Appendix Table: estimates of other parameters when c11 = 1

Scenario 9, 10, 15, 16

Yi

2021-03-29

Load data

```
s.rdt <- "scenario/18rows/set-0.5b-all-c10.RData"
dt <- "res/DT-pkg-0.5b-all-c10/"
```

Scenario 9

Scenario 10

Scenario 15

Scenario 16

Table 1: Estimates of the parameters when $c_1^2 = 1, c_2^2 = 0$

S	Par	True	Proposed $(\tilde{c}_1^2, \tilde{c}_2^2)$	Proposed $(c_1^2 = 1)$	Proposed $(c_1^2 = c_2^2)$	Reitsma$_O$	Reitsma$_P$
25	sAUC	0.83	0.84 [0.80, 0.87]	0.83 [0.79, 0.86]	0.84 [0.81, 0.87]	0.86 [0.84, 0.88]	0.83 [0.80, 0.85]
	μ_1	1.39	1.57 [1.37, 1.80]	1.43 [1.15, 1.66]	1.66 [1.47, 1.82]	1.71 [1.55, 1.87]	1.39 [1.22, 1.54]
	μ_2	1.39	0.74 [0.19, 1.27]	1.37 [0.99, 1.72]	0.69 [0.16, 1.17]	1.20 [0.87, 1.57]	1.39 [1.12, 1.69]
	τ_1^2	1.00	0.69 [0.46, 0.97]	0.84 [0.51, 1.31]	0.61 [0.41, 0.84]	0.59 [0.40, 0.81]	0.91 [0.67, 1.16]
	τ_2^2	4.00	4.48 [3.13, 6.11]	3.66 [2.69, 4.69]	4.44 [3.14, 6.06]	3.45 [2.60, 4.51]	3.66 [2.93, 4.60]
	τ_{12}	-0.60	-0.30 [-0.78, 0.06]	-0.46 [-0.98, -0.10]	-0.24 [-0.64, 0.09]	-0.36 [-0.70, -0.07]	-0.53 [-0.87, -0.25]
	β	0.50	1.29 [0.39, 2.00]	0.66 [0.25, 2.00]	0.27 [0.06, 0.82]		
	$\alpha_{0.7}$	-0.58	-0.46 [-1.63, 0.45]	-0.59 [-1.34, -0.13]	0.10 [-0.28, 0.41]		
	c_1^2	1.00	0.76 [0.24, 0.99]				
	CR		99.4	99.6	99.9	99.8	99.8
50	sAUC	0.83	0.83 [0.81, 0.86]	0.83 [0.81, 0.85]	0.85 [0.83, 0.87]	0.86 [0.85, 0.88]	0.83 [0.81, 0.84]
	μ_1	1.39	1.54 [1.37, 1.74]	1.42 [1.20, 1.59]	1.67 [1.55, 1.79]	1.72 [1.60, 1.84]	1.38 [1.26, 1.50]
	μ_2	1.39	0.86 [0.35, 1.30]	1.38 [1.12, 1.65]	0.78 [0.35, 1.15]	1.23 [0.99, 1.45]	1.39 [1.18, 1.58]
	τ_1^2	1.00	0.76 [0.60, 0.98]	0.90 [0.66, 1.27]	0.66 [0.54, 0.81]	0.64 [0.53, 0.79]	0.96 [0.81, 1.14]
	τ_2^2	4.00	4.47 [3.54, 5.50]	3.82 [3.10, 4.55]	4.40 [3.49, 5.57]	3.71 [3.02, 4.40]	3.83 [3.31, 4.45]
	τ_{12}	-0.60	-0.37 [-0.72, -0.03]	-0.56 [-0.92, -0.27]	-0.34 [-0.60, -0.05]	-0.42 [-0.65, -0.20]	-0.58 [-0.82, -0.35]
	β	0.50	0.62 [0.31, 1.21]	0.54 [0.27, 0.93]	0.18 [0.04, 0.45]		
	$\alpha_{0.7}$	-0.58	-0.49 [-1.07, 0.25]	-0.53 [-0.93, -0.25]	0.14 [-0.12, 0.38]		
	c_1^2	1.00	0.87 [0.39, 1.00]				
	CR		99.9	99.8	99.9	99.9	100
200	sAUC	0.83	0.83 [0.82, 0.85]	0.83 [0.81, 0.84]	0.85 [0.84, 0.86]	0.86 [0.86, 0.87]	0.83 [0.82, 0.84]
	μ_1	1.39	1.49 [1.36, 1.65]	1.39 [1.29, 1.48]	1.68 [1.62, 1.74]	1.73 [1.67, 1.78]	1.38 [1.33, 1.44]
	μ_2	1.39	1.11 [0.73, 1.38]	1.40 [1.24, 1.52]	0.90 [0.62, 1.12]	1.23 [1.10, 1.34]	1.38 [1.30, 1.49]
	τ_1^2	1.00	0.82 [0.70, 1.01]	0.97 [0.81, 1.16]	0.68 [0.61, 0.77]	0.68 [0.61, 0.76]	0.99 [0.90, 1.08]
	τ_2^2	4.00	4.15 [3.75, 4.72]	3.93 [3.60, 4.32]	4.27 [3.84, 4.87]	3.85 [3.53, 4.22]	3.98 [3.67, 4.26]
	τ_{12}	-0.60	-0.45 [-0.64, -0.24]	-0.59 [-0.76, -0.42]	-0.37 [-0.51, -0.22]	-0.43 [-0.55, -0.32]	-0.60 [-0.72, -0.47]
	β	0.50	0.47 [0.29, 0.65]	0.52 [0.38, 0.67]	0.13 [0.02, 0.26]		
	$\alpha_{0.7}$	-0.58	-0.52 [-0.76, -0.09]	-0.57 [-0.72, -0.44]	0.12 [-0.07, 0.39]		
	c_1^2	1.00	0.98 [0.59, 1.00]				
	CR		97.8	100	97.7	99.9	99.9

Table 2: Estimates of the parameters when $c_1^2 = 1, c_2^2 = 0$

S	Par	True	Proposed $(\tilde{c}_1^2, \tilde{c}_2^2)$	Proposed $(c_1^2 = 1)$	Proposed $(c_1^2 = c_2^2)$	Reitsma$_O$	Reitsma$_P$
25	sAUC	0.85	0.85 [0.82, 0.87]	0.85 [0.82, 0.87]	0.86 [0.83, 0.88]	0.87 [0.85, 0.89]	0.85 [0.82, 0.86]
	μ_1	1.39	1.67 [1.43, 1.89]	1.43 [1.17, 1.67]	1.71 [1.53, 1.89]	1.72 [1.55, 1.89]	1.38 [1.21, 1.54]
	μ_2	1.39	0.53 [-0.03, 1.13]	1.31 [0.94, 1.72]	0.51 [0.01, 0.96]	1.05 [0.73, 1.38]	1.39 [1.13, 1.67]
	τ_1^2	1.00	0.68 [0.48, 0.98]	0.83 [0.55, 1.28]	0.60 [0.44, 0.82]	0.59 [0.43, 0.82]	0.92 [0.70, 1.19]
	τ_2^2	4.00	4.34 [2.97, 5.75]	3.50 [2.62, 4.66]	4.16 [2.95, 5.70]	3.24 [2.43, 4.20]	3.67 [2.93, 4.50]
	τ_{12}	-1.20	-0.88 [-1.36, -0.45]	-1.01 [-1.57, -0.59]	-0.75 [-1.17, -0.37]	-0.77 [-1.12, -0.45]	-1.10 [-1.49, -0.79]
	β	0.50	1.76 [0.49, 2.00]	0.63 [0.22, 2.00]	0.36 [0.08, 1.28]		
	$\alpha_{0.7}$	-0.57	-0.55 [-1.81, 0.43]	-0.56 [-1.29, -0.09]	-0.02 [-0.52, 0.33]		
	c_1^2	1.00	0.64 [0.26, 0.96]				
	CR		99.8	99.5	99.9	100	100
50	sAUC	0.85	0.85 [0.83, 0.87]	0.85 [0.83, 0.87]	0.86 [0.84, 0.87]	0.87 [0.86, 0.88]	0.85 [0.83, 0.86]
	μ_1	1.39	1.66 [1.45, 1.83]	1.43 [1.23, 1.59]	1.72 [1.61, 1.84]	1.73 [1.62, 1.83]	1.40 [1.29, 1.50]
	μ_2	1.39	0.61 [0.11, 1.08]	1.34 [1.06, 1.61]	0.57 [0.19, 0.88]	1.05 [0.82, 1.28]	1.37 [1.18, 1.57]
	τ_1^2	1.00	0.73 [0.58, 0.93]	0.90 [0.66, 1.25]	0.64 [0.52, 0.79]	0.64 [0.52, 0.79]	0.95 [0.79, 1.12]
	τ_2^2	4.00	4.30 [3.40, 5.64]	3.72 [3.04, 4.65]	4.18 [3.35, 5.40]	3.45 [2.85, 4.17]	3.87 [3.27, 4.50]
	τ_{12}	-1.20	-0.94 [-1.26, -0.60]	-1.11 [-1.48, -0.78]	-0.81 [-1.10, -0.56]	-0.83 [-1.08, -0.61]	-1.16 [-1.39, -0.92]
	β	0.50	0.73 [0.37, 1.89]	0.54 [0.29, 1.02]	0.28 [0.09, 0.62]		
	$\alpha_{0.7}$	-0.57	-0.49 [-1.28, 0.36]	-0.56 [-1.00, -0.27]	-0.01 [-0.37, 0.30]		
	c_1^2	1.00	0.68 [0.28, 0.97]				
	CR		99.8	100	99.8	100	100
200	sAUC	0.85	0.85 [0.84, 0.86]	0.85 [0.84, 0.86]	0.86 [0.85, 0.87]	0.87 [0.86, 0.88]	0.85 [0.84, 0.85]
	μ_1	1.39	1.62 [1.41, 1.74]	1.39 [1.30, 1.49]	1.72 [1.66, 1.78]	1.72 [1.67, 1.78]	1.38 [1.33, 1.44]
	μ_2	1.39	0.86 [0.48, 1.26]	1.37 [1.23, 1.52]	0.66 [0.45, 0.86]	1.06 [0.93, 1.17]	1.39 [1.28, 1.48]
	τ_1^2	1.00	0.76 [0.67, 0.92]	0.97 [0.81, 1.14]	0.68 [0.61, 0.75]	0.69 [0.62, 0.76]	0.99 [0.90, 1.08]
	τ_2^2	4.00	4.13 [3.70, 4.70]	3.94 [3.58, 4.39]	4.12 [3.70, 4.66]	3.66 [3.34, 4.01]	3.99 [3.69, 4.28]
	τ_{12}	-1.20	-0.96 [-1.17, -0.79]	-1.17 [-1.39, -0.99]	-0.87 [-1.01, -0.74]	-0.88 [-1.00, -0.76]	-1.20 [-1.32, -1.06]
	β	0.50	0.44 [0.25, 0.64]	0.51 [0.38, 0.65]	0.20 [0.08, 0.34]		
	$\alpha_{0.7}$	-0.57	-0.49 [-0.78, 0.02]	-0.56 [-0.71, -0.42]	-0.03 [-0.19, 0.21]		
	c_1^2	1.00	0.78 [0.41, 1.00]				
	CR		99.2	99.9	99.3	100	99.9

Table 3: Estimates of the parameters when $c_1^2 = 1, c_2^2 = 0$

S	Par	True	Proposed $(\tilde{c}_1^2, \tilde{c}_2^2)$	Proposed $(c_1^2 = 1)$	Proposed $(c_1^2 = c_2^2)$	Reitsma$_O$	Reitsma$_P$
25	sAUC	0.89	0.90 [0.88, 0.92]	0.89 [0.87, 0.91]	0.91 [0.89, 0.92]	0.91 [0.90, 0.93]	0.89 [0.87, 0.90]
	μ_1	2.20	2.30 [2.10, 2.53]	2.23 [1.98, 2.44]	2.39 [2.21, 2.57]	2.46 [2.29, 2.64]	2.21 [2.05, 2.35]
	μ_2	-0.41	-1.01 [-1.49, -0.55]	-0.44 [-0.77, -0.07]	-1.06 [-1.57, -0.61]	-0.55 [-0.89, -0.21]	-0.41 [-0.68, -0.12]
	τ_1^2	1.00	0.81 [0.57, 1.11]	0.86 [0.58, 1.26]	0.72 [0.52, 0.98]	0.71 [0.51, 0.94]	0.92 [0.68, 1.16]
	τ_2^2	4.00	4.57 [3.25, 5.91]	3.74 [2.79, 4.91]	4.59 [3.27, 5.95]	3.64 [2.69, 4.78]	3.84 [2.98, 4.70]
	τ_{12}	-0.60	-0.38 [-0.78, 0.06]	-0.56 [-0.97, -0.16]	-0.34 [-0.74, 0.05]	-0.46 [-0.81, -0.12]	-0.60 [-0.90, -0.24]
	β	0.50	2.00 [0.45, 2.00]	0.66 [0.28, 2.00]	0.23 [0.02, 0.66]		
	$\alpha_{0.7}$	-1.31	-0.59 [-2.84, 0.94]	-1.66 [-3.60, -0.77]	0.45 [0.22, 0.73]		
	c_1^2	1.00	0.78 [0.37, 0.97]				
	CR		99.1	99.5	99.2	100	99.9
50	sAUC	0.89	0.90 [0.89, 0.91]	0.89 [0.88, 0.91]	0.91 [0.90, 0.92]	0.91 [0.90, 0.92]	0.89 [0.88, 0.90]
	μ_1	2.20	2.28 [2.11, 2.45]	2.22 [2.06, 2.37]	2.41 [2.28, 2.54]	2.47 [2.36, 2.58]	2.20 [2.08, 2.31]
	μ_2	-0.41	-0.94 [-1.40, -0.54]	-0.43 [-0.67, -0.15]	-0.98 [-1.40, -0.62]	-0.55 [-0.78, -0.31]	-0.41 [-0.61, -0.23]
	τ_1^2	1.00	0.88 [0.69, 1.11]	0.95 [0.71, 1.23]	0.78 [0.62, 0.95]	0.77 [0.61, 0.94]	0.96 [0.81, 1.16]
	τ_2^2	4.00	4.30 [3.49, 5.50]	3.74 [3.11, 4.52]	4.32 [3.51, 5.48]	3.67 [3.04, 4.40]	3.86 [3.27, 4.44]
	τ_{12}	-0.60	-0.34 [-0.66, -0.04]	-0.55 [-0.86, -0.27]	-0.35 [-0.63, -0.09]	-0.45 [-0.69, -0.23]	-0.56 [-0.81, -0.34]
	β	0.50	0.68 [0.34, 1.53]	0.56 [0.34, 0.93]	0.17 [0.01, 0.38]		
	$\alpha_{0.7}$	-1.31	-0.75 [-1.93, 0.49]	-1.42 [-2.21, -0.88]	0.39 [0.24, 0.55]		
	c_1^2	1.00	0.84 [0.47, 0.99]				
	CR		98.6	99.6	98.9	99.9	100
200	sAUC	0.89	0.90 [0.89, 0.91]	0.89 [0.88, 0.90]	0.91 [0.91, 0.92]	0.92 [0.91, 0.92]	0.89 [0.89, 0.90]
	μ_1	2.20	2.24 [2.15, 2.34]	2.22 [2.13, 2.28]	2.44 [2.38, 2.50]	2.47 [2.42, 2.53]	2.20 [2.14, 2.25]
	μ_2	-0.41	-0.65 [-0.95, -0.42]	-0.41 [-0.54, -0.27]	-0.77 [-1.01, -0.57]	-0.54 [-0.67, -0.41]	-0.40 [-0.50, -0.31]
	τ_1^2	1.00	0.91 [0.80, 1.07]	0.97 [0.86, 1.11]	0.78 [0.71, 0.87]	0.78 [0.72, 0.86]	1.00 [0.91, 1.08]
	τ_2^2	4.00	4.10 [3.72, 4.62]	3.95 [3.60, 4.34]	4.13 [3.74, 4.61]	3.90 [3.54, 4.26]	3.96 [3.68, 4.26]
	τ_{12}	-0.60	-0.45 [-0.63, -0.28]	-0.59 [-0.75, -0.43]	-0.45 [-0.58, -0.31]	-0.49 [-0.61, -0.36]	-0.58 [-0.71, -0.47]
	β	0.50	0.49 [0.32, 0.64]	0.51 [0.40, 0.63]	0.06 [0.00, 0.16]		
	$\alpha_{0.7}$	-1.31	-1.16 [-1.55, -0.15]	-1.32 [-1.62, -1.06]	0.37 [0.28, 0.46]		
	c_1^2	1.00	0.98 [0.72, 1.00]				
	CR		96.9	99.8	97	99.9	99.8

Table 4: Estimates of the parameters when $c_1^2 = 1, c_2^2 = 0$

S	Par	True	Proposed $(\tilde{c}_1^2, \tilde{c}_2^2)$	Proposed $(c_1^2 = 1)$	Proposed $(c_1^2 = c_2^2)$	Reitsma$_O$	Reitsma$_P$
25	sAUC	0.88	0.89 [0.87, 0.91]	0.88 [0.85, 0.90]	0.89 [0.88, 0.91]	0.90 [0.88, 0.91]	0.88 [0.86, 0.89]
	μ_1	2.20	2.40 [2.17, 2.65]	2.24 [2.02, 2.47]	2.48 [2.29, 2.64]	2.47 [2.29, 2.62]	2.21 [2.04, 2.35]
	μ_2	-0.41	-1.20 [-1.75, -0.66]	-0.44 [-0.83, -0.06]	-1.26 [-1.78, -0.79]	-0.69 [-1.02, -0.35]	-0.41 [-0.70, -0.12]
	τ_1^2	1.00	0.78 [0.54, 1.03]	0.84 [0.58, 1.23]	0.72 [0.51, 0.92]	0.71 [0.50, 0.91]	0.91 [0.68, 1.14]
	τ_2^2	4.00	4.30 [3.03, 5.88]	3.59 [2.64, 4.77]	4.35 [3.15, 6.12]	3.38 [2.49, 4.42]	3.71 [3.01, 4.66]
	τ_{12}	-1.20	-0.92 [-1.39, -0.53]	-1.07 [-1.55, -0.67]	-0.89 [-1.35, -0.51]	-0.91 [-1.27, -0.59]	-1.13 [-1.51, -0.79]
	β	0.50	2.00 [0.59, 2.00]	0.61 [0.24, 1.89]	0.33 [0.08, 1.29]		
	$\alpha_{0.7}$	-1.30	-0.39 [-2.50, 1.19]	-1.56 [-3.54, -0.62]	0.40 [0.13, 0.71]		
	c_1^2	1.00	0.68 [0.38, 0.91]				
	CR		99.4	99.6	99.9	99.6	100
50	sAUC	0.88	0.89 [0.87, 0.90]	0.88 [0.86, 0.90]	0.90 [0.88, 0.91]	0.90 [0.89, 0.91]	0.88 [0.86, 0.89]
	μ_1	2.20	2.37 [2.20, 2.53]	2.21 [2.05, 2.38]	2.46 [2.33, 2.58]	2.46 [2.34, 2.57]	2.19 [2.07, 2.30]
	μ_2	-0.41	-1.15 [-1.58, -0.69]	-0.40 [-0.70, -0.13]	-1.13 [-1.54, -0.80]	-0.66 [-0.90, -0.43]	-0.39 [-0.58, -0.18]
	τ_1^2	1.00	0.81 [0.64, 0.99]	0.90 [0.69, 1.18]	0.73 [0.61, 0.89]	0.74 [0.61, 0.90]	0.94 [0.78, 1.14]
	τ_2^2	4.00	4.41 [3.51, 5.46]	3.80 [3.12, 4.61]	4.32 [3.44, 5.38]	3.60 [2.94, 4.31]	3.81 [3.32, 4.41]
	τ_{12}	-1.20	-0.93 [-1.27, -0.65]	-1.12 [-1.50, -0.82]	-0.92 [-1.24, -0.67]	-0.93 [-1.21, -0.71]	-1.16 [-1.40, -0.92]
	β	0.50	0.75 [0.37, 2.00]	0.56 [0.30, 0.86]	0.23 [0.05, 0.54]		
	$\alpha_{0.7}$	-1.30	-0.48 [-1.79, 0.56]	-1.38 [-2.11, -0.80]	0.35 [0.16, 0.54]		
	c_1^2	1.00	0.71 [0.44, 0.94]				
	CR		99.3	99.3	99.5	99.5	99.9
200	sAUC	0.88	0.88 [0.87, 0.89]	0.88 [0.87, 0.89]	0.90 [0.89, 0.90]	0.90 [0.89, 0.90]	0.88 [0.87, 0.88]
	μ_1	2.20	2.29 [2.18, 2.42]	2.20 [2.13, 2.28]	2.47 [2.40, 2.53]	2.47 [2.40, 2.52]	2.20 [2.13, 2.25]
	μ_2	-0.41	-0.74 [-1.17, -0.45]	-0.41 [-0.55, -0.28]	-0.99 [-1.24, -0.78]	-0.69 [-0.80, -0.56]	-0.40 [-0.50, -0.30]
	τ_1^2	1.00	0.87 [0.77, 1.02]	0.97 [0.86, 1.11]	0.78 [0.71, 0.86]	0.79 [0.71, 0.87]	1.00 [0.91, 1.08]
	τ_2^2	4.00	4.09 [3.68, 4.55]	3.97 [3.60, 4.32]	4.08 [3.69, 4.59]	3.74 [3.42, 4.06]	3.96 [3.66, 4.26]
	τ_{12}	-1.20	-1.02 [-1.22, -0.86]	-1.19 [-1.38, -1.02]	-0.98 [-1.12, -0.85]	-0.98 [-1.11, -0.87]	-1.20 [-1.34, -1.08]
	β	0.50	0.51 [0.36, 0.66]	0.50 [0.40, 0.62]	0.13 [0.02, 0.25]		
	$\alpha_{0.7}$	-1.30	-1.09 [-1.52, -0.13]	-1.32 [-1.58, -1.06]	0.31 [0.21, 0.44]		
	c_1^2	1.00	0.94 [0.65, 1.00]				
	CR		98.6	99.4	99.1	100	99.9