]	[144.4, 151.2]	[145.1, 152.3]	[148.6, 157.1]		
	[0.65, 0.7]			[135.4, 144.9]	[154.1, 175.6]	[154.5, 176.2]	[156.0, 180.2]	[159.5, 184.7]		
	[0.85, 0.9]			[146.0, 157.7]	[167.1, 194.1]	[168.0, 195.7]	[170.5, 202.7]	[173.8, 204.5]		
[0.85, 0.9]	[0.0, 0.0]			[146.0, 146.2]	[166.0, 173.8]	[166.9, 174.8]	[169.3, 178.2]	[172.7, 183.6]		
	[0.25, 0.3]			[165.4, 171.6]	[194.9, 212.6]	[198.6, 215.2]	[203.2, 226.7]	[206.0, 229.7]		
	[0.45, 0.5]			[180.7, 189.8]	[221.9, 246.5]	[229.7, 260.6]	[237.3, 274.8]	[240.6, 275.5]		
	[0.65, 0.7]			[198.8, 211.7]	[261.2, 298.0]	[280.4, 338.8]	[291.9, 361.3]	[292.1, 363.3]		
	[0.85, 0.9]			[212.8, 251.1]	[318.6, 385.0]	[369.9, 543.7]	[386.5, 552.2]	[389.9, 554.4]		

Table 3: $PRE_N \in [PRE_L, PRE_U]$ of neutrosophic estimators when $\sigma_{x_N} = [35, 40]$, $\sigma_{y_N} = [25, 30]$, with different combinations of σ_{u_N} , σ_{v_N} , varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

σ_{u_N}	σ_{v_N}	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p		
[15, 20]	[15, 20]	[0, 0.1]	[0.0, 0.0]	[74.9, 81.1]	[113.3, 121.4]	[113.4, 122.0]	[113.3, 121.4]	[114.0, 123.7]		
			[0.25, 0.3]	[78.8, 86.8]	[114.0, 123.5]	[114.3, 124.4]	[114.0, 123.5]	[115.2, 126.9]		
			[0.45, 0.5]	[81.1, 90.8]	[114.6, 125.5]	[115.1, 126.5]	[114.6, 125.6]	[116.3, 129.6]		
			[0.65, 0.7]	[84.4, 95.5]	[115.8, 128.2]	[116.4, 129.2]	[115.8, 128.3]	[117.8, 132.9]		
			[0.85, 0.9]	[87.3, 100.0]	[117.1, 131.3]	[117.8, 132.3]	[117.2, 131.5]	[119.6, 136.6]		
		[0.45, 0.5]	[0.0, 0.0]	[105.8, 108.7]	[126.2, 133.3]	[127.1, 134.5]	[126.4, 133.7]	[130.2, 139.3]		
			[0.25, 0.3]	[113.6, 120.2]	[131.8, 142.4]	[132.9, 143.8]	[132.3, 143.3]	[136.5, 149.8]		
			[0.45, 0.5]	[119.6, 132.2]	[136.7, 151.8]	[137.9, 153.7]	[137.4, 153.5]	[141.9, 161.0]		
			[0.65, 0.7]	[126.5, 143.1]	[142.4, 161.5]	[143.6, 163.9]	[143.3, 164.3]	[148.1, 172.5]		
			[0.85, 0.9]	[134.1, 155.8]	[149.2, 173.7]	[150.7, 177.0]	[150.6, 178.1]	[155.8, 187.0]		
		[0.85, 0.9]	[0.0, 0.0]	[185.8, 182.9]	[192.2, 191.6]	[197.3, 197.8]	[197.9, 198.5]	[205.8, 210.0]		
			[0.25, 0.3]	[215.2, 228.4]	[221.8, 234.6]	[230.9, 248.9]	[232.5, 251.9]	[241.6, 266.2]		
			[0.45, 0.5]	[241.3, 265.2]	[249.3, 271.8]	[264.1, 297.8]	[266.2, 302.4]	[276.7, 319.6]		
			[0.65, 0.7]	[280.3, 314.4]	[285.3, 325.5]	[307.9, 376.5]	[310.7, 384.2]	[324.3, 405.8]		
			[0.85, 0.9]	[327.0, 363.9]	[336.8, 408.5]	[376.9, 533.7]	[381.0, 546.9]	[398.1, 571.8]		
		[15, 20]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[72.5, 78.7]	[113.3, 121.3]	[113.3, 121.8]	[113.3, 121.3]	[114.0, 123.7]
					[0.25, 0.3]	[76.5, 85.1]	[113.9, 123.6]	[114.3, 124.5]	[113.9, 123.6]	[115.3, 127.3]
					[0.45, 0.5]	[80.2, 90.1]	[115.0, 126.1]	[115.6, 127.3]	[115.0, 126.2]	[117.0, 130.8]
					[0.65, 0.7]	[84.2, 94.4]	[116.7, 127.7]	[117.4, 129.0]	[116.7, 127.8]	[119.2, 133.2]
					[0.85, 0.9]	[89.2, 101.1]	[119.1, 132.4]	[120.0, 133.8]	[119.2, 132.7]	[122.2, 138.9]
[0.45, 0.5]	[0.0, 0.0]			[100.8, 103.5]	[124.2, 130.6]	[125.3, 132.2]	[124.4, 131.0]	[128.3, 137.2]		
	[0.25, 0.3]			[109.4, 119.6]	[130.4, 142.7]	[131.5, 144.6]	[130.7, 143.7]	[135.3, 151.4]		
	[0.45, 0.5]			[119.6, 131.5]	[138.7, 152.5]	[140.3, 154.8]	[139.5, 154.3]	[144.9, 162.9]		
	[0.65, 0.7]			[130.3, 145.4]	[147.4, 164.7]	[149.2, 167.7]	[148.6, 167.9]	[154.7, 177.5]		
	[0.85, 0.9]			[142.7, 162.3]	[157.9, 180.4]	[160.3, 184.9]	[160.0, 185.9]	[166.8, 196.8]		
[0.85, 0.9]	[0.0, 0.0]			[168.6, 167.1]	[177.2, 178.7]	[181.1, 183.7]	[181.0, 183.5]	[189.2, 195.4]		
	[0.25, 0.3]			[202.0, 216.5]	[207.1, 221.3]	[214.3, 233.1]	[215.0, 234.7]	[225.0, 250.2]		
	[0.45, 0.5]			[235.2, 261.3]	[238.6, 262.0]	[251.1, 285.2]	[252.7, 288.5]	[264.7, 308.4]		
	[0.65, 0.7]			[284.8, 326.5]	[282.8, 324.0]	[305.4, 375.0]	[307.4, 381.5]	[323.8, 408.2]		
	[0.85, 0.9]			[353.6, 403.1]	[350.5, 426.1]	[396.9, 573.2]	[400.6, 585.8]	[423.1, 621.8]		
[20, 25]	[15, 20]			[0, 0.1]	[0.0, 0.0]	[77.9, 83.2]	[115.4, 124.0]	[115.5, 124.5]	[115.4, 124.0]	[116.1, 126.3]
					[0.25, 0.3]	[82.1, 89.7]	[116.1, 126.4]	[116.5, 127.2]	[116.1, 126.4]	[117.5, 130.0]
					[0.45, 0.5]	[85.6, 94.5]	[117.1, 128.9]	[117.7, 129.9]	[117.2, 128.9]	[119.1, 133.4]
					[0.65, 0.7]	[89.4, 98.7]	[118.7, 130.0]	[119.4, 131.1]	[118.7, 130.1]	[121.2, 135.2]
					[0.85, 0.9]	[93.5, 104.7]	[120.7, 134.4]	[121.5, 135.5]	[120.8, 134.7]	[123.7, 140.5]
		[0.45, 0.5]	[0.0, 0.0]	[104.6, 107.8]	[125.0, 132.3]	[125.9, 133.5]	[125.2, 132.6]	[128.8, 138.2]		
			[0.25, 0.3]	[112.5, 121.6]	[130.7, 143.1]	[131.6, 144.4]	[131.1, 144.0]	[135.1, 150.8]		
			[0.45, 0.5]	[121.7, 131.6]	[137.6, 151.9]	[138.8, 153.5]	[138.3, 153.6]	[143.1, 161.1]		
			[0.65, 0.7]	[130.5, 143.2]	[145.2, 162.8]	[146.5, 164.9]	[146.4, 165.8]	[151.5, 173.9]		
			[0.85, 0.9]	[140.5, 156.8]	[154.4, 176.7]	[156.1, 179.9]	[156.3, 181.9]	[161.9, 190.5]		
		[0.85, 0.9]	[0.0, 0.0]	[160.5, 161.1]	[170.0, 173.7]	[172.7, 177.3]	[173.4, 178.1]	[179.7, 187.6]		
			[0.25, 0.3]	[184.2, 197.7]	[194.2, 209.5]	[199.4, 217.7]	[201.0, 221.3]	[208.3, 232.8]		
			[0.45, 0.5]	[206.5, 229.9]	[219.0, 243.7]	[228.0, 261.2]	[230.8, 266.4]	[238.9, 279.9]		
			[0.65, 0.7]	[240.0, 268.8]	[251.9, 289.9]	[267.8, 326.2]	[271.1, 334.5]	[281.5, 350.8]		
			[0.85, 0.9]	[278.4, 308.9]	[299.0, 363.7]	[329.5, 458.4]	[334.5, 472.4]	[347.2, 488.9]		
		[20, 25]	[20, 25]	[0, 0.1]	[0.0, 0.0]	[75.7, 80.9]	[115.4, 123.8]	[115.4, 124.3]	[115.4, 123.8]	[116.1, 126.3]
					[0.25, 0.3]	[81.0, 88.7]	[116.2, 126.6]	[116.7, 127.7]	[116.2, 126.7]	[118.0, 130.9]
					[0.45, 0.5]	[85.6, 93.8]	[117.8, 128.0]	[118.5, 129.3]	[117.9, 128.1]	[120.3, 133.3]
					[0.65, 0.7]	[89.0, 100.8]	[118.8, 132.5]	[119.7, 133.9]	[118.9, 132.8]	[121.9, 138.9]
					[0.85, 0.9]	[94.9, 108.8]	[122.2, 138.6]	[123.2, 140.0]	[122.3, 139.2]	[126.0, 146.2]
[0.45, 0.5]	[0.0, 0.0]			[100.4, 97.8]	[123.4, 126.7]	[124.4, 128.3]	[123.6, 126.9]	[127.4, 132.9]		
	[0.25, 0.3]			[112.6, 120.7]	[131.9, 143.5]	[133.1, 145.2]	[132.3, 144.5]	[137.2, 152.2]		
	[0.45, 0.5]			[122.7, 133.0]	[139.8, 154.0]	[141.3, 156.0]	[140.7, 155.9]	[146.2, 164.5]		
	[0.65, 0.7]			[134.8, 148.0]	[150.0, 167.7]	[151.8, 170.5]	[151.5, 171.4]	[157.7, 180.9]		
	[0.85, 0.9]			[149.3, 166.5]	[163.2, 186.1]	[165.7, 190.9]	[166.0, 193.1]	[172.9, 203.8]		
[0.85, 0.9]	[0.0, 0.0]			[151.6, 152.4]	[161.9, 166.2]	[164.6, 169.7]	[164.4, 169.5]	[171.5, 180.1]		
	[0.25, 0.3]			[183.1, 196.7]	[191.0, 205.8]	[196.3, 214.5]	[197.3, 216.6]	[205.8, 230.3]		
	[0.45, 0.5]			[211.4, 234.0]	[219.6, 242.2]	[229.2, 260.0]	[231.4, 264.3]	[241.3, 280.7]		
	[0.65, 0.7]			[248.4, 287.0]	[261.1, 298.6]	[280.5, 340.4]	[284.6, 348.4]	[296.4, 369.2]		
	[0.85, 0.9]			[315.2, 350.6]	[328.5, 396.0]	[372.0, 541.0]	[377.3, 543.3]	[395.2, 569.1]		

Table 4: $PRE_N \in [PRE_L, PRE_U]$ of neutrosophic estimators when $\sigma_{x_N} = [35, 40]$, $\sigma_{y_N} = [35, 40]$, with different combinations of σ_{u_N} , σ_{v_N} , varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

σ_{u_N}	σ_{v_N}	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p			
[15, 20]	[15, 20]	[0, 0.1]	[0.0, 0.0]	[84.1, 83.1]	[128.1, 128.4]	[128.1, 128.8]	[128.1, 128.5]	[129.1, 130.5]			
			[0.25, 0.3]	[86.8, 87.2]	[128.6, 129.7]	[128.8, 130.4]	[128.6, 129.7]	[130.2, 132.8]			
			[0.45, 0.5]	[88.4, 90.0]	[128.9, 130.9]	[129.3, 131.8]	[128.9, 130.9]	[131.0, 134.6]			
			[0.65, 0.7]	[90.5, 93.3]	[129.8, 132.7]	[130.3, 133.6]	[129.8, 132.7]	[132.2, 136.8]			
			[0.85, 0.9]	[92.4, 96.2]	[130.5, 134.5]	[131.1, 135.4]	[130.6, 134.6]	[133.3, 139.1]			
			[0.45, 0.5]	[0.0, 0.0]	[106.8, 113.8]	[129.9, 143.9]	[131.0, 144.7]	[130.2, 144.6]	[134.8, 150.5]		
				[0.25, 0.3]	[112.7, 122.0]	[134.4, 151.5]	[135.5, 152.3]	[134.9, 152.7]	[139.8, 159.2]		
				[0.45, 0.5]	[117.0, 127.6]	[137.9, 157.2]	[139.1, 157.9]	[138.6, 158.9]	[143.8, 165.6]		
				[0.65, 0.7]	[122.0, 133.9]	[142.0, 164.0]	[143.3, 164.8]	[143.0, 166.5]	[148.4, 173.2]		
				[0.85, 0.9]	[127.1, 140.6]	[146.5, 171.5]	[148.0, 172.4]	[147.8, 175.2]	[153.6, 181.7]		
				[0.85, 0.9]	[0.0, 0.0]	[190.5, 194.7]	[217.7, 219.7]	[227.4, 234.0]	[231.4, 235.3]	[236.7, 248.5]	
			[0.25, 0.3]		[215.5, 226.6]	[245.3, 262.6]	[258.8, 284.1]	[267.1, 297.0]	[273.6, 305.3]		
		[0.45, 0.5]	[231.1, 249.5]		[268.7, 296.8]	[313.2, 336.9]	[300.0, 352.7]	[306.6, 360.8]			
		[0.65, 0.7]	[249.1, 261.9]		[298.2, 341.9]	[333.5, 418.1]	[344.4, 443.1]	[351.2, 444.4]			
		[0.85, 0.9]	[270.0, 290.5]		[336.2, 405.8]	[394.6, 651.5]	[407.3, 601.7]	[413.6, 602.8]			
		[15, 20]	[20, 25]		[0, 0.1]	[0.0, 0.0]	[82.4, 81.0]	[128.0, 128.3]	[128.0, 128.7]	[128.0, 128.3]	[129.2, 130.5]
				[0.25, 0.3]		[85.2, 85.7]	[128.4, 129.7]	[128.7, 130.5]	[128.4, 129.7]	[130.3, 133.1]	
				[0.45, 0.5]		[87.7, 89.2]	[129.1, 131.3]	[129.7, 132.2]	[129.1, 131.3]	[131.6, 135.4]	
				[0.65, 0.7]		[90.3, 93.0]	[130.2, 133.4]	[130.8, 134.4]	[130.2, 133.4]	[133.1, 138.2]	
				[0.85, 0.9]		[93.5, 97.1]	[131.8, 136.0]	[132.5, 137.1]	[131.8, 136.2]	[135.2, 141.5]	
				[0.45, 0.5]		[0.0, 0.0]	[102.1, 110.1]	[127.9, 141.7]	[129.1, 142.8]	[128.2, 142.2]	[133.0, 148.6]
						[0.25, 0.3]	[108.6, 119.3]	[132.7, 149.7]	[134.0, 150.7]	[133.1, 150.7]	[138.4, 157.8]
						[0.45, 0.5]	[114.4, 126.3]	[137.2, 156.4]	[138.6, 157.4]	[137.9, 158.0]	[143.6, 165.5]
						[0.65, 0.7]	[120.9, 143.0]	[142.5, 170.9]	[144.0, 172.8]	[143.5, 174.7]	[149.7, 183.4]
[0.85, 0.9]	[128.6, 153.6]					[149.0, 182.6]	[150.8, 185.7]	[150.5, 188.4]	[157.1, 197.3]		
[0.85, 0.9]	[0.0, 0.0]					[178.7, 182.0]	[198.2, 202.3]	[203.5, 209.7]	[206.9, 212.7]	[213.9, 224.5]	
	[0.25, 0.3]			[199.6, 217.7]		[224.4, 242.8]	[233.4, 258.8]	[240.1, 267.4]	[248.4, 279.1]		
	[0.45, 0.5]			[225.9, 246.0]	[250.3, 278.4]	[267.4, 308.5]	[274.0, 321.8]	[281.7, 335.1]			
	[0.65, 0.7]			[249.8, 266.4]	[283.2, 327.1]	[309.7, 391.4]	[321.3, 412.4]	[330.8, 419.2]			
	[0.85, 0.9]			[278.8, 304.8]	[327.2, 397.8]	[379.7, 552.7]	[391.6, 578.9]	[405.8, 579.9]			
	[20, 25]			[15, 20]	[0, 0.1]	[0.0, 0.0]	[72.3, 84.3]	[116.4, 130.5]	[116.5, 130.9]	[116.4, 130.5]	[117.5, 132.7]
[0.25, 0.3]						[88.3, 89.2]	[130.9, 132.1]	[131.2, 132.8]	[130.9, 132.1]	[132.7, 135.4]	
[0.45, 0.5]						[90.8, 92.7]	[131.6, 133.7]	[132.1, 134.6]	[131.7, 133.7]	[134.0, 137.7]	
[0.65, 0.7]						[93.3, 96.3]	[132.7, 135.8]	[133.3, 136.7]	[132.7, 135.9]	[135.5, 140.4]	
[0.85, 0.9]						[95.9, 100.1]	[134.0, 138.4]	[134.7, 139.3]	[134.1, 138.5]	[137.3, 143.6]	
[0.45, 0.5]						[0.0, 0.0]	[105.9, 112.2]	[129.2, 143.8]	[130.2, 144.6]	[129.4, 144.3]	[133.9, 150.2]
						[0.25, 0.3]	[112.3, 121.0]	[133.9, 152.0]	[135.0, 152.6]	[134.4, 153.2]	[139.3, 159.5]
						[0.45, 0.5]	[117.9, 128.1]	[138.5, 159.3]	[139.6, 159.8]	[139.2, 161.1]	[144.4, 167.7]
						[0.65, 0.7]	[123.9, 142.5]	[143.7, 172.9]	[144.9, 174.0]	[144.7, 176.9]	[150.3, 184.1]
		[0.85, 0.9]	[130.6, 151.8]			[149.8, 184.4]	[151.1, 187.4]	[151.3, 190.7]	[157.1, 199.0]		
		[0.85, 0.9]	[0.0, 0.0]			[172.4, 176.0]	[199.6, 203.4]	[204.5, 217.8]	[209.2, 214.6]	[213.8, 222.7]	
[0.25, 0.3]			[189.4, 205.3]			[225.4, 242.7]	[234.6, 247.7]	[242.6, 268.8]	[248.9, 275.9]		
[0.45, 0.5]			[212.1, 228.7]		[250.4, 277.8]	[266.8, 307.8]	[276.1, 324.1]	[280.9, 328.9]			
[0.65, 0.7]			[230.9, 242.6]		[282.4, 324.1]	[311.9, 389.2]	[323.7, 413.5]	[328.2, 414.5]			
[0.85, 0.9]			[252.9, 270.6]		[325.3, 391.0]	[380.8, 555.7]	[395.0, 578.8]	[398.8, 580.4]			
[20, 25]			[20, 25]		[0, 0.1]	[0.0, 0.0]	[83.7, 82.3]	[130.2, 130.4]	[130.3, 130.7]	[130.2, 130.4]	[131.4, 132.6]
		[0.25, 0.3]				[87.6, 88.2]	[130.9, 132.2]	[131.3, 133.1]	[130.9, 132.2]	[133.1, 136.0]	
		[0.45, 0.5]				[90.7, 92.3]	[132.0, 134.2]	[132.6, 135.3]	[132.0, 134.3]	[134.9, 138.9]	
		[0.65, 0.7]				[94.3, 97.3]	[133.8, 137.3]	[134.5, 138.3]	[133.8, 137.4]	[137.3, 142.7]	
		[0.85, 0.9]				[97.6, 102.1]	[135.7, 140.8]	[136.5, 141.8]	[135.8, 141.0]	[139.8, 147.0]	
		[0.45, 0.5]				[0.0, 0.0]	[101.7, 108.9]	[127.4, 141.8]	[128.6, 142.8]	[127.7, 142.2]	[132.4, 148.6]
						[0.25, 0.3]	[110.1, 125.5]	[133.6, 154.8]	[134.8, 155.9]	[134.0, 156.4]	[139.4, 164.2]
						[0.45, 0.5]	[117.2, 134.7]	[139.1, 164.1]	[140.5, 165.2]	[139.9, 166.7]	[145.8, 174.9]
						[0.65, 0.7]	[125.4, 145.3]	[146.0, 175.5]	[147.5, 177.2]	[147.2, 180.0]	[153.6, 188.6]
	[0.85, 0.9]			[145.6, 157.6]		[164.3, 190.0]	[166.3, 193.8]	[167.3, 197.6]	[174.2, 198.1]		
	[0.85, 0.9]			[0.0, 0.0]		[165.5, 168.5]	[185.8, 190.8]	[189.2, 195.1]	[192.4, 198.7]	[198.9, 209.8]	
		[0.25, 0.3]		[188.1, 203.8]		[215.5, 232.7]	[224.3, 246.1]	[229.5, 254.2]	[235.6, 265.4]		
		[0.45, 0.5]		[206.4, 230.7]	[242.4, 268.4]	[256.5, 294.2]	[265.8, 308.5]	[270.5, 319.8]			
		[0.65, 0.7]		[238.5, 264.7]	[279.3, 320.5]	[308.0, 381.9]	[318.7, 402.4]	[325.2, 411.4]			
		[0.85, 0.9]		[270.3, 290.7]	[333.3, 399.7]	[395.3, 570.8]	[409.4, 604.7]	[417.0, 606.5]			

Table 5: $PRE_N \in [PRE_L, PRE_U]$ of different estimators when $\sigma_{x_N} = [25, 30]$, $\sigma_{y_N} = [25, 30]$, with different % of ME, varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

% of ME	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p	
5%	[0, 0.1]	[0.0, 0.0]	[84.8, 85.8]	[111.2, 114.0]	[111.3, 114.2]	[111.2, 114.0]	[111.6, 114.9]	
		[0.25, 0.3]	[85.6, 86.7]	[111.3, 114.3]	[111.4, 114.5]	[111.4, 114.3]	[111.8, 115.3]	
		[0.45, 0.5]	[86.1, 87.4]	[111.4, 114.5]	[111.5, 114.8]	[111.4, 114.5]	[111.9, 115.5]	
		[0.65, 0.7]	[86.7, 88.0]	[111.5, 114.7]	[111.6, 115.0]	[111.5, 114.7]	[112.1, 115.8]	
		[0.85, 0.9]	[87.3, 88.7]	[111.7, 114.9]	[111.8, 115.2]	[111.7, 114.9]	[112.3, 116.1]	
	[0.45, 0.5]	[0.0, 0.0]	[116.3, 123.3]	[128.2, 137.4]	[128.8, 138.3]	[128.5, 138.0]	[130.7, 141.5]	
		[0.25, 0.3]	[118.3, 125.9]	[129.8, 139.6]	[130.4, 140.6]	[130.2, 140.4]	[132.3, 143.9]	
		[0.45, 0.5]	[119.7, 127.6]	[131.0, 141.1]	[131.6, 142.0]	[131.4, 141.9]	[133.6, 145.5]	
		[0.65, 0.7]	[121.1, 129.2]	[132.2, 142.5]	[132.8, 143.5]	[132.6, 143.5]	[134.8, 147.1]	
		[0.85, 0.9]	[122.6, 131.0]	[133.4, 144.1]	[134.1, 145.1]	[133.9, 145.1]	[136.2, 148.8]	
	[0.85, 0.9]	[0.0, 0.0]	[238.2, 250.6]	[279.2, 337.1]	[294.3, 382.0]	[297.5, 390.9]	[301.3, 392.9]	
		[0.25, 0.3]	[245.8, 260.4]	[294.0, 362.8]	[312.3, 421.7]	[315.7, 431.2]	[319.6, 432.1]	
		[0.45, 0.5]	[251.7, 265.8]	[305.5, 380.3]	[326.2, 450.6]	[330.2, 460.3]	[335.0, 461.8]	
		[0.65, 0.7]	[258.4, 272.7]	[318.3, 400.0]	[342.2, 506.3]	[346.3, 493.7]	[350.3, 495.3]	
		[0.85, 0.9]	[264.5, 279.3]	[332.1, 421.9]	[359.9, 522.5]	[364.2, 533.1]	[368.3, 534.4]	
	10%	[0, 0.1]	[0.0, 0.0]	[84.6, 85.4]	[111.5, 114.3]	[111.6, 114.5]	[111.5, 114.3]	[111.9, 115.2]
			[0.25, 0.3]	[86.0, 87.4]	[111.7, 114.9]	[111.8, 115.2]	[111.7, 114.9]	[112.2, 116.0]
			[0.45, 0.5]	[87.3, 88.5]	[112.0, 115.2]	[112.1, 115.6]	[112.0, 115.3]	[112.6, 116.5]
			[0.65, 0.7]	[88.3, 89.8]	[112.2, 115.7]	[112.4, 116.1]	[112.2, 115.7]	[112.9, 117.1]
			[0.85, 0.9]	[89.4, 91.1]	[112.6, 116.3]	[112.8, 116.7]	[112.6, 116.3]	[113.4, 117.8]
[0.45, 0.5]		[0.0, 0.0]	[113.5, 119.8]	[126.1, 134.6]	[126.7, 135.5]	[126.4, 135.2]	[128.6, 138.6]	
		[0.25, 0.3]	[117.1, 124.7]	[129.0, 138.7]	[129.6, 139.6]	[129.3, 139.4]	[131.6, 143.1]	
		[0.45, 0.5]	[119.8, 127.7]	[131.2, 141.3]	[131.8, 142.4]	[131.6, 142.2]	[133.9, 146.0]	
		[0.65, 0.7]	[122.6, 130.9]	[133.5, 144.2]	[134.2, 145.3]	[134.0, 145.3]	[136.4, 149.1]	
		[0.85, 0.9]	[125.5, 134.3]	[136.0, 147.4]	[136.8, 148.6]	[136.6, 148.6]	[139.1, 152.6]	
[0.85, 0.9]		[0.0, 0.0]	[218.1, 229.2]	[245.0, 286.3]	[254.3, 310.9]	[257.0, 318.3]	[260.7, 320.4]	
		[0.25, 0.3]	[231.5, 256.6]	[266.7, 336.6]	[279.7, 382.3]	[282.9, 391.0]	[286.7, 394.3]	
		[0.45, 0.5]	[240.9, 268.4]	[284.7, 366.5]	[301.5, 427.7]	[305.0, 438.5]	[309.0, 441.6]	
		[0.65, 0.7]	[256.4, 281.5]	[325.9, 402.8]	[353.8, 491.1]	[358.6, 500.6]	[362.1, 503.8]	
		[0.85, 0.9]	[268.7, 295.9]	[355.3, 447.9]	[392.9, 572.7]	[398.2, 585.4]	[401.8, 588.3]	
15%		[0, 0.1]	[0.0, 0.0]	[84.4, 85.0]	[111.8, 114.6]	[111.9, 114.8]	[111.8, 114.6]	[112.2, 115.5]
			[0.25, 0.3]	[86.5, 87.8]	[112.1, 115.4]	[112.3, 115.7]	[112.1, 115.4]	[112.7, 116.6]
			[0.45, 0.5]	[88.1, 89.8]	[112.5, 116.1]	[112.7, 116.5]	[112.5, 116.1]	[113.3, 117.5]
			[0.65, 0.7]	[89.8, 91.4]	[113.0, 116.8]	[113.3, 117.3]	[113.0, 116.9]	[113.9, 118.4]
			[0.85, 0.9]	[91.6, 93.4]	[113.7, 117.8]	[113.9, 118.2]	[113.7, 117.8]	[114.7, 119.6]
	[0.45, 0.5]	[0.0, 0.0]	[111.1, 116.7]	[124.4, 132.3]	[125.0, 133.2]	[124.6, 132.8]	[126.8, 136.3]	
		[0.25, 0.3]	[116.0, 123.3]	[128.3, 137.8]	[128.9, 138.8]	[128.6, 138.6]	[130.9, 142.3]	
		[0.45, 0.5]	[119.8, 127.8]	[131.4, 141.7]	[132.0, 142.7]	[131.8, 142.6]	[134.2, 146.5]	
		[0.65, 0.7]	[123.9, 132.5]	[134.8, 145.9]	[135.5, 147.0]	[135.3, 147.0]	[137.9, 151.1]	
		[0.85, 0.9]	[128.3, 137.6]	[138.6, 150.6]	[139.4, 151.9]	[139.3, 152.1]	[141.9, 156.3]	
	[0.85, 0.9]	[0.0, 0.0]	[202.4, 225.7]	[221.4, 258.3]	[227.6, 274.1]	[229.8, 279.3]	[233.5, 284.4]	
		[0.25, 0.3]	[222.7, 251.8]	[258.0, 305.3]	[270.1, 336.5]	[273.5, 343.7]	[276.9, 348.7]	
		[0.45, 0.5]	[236.2, 258.2]	[282.9, 339.1]	[300.2, 388.0]	[304.3, 397.2]	[307.8, 400.6]	
		[0.65, 0.7]	[251.5, 275.7]	[314.1, 384.2]	[339.6, 461.9]	[344.4, 472.0]	[348.1, 475.3]	
		[0.85, 0.9]	[268.9, 295.8]	[354.3, 444.8]	[393.0, 576.7]	[398.6, 586.1]	[402.4, 589.7]	
	20%	[0, 0.1]	[0.0, 0.0]	[84.2, 84.7]	[112.2, 115.0]	[112.2, 115.2]	[112.2, 115.0]	[112.5, 115.9]
			[0.25, 0.3]	[87.2, 88.2]	[112.6, 116.0]	[112.8, 116.3]	[112.7, 116.0]	[113.3, 117.3]
			[0.45, 0.5]	[89.3, 90.8]	[113.2, 117.0]	[113.4, 117.4]	[113.2, 117.0]	[114.1, 118.6]
			[0.65, 0.7]	[91.3, 93.1]	[113.9, 118.0]	[114.2, 118.5]	[113.9, 118.0]	[115.0, 119.9]
			[0.85, 0.9]	[93.7, 95.7]	[114.9, 119.4]	[115.3, 119.9]	[114.9, 119.4]	[116.2, 121.5]
[0.45, 0.5]		[0.0, 0.0]	[108.9, 114.0]	[123.0, 130.5]	[123.6, 131.4]	[123.2, 130.9]	[125.4, 134.4]	
		[0.25, 0.3]	[115.2, 122.2]	[127.7, 137.2]	[128.4, 138.1]	[128.0, 137.8]	[130.4, 141.7]	
		[0.45, 0.5]	[120.1, 128.0]	[131.6, 142.0]	[132.3, 143.1]	[132.0, 143.0]	[134.6, 147.0]	
		[0.65, 0.7]	[125.2, 134.0]	[136.1, 147.5]	[136.8, 148.7]	[136.6, 148.8]	[139.3, 153.1]	
		[0.85, 0.9]	[131.0, 140.7]	[141.2, 153.8]	[142.0, 155.3]	[142.0, 155.5]	[144.8, 160.1]	
[0.85, 0.9]		[0.0, 0.0]	[188.5, 209.2]	[208.9, 233.0]	[213.9, 243.3]	[216.3, 247.6]	[219.4, 252.6]	
		[0.25, 0.3]	[212.6, 238.7]	[240.7, 281.0]	[250.1, 304.2]	[253.2, 310.8]	[256.8, 316.3]	
		[0.45, 0.5]	[228.7, 249.3]	[268.2, 318.0]	[282.8, 358.0]	[286.7, 366.5]	[290.3, 370.2]	
		[0.65, 0.7]	[247.2, 270.5]	[304.2, 368.9]	[327.7, 438.5]	[332.5, 449.0]	[336.3, 452.4]	
		[0.85, 0.9]	[269.1, 295.8]	[353.2, 441.9]	[393.2, 574.8]	[399.0, 586.7]	[403.1, 591.7]	

Table 6: $PRE_N \in [PRE_L, PRE_U]$ of different estimators when $\sigma_{x_N} = [25, 30]$, $\sigma_{y_N} = [35, 40]$, with different % of ME, varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

% of ME	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p	
5%	[0, 0.1]	[0.0, 0.0]	[84.5, 87.8]	[114.0, 119.0]	[114.0, 119.4]	[114.0, 119.0]	[114.4, 120.7]	
		[0.25, 0.3]	[85.2, 88.8]	[114.1, 119.4]	[114.2, 119.8]	[114.1, 119.4]	[114.6, 121.2]	
		[0.45, 0.5]	[85.8, 103.0]	[114.2, 119.7]	[114.3, 120.1]	[114.2, 119.7]	[114.8, 121.6]	
		[0.65, 0.7]	[86.4, 90.2]	[114.3, 119.9]	[114.4, 120.4]	[114.3, 120.0]	[115.0, 121.9]	
		[0.85, 0.9]	[87.0, 90.9]	[114.4, 120.3]	[114.6, 120.8]	[114.4, 120.3]	[115.2, 122.3]	
	[0.45, 0.5]	[0.0, 0.0]	[121.9, 123.4]	[136.5, 146.7]	[136.7, 146.5]	[137.2, 147.8]	[139.4, 150.2]	
		[0.25, 0.3]	[123.4, 125.0]	[138.1, 148.8]	[138.2, 148.5]	[138.8, 150.0]	[141.0, 152.4]	
		[0.45, 0.5]	[124.6, 126.1]	[139.3, 150.2]	[139.5, 149.9]	[140.1, 151.5]	[142.4, 153.9]	
		[0.65, 0.7]	[125.7, 127.3]	[140.6, 151.7]	[140.8, 151.4]	[141.5, 153.1]	[143.7, 155.5]	
		[0.85, 0.9]	[127.0, 128.4]	[142.0, 153.1]	[142.1, 152.8]	[142.9, 154.7]	[145.1, 157.0]	
	[0.85, 0.9]	[0.0, 0.0]	[182.2, 217.0]	[271.8, 330.1]	[291.5, 384.4]	[303.5, 402.4]	[304.9, 404.1]	
		[0.25, 0.3]	[185.0, 222.5]	[283.1, 351]	[307.4, 421.8]	[320.1, 441.3]	[321.0, 443.2]	
		[0.45, 0.5]	[187.3, 226.4]	[293.0, 366.4]	[321.8, 455.3]	[334.9, 471.7]	[336.1, 472.0]	
		[0.65, 0.7]	[189.7, 230.8]	[303.5, 383.8]	[337.4, 487.8]	[351.1, 507.8]	[353.6, 509.9]	
		[0.85, 0.9]	[192.1, 232.2]	[314.7, 418.8]	[355.1, 571.3]	[368.9, 592.8]	[369.8, 595.0]	
	10%	[0, 0.1]	[0.0, 0.0]	[84.3, 87.4]	[114.4, 119.4]	[114.4, 119.8]	[114.4, 119.4]	[114.9, 121.1]
			[0.25, 0.3]	[85.7, 89.5]	[114.6, 120.2]	[114.7, 120.7]	[114.6, 120.7]	[115.2, 122.8]
			[0.45, 0.5]	[86.9, 90.7]	[114.8, 120.7]	[115, 121.2]	[114.8, 119.2]	[115.6, 120.4]
			[0.65, 0.7]	[88.0, 92.0]	[115.1, 121.3]	[115.3, 121.9]	[115.1, 121.4]	[116.0, 123.6]
			[0.85, 0.9]	[89.2, 93.4]	[115.4, 122.0]	[115.7, 122.6]	[115.5, 122.1]	[116.5, 124.5]
		[0.45, 0.5]	[0.0, 0.0]	[119.5, 121.0]	[134.5, 144.5]	[134.7, 144.3]	[135.0, 145.4]	[137.4, 148.0]
			[0.25, 0.3]	[122.2, 124.4]	[137.2, 148.6]	[137.4, 148.3]	[137.9, 149.8]	[140.2, 152.3]
			[0.45, 0.5]	[124.4, 126.2]	[139.6, 150.9]	[139.8, 150.5]	[140.4, 152.2]	[142.7, 154.7]
			[0.65, 0.7]	[126.7, 128.3]	[142.1, 153.7]	[142.3, 153.3]	[143.1, 155.3]	[145.4, 157.7]
[0.85, 0.9]			[129.1, 130.5]	[144.8, 156.6]	[145.0, 156.3]	[145.9, 158.6]	[148.3, 160.9]	
[0.85, 0.9]		[0.0, 0.0]	[174.0, 200.6]	[242.9, 290.7]	[254.2, 321.6]	[263.9, 338.3]	[264.8, 339.7]	
		[0.25, 0.3]	[185.3, 211.0]	[274.4, 325.0]	[295.9, 385.3]	[308.2, 397.3]	[309.4, 398.8]	
		[0.45, 0.5]	[190.2, 217.9]	[292.7, 350.7]	[322.5, 428.0]	[335.6, 446.4]	[336.4, 448.1]	
		[0.65, 0.7]	[195.1, 224.9]	[313.3, 380.4]	[354.0, 450.8]	[368.2, 508.9]	[370.2, 509.6]	
		[0.85, 0.9]	[200.2, 232.3]	[337.2, 416.0]	[390.5, 578.5]	[408.3, 593.9]	[409.3, 602.6]	
15%		[0, 0.1]	[0.0, 0.0]	[84.2, 87.0]	[114.8, 119.8]	[114.9, 120.2]	[114.8, 119.8]	[115.3, 121.6]
			[0.25, 0.3]	[86.2, 90.0]	[115.1, 120.9]	[115.3, 121.5]	[115.1, 121.0]	[115.9, 123.1]
			[0.45, 0.5]	[87.9, 91.8]	[115.5, 121.7]	[115.7, 122.3]	[115.5, 121.8]	[116.5, 124.1]
			[0.65, 0.7]	[89.6, 93.8]	[116.0, 122.8]	[116.3, 123.4]	[116.0, 122.8]	[117.2, 125.4]
			[0.85, 0.9]	[91.3, 95.8]	[116.6, 123.9]	[117.0, 124.6]	[116.7, 124.0]	[118.0, 126.8]
		[0.45, 0.5]	[0.0, 0.0]	[117.3, 118.9]	[132.8, 142.8]	[133.1, 142.7]	[133.3, 143.5]	[135.7, 146.3]
			[0.25, 0.3]	[121.1, 123.7]	[136.6, 148.3]	[136.8, 148.1]	[137.2, 149.5]	[139.6, 152.2]
			[0.45, 0.5]	[124.3, 126.2]	[139.9, 151.5]	[140.1, 151.2]	[140.7, 152.9]	[143.2, 155.6]
			[0.65, 0.7]	[127.9, 129.3]	[143.8, 155.6]	[144.0, 155.3]	[144.9, 157.4]	[147.3, 159.9]
	[0.85, 0.9]		[131.3, 132.7]	[147.7, 160.2]	[147.9, 159.9]	[149.0, 162.5]	[151.5, 164.9]	
	[0.85, 0.9]	[0.0, 0.0]	[171.2, 184.1]	[230.2, 258.5]	[238.3, 274.2]	[247.4, 290.0]	[248.9, 292.4]	
		[0.25, 0.3]	[179.5, 202.9]	[254.7, 297.4]	[269.2, 333.4]	[280.7, 350.9]	[281.5, 351.7]	
		[0.45, 0.5]	[186.1, 212.2]	[277.0, 328.0]	[300.1, 385.6]	[313.1, 405.5]	[325.5, 418.1]	
		[0.65, 0.7]	[192.9, 221.9]	[303.4, 365.4]	[339.7, 464.5]	[354.0, 480.8]	[356.9, 483.0]	
		[0.85, 0.9]	[200.2, 232.3]	[336.0, 413.3]	[393.8, 579.2]	[409.0, 594.9]	[410.1, 595.1]	
	20%	[0, 0.1]	[0.0, 0.0]	[84.0, 86.6]	[115.2, 120.2]	[115.3, 120.7]	[115.2, 120.2]	[115.7, 122.0]
			[0.25, 0.3]	[86.7, 90.3]	[115.7, 121.6]	[115.8, 122.2]	[115.7, 121.6]	[116.5, 123.9]
			[0.45, 0.5]	[88.8, 92.8]	[116.2, 122.8]	[116.5, 123.5]	[116.2, 122.8]	[117.3, 125.4]
			[0.65, 0.7]	[91.1, 95.5]	[117.0, 124.2]	[117.3, 124.9]	[117.0, 124.3]	[118.4, 127.2]
			[0.85, 0.9]	[93.4, 98.2]	[118.0, 125.9]	[118.4, 126.6]	[118.0, 126.0]	[119.6, 129.1]
		[0.45, 0.5]	[0.0, 0.0]	[115.4, 117.0]	[131.5, 141.4]	[131.8, 141.3]	[131.9, 142.0]	[134.4, 145.0]
			[0.25, 0.3]	[120.2, 122.4]	[136.0, 147.5]	[136.2, 147.2]	[136.6, 148.5]	[139.2, 151.4]
			[0.45, 0.5]	[124.2, 126.3]	[140.2, 152.2]	[140.4, 151.9]	[141.1, 153.6]	[143.6, 156.4]
			[0.65, 0.7]	[128.5, 130.6]	[145.0, 157.7]	[145.1, 157.4]	[146.1, 159.7]	[148.6, 162.4]
[0.85, 0.9]			[133.1, 134.6]	[150.3, 163.5]	[150.5, 165.7]	[151.9, 166.2]	[154.4, 169.2]	
[0.85, 0.9]		[0.0, 0.0]	[168.0, 175.7]	[212.7, 236.6]	[218.1, 245.7]	[224.8, 258.6]	[225.9, 259.3]	
		[0.25, 0.3]	[174.5, 190.1]	[239.6, 276.3]	[249.7, 300.6]	[260.5, 318.7]	[262.0, 319.0]	
		[0.45, 0.5]	[182.6, 207.3]	[264.4, 310.2]	[283.0, 355.3]	[295.5, 375.1]	[295.5, 376.7]	
		[0.65, 0.7]	[191.1, 219.1]	[295.1, 352.8]	[327.8, 437.7]	[342.3, 458.0]	[345.5, 460.4]	
		[0.85, 0.9]	[200.2, 232.4]	[334.8, 410.7]	[394.3, 587.9]	[409.7, 596.1]	[410.4, 598.0]	

Table 7: $PRE_N \in [PRE_L, PRE_U]$ of different estimators when $\sigma_{x_N} = [35, 40]$, $\sigma_{y_N} = [25, 30]$, with different % of ME, varying study-auxiliary correlation ρ_{xy_N} , and ME correlation ρ_{uv_N}

% of ME	ρ_{xy_N}	ρ_{uv_N}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p	
5%	[0, 0.1]	[0.0, 0.0]	[73.1, 81.0]	[111.2, 118.1]	[111.3, 118.7]	[111.2, 118.2]	[111.9, 120.2]	
		[0.25, 0.3]	[73.8, 82.2]	[111.3, 118.6]	[111.5, 119.2]	[111.3, 118.6]	[112.0, 120.9]	
		[0.45, 0.5]	[74.4, 82.7]	[111.4, 118.8]	[111.6, 119.4]	[111.4, 118.8]	[112.2, 121.2]	
		[0.65, 0.7]	[75.0, 83.4]	[111.5, 119.1]	[111.7, 119.7]	[111.5, 119.1]	[112.4, 121.6]	
		[0.85, 0.9]	[75.6, 84.2]	[111.7, 119.4]	[111.9, 120.1]	[111.7, 119.4]	[112.6, 122.0]	
	[0.45, 0.5]	[0.0, 0.0]	[114.7, 123.1]	[132.8, 143.2]	[133.9, 144.6]	[133.3, 144.3]	[137.1, 149.8]	
		[0.25, 0.3]	[116.6, 126.0]	[134.4, 145.7]	[135.4, 147.1]	[134.9, 146.9]	[138.8, 152.6]	
		[0.45, 0.5]	[118.2, 127.4]	[135.6, 147.0]	[136.7, 148.4]	[136.2, 148.3]	[140.2, 154.0]	
		[0.65, 0.7]	[119.8, 129.2]	[136.9, 148.5]	[138.1, 150.1]	[137.6, 150.0]	[141.6, 155.8]	
		[0.85, 0.9]	[121.4, 131.1]	[138.3, 150.2]	[139.4, 151.8]	[139.0, 151.8]	[143.1, 157.7]	
	[0.85, 0.9]	[0.0, 0.0]	[276.5, 316.4]	[276.8, 338.4]	[293.4, 387.1]	[294.4, 394.2]	[307.2, 410.5]	
		[0.25, 0.3]	[290.6, 316.4]	[290.3, 338.4]	[309.8, 387.1]	[310.9, 394.2]	[324.7, 410.5]	
		[0.45, 0.5]	[302.8, 349.7]	[302.2, 381.0]	[323.9, 454.5]	[325.7, 463.1]	[340.3, 482.4]	
		[0.65, 0.7]	[315.8, 364.4]	[314.9, 400.9]	[340.1, 488.6]	[341.8, 497.8]	[344.4, 518.7]	
		[0.85, 0.9]	[329.8, 413.6]	[328.8, 449.3]	[357.8, 570.6]	[359.6, 582.9]	[376.1, 611.2]	
	10%	[0, 0.1]	[0.0, 0.0]	[72.9, 80.5]	[111.5, 118.5]	[111.6, 119.0]	[111.5, 118.5]	[112.2, 120.6]
			[0.25, 0.3]	[74.2, 82.8]	[111.7, 119.3]	[111.9, 120.0]	[111.7, 119.3]	[112.5, 121.8]
			[0.45, 0.5]	[75.4, 83.8]	[111.9, 119.7]	[112.2, 120.4]	[111.9, 119.7]	[112.9, 122.4]
			[0.65, 0.7]	[76.6, 85.2]	[112.2, 120.4]	[112.5, 121.1]	[112.2, 120.4]	[113.4, 123.2]
			[0.85, 0.9]	[77.9, 86.8]	[112.6, 121.1]	[112.9, 121.9]	[112.6, 121.2]	[113.9, 124.2]
[0.45, 0.5]		[0.0, 0.0]	[111.4, 119.2]	[130.6, 140.4]	[131.6, 141.7]	[131.0, 141.2]	[134.8, 146.8]	
		[0.25, 0.3]	[114.9, 124.6]	[133.3, 144.8]	[134.4, 146.3]	[133.8, 146.0]	[137.8, 151.9]	
		[0.45, 0.5]	[117.9, 127.2]	[135.7, 147.2]	[136.8, 148.7]	[136.3, 148.5]	[140.4, 154.5]	
		[0.65, 0.7]	[121.0, 130.7]	[138.2, 150.3]	[139.4, 151.9]	[139.0, 151.8]	[143.3, 158.0]	
		[0.85, 0.9]	[124.3, 134.5]	[141.0, 153.7]	[142.2, 155.4]	[141.8, 155.5]	[146.2, 161.9]	
[0.85, 0.9]		[0.0, 0.0]	[241.1, 286.7]	[243.1, 294.4]	[254.1, 324.3]	[254.6, 329.1]	[265.9, 345.1]	
		[0.25, 0.3]	[280.2, 322.7]	[279.8, 334.3]	[297.9, 381.5]	[299.3, 387.7]	[312.5, 406.7]	
		[0.45, 0.5]	[302.3, 348.7]	[301.6, 365.0]	[324.8, 429.6]	[326.7, 436.7]	[341.3, 458.2]	
		[0.65, 0.7]	[327.0, 378.5]	[326.6, 401.3]	[356.8, 488.6]	[359.1, 499.0]	[375.5, 523.8]	
		[0.85, 0.9]	[355.8, 413.7]	[356.3, 446.1]	[396.3, 573.9]	[399.1, 583.6]	[417.7, 613.4]	
15%		[0, 0.1]	[0.0, 0.0]	[72.7, 80.0]	[111.8, 118.8]	[111.9, 119.3]	[111.8, 118.8]	[112.5, 121.0]
			[0.25, 0.3]	[74.6, 82.8]	[112.1, 119.8]	[112.3, 120.5]	[112.1, 119.8]	[113.1, 122.5]
			[0.45, 0.5]	[76.4, 84.8]	[112.5, 120.7]	[112.8, 121.5]	[112.5, 120.7]	[113.7, 123.7]
			[0.65, 0.7]	[78.2, 86.9]	[113.0, 121.7]	[113.4, 122.5]	[113.0, 121.7]	[114.5, 125.0]
			[0.85, 0.9]	[80.4, 89.1]	[113.7, 122.9]	[114.2, 123.8]	[113.7, 122.9]	[115.4, 126.5]
	[0.45, 0.5]	[0.0, 0.0]	[108.6, 115.9]	[128.8, 138.0]	[129.8, 139.4]	[129.1, 138.7]	[132.9, 144.4]	
		[0.25, 0.3]	[113.4, 122.3]	[132.5, 143.4]	[133.6, 144.8]	[132.9, 144.4]	[137.0, 150.5]	
		[0.45, 0.5]	[117.7, 127.1]	[135.8, 147.4]	[137.0, 149.0]	[136.4, 148.8]	[140.8, 155.1]	
		[0.65, 0.7]	[122.2, 132.1]	[139.5, 151.9]	[140.8, 153.6]	[140.3, 153.6]	[144.8, 160.2]	
		[0.85, 0.9]	[127.5, 137.6]	[143.8, 156.9]	[145.2, 158.8]	[144.8, 159.0]	[149.6, 165.9]	
	[0.85, 0.9]	[0.0, 0.0]	[226.3, 256.4]	[228.6, 257.4]	[237.9, 275.7]	[238.4, 278.1]	[248.9, 293.9]	
		[0.25, 0.3]	[256.5, 294.5]	[256.6, 302.2]	[270.6, 336.4]	[271.7, 341.7]	[284.0, 359.2]	
		[0.45, 0.5]	[283.8, 326.5]	[282.8, 337.8]	[302.3, 388.9]	[303.9, 395.6]	[317.9, 415.9]	
		[0.65, 0.7]	[316.1, 365.2]	[314.6, 382.9]	[342.5, 462.4]	[344.7, 470.6]	[361.0, 495.0]	
		[0.85, 0.9]	[379.8, 413.7]	[380.0, 443.1]	[431.2, 575.1]	[434.6, 584.4]	[456.3, 615.7]	
	20%	[0, 0.1]	[0.0, 0.0]	[72.5, 79.6]	[112.2, 119.2]	[112.2, 119.7]	[112.2, 119.2]	[112.8, 121.4]
			[0.25, 0.3]	[75.0, 83.9]	[112.5, 120.8]	[112.8, 121.5]	[112.5, 120.8]	[113.6, 123.7]
			[0.45, 0.5]	[77.3, 85.7]	[113.1, 121.6]	[113.5, 122.5]	[113.1, 121.7]	[114.5, 124.9]
			[0.65, 0.7]	[79.7, 88.5]	[113.8, 123.1]	[114.3, 124.0]	[113.9, 123.1]	[115.6, 126.8]
			[0.85, 0.9]	[82.3, 91.8]	[114.8, 124.9]	[115.4, 125.9]	[114.9, 125.0]	[116.9, 129.0]
[0.45, 0.5]		[0.0, 0.0]	[106.1, 112.9]	[127.2, 136.1]	[128.3, 137.5]	[127.5, 136.7]	[131.4, 142.4]	
		[0.25, 0.3]	[112.1, 122.2]	[131.7, 143.6]	[132.9, 145.0]	[132.2, 144.6]	[136.4, 150.9]	
		[0.45, 0.5]	[117.5, 126.9]	[135.9, 147.7]	[137.2, 149.4]	[136.6, 149.1]	[141.1, 155.7]	
		[0.65, 0.7]	[123.4, 133.5]	[140.7, 153.5]	[142.1, 155.4]	[141.6, 155.3]	[146.4, 162.3]	
		[0.85, 0.9]	[129.8, 141.0]	[146.2, 160.3]	[147.7, 162.5]	[147.4, 162.8]	[152.5, 170.2]	
[0.85, 0.9]		[0.0, 0.0]	[205.0, 229.3]	[209.7, 232.2]	[216.7, 245.0]	[217.4, 246.6]	[226.6, 261.3]	
		[0.25, 0.3]	[237.9, 279.8]	[239.1, 279.1]	[250.4, 304.6]	[251.2, 307.9]	[262.9, 326.5]	
		[0.45, 0.5]	[268.7, 308.5]	[267.9, 316.7]	[284.7, 358.8]	[286.1, 365.0]	[299.7, 384.5]	
		[0.65, 0.7]	[306.8, 353.7]	[304.6, 367.7]	[330.6, 439.6]	[332.7, 447.7]	[349.1, 471.8]	
		[0.85, 0.9]	[356.3, 414.0]	[354.0, 440.2]	[396.7, 652.2]	[399.8, 585.0]	[420.3, 617.8]	

Table 8: $PRE_N \in [PRE_L, PRE_U]$ of different estimators when $\sigma_{x_N} = [35, 40]$, $\sigma_{y_N} = [35, 40]$, with different % of ME, varying study-auxiliary correlation ρ_{xyN} , and ME correlation ρ_{uvN}

% of ME	ρ_{xyN}	ρ_{uvN}	T_r	T_{lr}	T_{slr}	T_{spr}	T_p	
5%	[0, 0.1]	[0.0, 0.0]	[84.6, 84.4]	[126.1, 125.9]	[126.1, 126.2]	[126.1, 125.9]	[127.1, 127.7]	
		[0.25, 0.3]	[85.3, 85.4]	[126.2, 126.1]	[126.3, 126.6]	[126.2, 126.2]	[127.3, 128.2]	
		[0.45, 0.5]	[85.9, 86.0]	[126.3, 126.3]	[126.5, 126.8]	[126.3, 126.4]	[127.6, 128.5]	
		[0.65, 0.7]	[86.4, 86.7]	[126.4, 126.6]	[126.6, 127.1]	[126.4, 126.6]	[127.8, 128.9]	
		[0.85, 0.9]	[87.0, 87.3]	[126.5, 126.8]	[126.8, 127.3]	[126.6, 126.8]	[128.0, 129.2]	
	[0.45, 0.5]	[0.0, 0.0]	[113.4, 124.0]	[134.0, 150.8]	[135.1, 151.4]	[134.6, 152.1]	[139.0, 157.3]	
		[0.25, 0.3]	[115.3, 126.2]	[135.6, 153.0]	[136.7, 153.6]	[136.2, 154.5]	[140.7, 159.8]	
		[0.45, 0.5]	[116.8, 127.5]	[136.7, 154.5]	[137.8, 155.1]	[137.4, 156.1]	[142.0, 161.4]	
		[0.65, 0.7]	[118.2, 128.9]	[137.9, 156.0]	[139.0, 156.6]	[138.6, 157.7]	[143.3, 163.1]	
		[0.85, 0.9]	[119.7, 130.3]	[139.2, 157.5]	[140.3, 158.1]	[140.0, 159.4]	[144.7, 164.8]	
	[0.85, 0.9]	[0.0, 0.0]	[238.4, 246.3]	[274.2, 327.1]	[296.9, 382.5]	[304.4, 403.0]	[311.3, 404.0]	
		[0.25, 0.3]	[246.7, 255.8]	[287.1, 348.0]	[314.5, 420.7]	[322.7, 443.6]	[330.0, 444.3]	
		[0.45, 0.5]	[252.3, 261.6]	[296.9, 362.1]	[328.4, 449.6]	[337.2, 472.7]	[344.1, 473.1]	
		[0.65, 0.7]	[259.1, 267.2]	[307.7, 377.6]	[344.1, 481.2]	[353.3, 506.7]	[360.5, 508.8]	
		[0.85, 0.9]	[265.5, 274.0]	[319.3, 394.6]	[361.6, 519.9]	[371.3, 546.3]	[378.5, 549.2]	
	10%	[0, 0.1]	[0.0, 0.0]	[84.4, 84.0]	[126.8, 126.5]	[126.9, 126.9]	[126.8, 126.5]	[127.8, 128.4]
			[0.25, 0.3]	[85.8, 85.9]	[127.0, 127.0]	[127.2, 127.5]	[127.0, 127.0]	[128.3, 129.3]
			[0.45, 0.5]	[87.0, 87.1]	[127.3, 127.4]	[127.6, 128.0]	[127.3, 127.5]	[128.9, 130.0]
			[0.65, 0.7]	[88.0, 88.4]	[127.6, 128.0]	[127.9, 128.6]	[127.6, 128.0]	[129.4, 130.8]
			[0.85, 0.9]	[89.1, 89.6]	[127.9, 128.5]	[128.3, 129.2]	[127.9, 128.5]	[129.9, 131.5]
		[0.45, 0.5]	[0.0, 0.0]	[110.7, 120.9]	[132.2, 148.5]	[133.3, 149.1]	[132.7, 149.5]	[137.1, 155.0]
			[0.25, 0.3]	[114.2, 125.0]	[135.0, 152.5]	[136.1, 153.1]	[135.6, 153.9]	[140.2, 159.4]
			[0.45, 0.5]	[116.9, 127.5]	[137.2, 155.1]	[138.3, 155.8]	[137.9, 156.8]	[142.7, 162.4]
			[0.65, 0.7]	[119.7, 130.3]	[139.5, 158.1]	[140.7, 158.7]	[140.3, 160.0]	[145.3, 165.7]
[0.85, 0.9]			[122.6, 133.0]	[142.0, 161.1]	[143.2, 161.9]	[142.9, 163.4]	[148.1, 169.2]	
[0.85, 0.9]		[0.0, 0.0]	[217.9, 225.7]	[244.1, 284.3]	[258.1, 313.4]	[264.1, 330.0]	[271.1, 331.6]	
		[0.25, 0.3]	[231.6, 252.6]	[263.2, 326.2]	[282.9, 383.3]	[290.0, 402.8]	[297.0, 404.6]	
		[0.45, 0.5]	[241.2, 264.1]	[278.9, 350.4]	[304.0, 429.7]	[312.2, 450.5]	[319.5, 452.7]	
		[0.65, 0.7]	[257.1, 276.8]	[314.0, 379.0]	[355.4, 511.8]	[366.4, 512.9]	[371.9, 514.0]	
		[0.85, 0.9]	[269.7, 290.6]	[338.1, 413.4]	[394.2, 606.7]	[406.1, 598.3]	[411.7, 599.0]	
15%		[0, 0.1]	[0.0, 0.0]	[84.2, 83.7]	[127.6, 127.1]	[127.6, 127.5]	[127.6, 127.1]	[128.6, 129.1]
			[0.25, 0.3]	[86.4, 86.3]	[128.0, 127.9]	[128.2, 128.5]	[128.0, 127.9]	[129.5, 130.5]
			[0.45, 0.5]	[88.0, 88.3]	[128.3, 128.7]	[128.7, 129.4]	[128.4, 128.7]	[130.2, 131.6]
			[0.65, 0.7]	[89.4, 90.1]	[128.8, 129.5]	[129.2, 130.3]	[128.8, 129.5]	[130.9, 132.8]
			[0.85, 0.9]	[91.0, 91.8]	[129.4, 130.4]	[129.9, 131.2]	[129.5, 130.4]	[131.9, 134.0]
		[0.45, 0.5]	[0.0, 0.0]	[108.3, 118.3]	[130.7, 146.6]	[131.8, 147.3]	[131.1, 147.5]	[135.6, 153.1]
			[0.25, 0.3]	[113.3, 123.9]	[134.6, 152.0]	[135.7, 152.7]	[135.1, 153.4]	[140.0, 159.2]
			[0.45, 0.5]	[117.1, 127.7]	[137.6, 155.9]	[138.8, 156.6]	[138.3, 157.6]	[143.4, 163.5]
			[0.65, 0.7]	[121.0, 131.5]	[141.0, 160.1]	[142.2, 160.8]	[141.8, 162.2]	[147.1, 168.3]
	[0.85, 0.9]		[125.3, 135.6]	[144.7, 164.6]	[146.1, 166.0]	[145.8, 167.3]	[151.4, 172.7]	
	[0.85, 0.9]	[0.0, 0.0]	[201.9, 224.4]	[222.9, 258.6]	[232.5, 279.5]	[237.0, 289.0]	[244.1, 297.7]	
		[0.25, 0.3]	[222.6, 250.6]	[255.9, 299.4]	[273.4, 338.9]	[281.2, 353.9]	[286.9, 361.2]	
		[0.45, 0.5]	[236.5, 254.2]	[277.5, 328.2]	[302.9, 389.6]	[312.2, 409.3]	[318.3, 411.1]	
		[0.65, 0.7]	[252.1, 271.2]	[304.0, 364.4]	[341.5, 458.3]	[352.4, 484.6]	[353.8, 485.3]	
		[0.85, 0.9]	[269.9, 290.6]	[337.0, 410.8]	[394.4, 588.9]	[406.8, 599.4]	[412.8, 601.1]	
	20%	[0, 0.1]	[0.0, 0.0]	[84.1, 83.4]	[128.3, 127.8]	[128.4, 128.2]	[128.3, 127.8]	[129.4, 129.8]
			[0.25, 0.3]	[86.6, 86.8]	[128.7, 128.8]	[129.0, 129.4]	[128.7, 128.8]	[130.4, 131.6]
			[0.45, 0.5]	[88.9, 89.1]	[129.4, 129.7]	[129.9, 130.5]	[129.4, 129.8]	[131.6, 133.0]
			[0.65, 0.7]	[90.8, 91.7]	[130.1, 131.1]	[130.6, 131.9]	[130.1, 131.1]	[132.6, 134.8]
			[0.85, 0.9]	[93.1, 94.1]	[131.2, 132.4]	[131.8, 133.3]	[131.2, 132.4]	[134.1, 136.5]
		[0.45, 0.5]	[0.0, 0.0]	[106.1, 115.9]	[129.5, 145.1]	[130.6, 145.8]	[129.9, 145.8]	[134.4, 151.6]
			[0.25, 0.3]	[112.2, 122.9]	[134.1, 151.7]	[135.3, 152.4]	[134.7, 153.0]	[139.7, 159.1]
			[0.45, 0.5]	[117.2, 127.6]	[138.1, 156.5]	[139.3, 157.2]	[138.8, 158.2]	[144.1, 164.5]
			[0.65, 0.7]	[122.3, 132.7]	[142.4, 162.1]	[143.7, 162.8]	[143.4, 164.4]	[149.0, 170.8]
[0.85, 0.9]			[128.1, 138.1]	[147.5, 168.1]	[148.9, 169.0]	[148.8, 171.3]	[154.7, 178.4]	
[0.85, 0.9]		[0.0, 0.0]	[186.9, 207.9]	[212.7, 236.2]	[220.0, 241.2]	[225.1, 257.4]	[225.9, 266.1]	
		[0.25, 0.3]	[212.3, 237.5]	[240.7, 278.6]	[249.8, 308.1]	[261.2, 321.1]	[266.5, 329.1]	
		[0.45, 0.5]	[228.7, 245.4]	[264.9, 310.9]	[286.5, 358.7]	[294.8, 378.9]	[301.3, 381.3]	
		[0.65, 0.7]	[247.7, 266.3]	[295.6, 352.2]	[329.9, 438.5]	[340.8, 461.8]	[347.1, 462.5]	
		[0.85, 0.9]	[270.0, 290.5]	[335.9, 408.2]	[394.7, 587.2]	[407.5, 600.5]	[414.0, 603.5]	

Table 9: $PRE_N \in [PRE_L, PRE_U]$ of neutrosophic estimators for real dataset

Estimators	PRE_N
T_r	[508.463, 511.036]
T_{lr}	[517.635, 536.416]
T_{slr}	[517.505, 536.196]
T_{spr}	[517.635, 536.416]
T_p	[521.319, 539.892]