Appendix Table: estimates of other parameters when c11 = 1

Scenario 1-4

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 1

Scenario 2

Scenario 3

Scenario 4

Table 1: Estimates of the parameters in median with 25th and 75th enpirial quantiles 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	μ_1	0.00	0.21 [0.02, 0.38]	0.04 [-0.16, 0.25]	0.27 [0.14, 0.41]	0.33 [0.21, 0.46]	0.01 [-0.11, 0.14]
	μ_2	1.74	1.59 [1.37, 1.77]	1.73 [1.57, 1.88]	1.59 [1.39, 1.74]	1.68 [1.53, 1.80]	1.73 [1.60, 1.85]
	τ_1^2	0.50	0.31 [0.16, 0.53]	0.42 [0.21, 0.70]	0.24 [0.12, 0.41]	0.22 [0.11, 0.36]	0.44 [0.31, 0.59]
	τ_2^2	0.50	0.47 [0.28, 0.70]	0.43 [0.27, 0.61]	0.44 [0.27, 0.65]	0.41 [0.25, 0.59]	0.43 [0.32, 0.58]
	τ_{12}	-0.15	-0.08 [-0.23, 0.04]	-0.13 [-0.28, 0.00]	-0.06 [-0.17, 0.04]	-0.09 [-0.20, 0.01]	-0.14 [-0.24, -0.04]
	β	0.50	0.91 [0.25, 2.00]	0.63 [0.21, 2.00]	0.12 [0.00, 0.72]		
	$\alpha_{0.7}$	0.79	0.24 [-0.75, 0.74]	0.93 [0.54, 2.32]	0.24 [-0.41, 0.49]		
	c_1^2	1.00	0.62 [0.07, 1.00]				
50	μ_1	0.00	0.19 [-0.03, 0.34]	0.01 [-0.14, 0.17]	0.29 [0.18, 0.38]	0.33 [0.25, 0.42]	-0.00 [-0.09, 0.08]
	μ_2	1.74	1.62 [1.46, 1.75]	1.73 [1.62, 1.84]	1.61 [1.47, 1.74]	1.67 [1.58, 1.77]	1.73 [1.66, 1.81]
	τ_1^2	0.50	0.35 [0.23, 0.53]	0.48 [0.32, 0.67]	0.28 [0.20, 0.38]	0.26 [0.18, 0.34]	0.47 [0.39, 0.58]
	τ_2^2	0.50	0.50 [0.39, 0.66]	0.47 [0.37, 0.59]	0.48 [0.37, 0.62]	0.46 [0.36, 0.57]	0.47 [0.38, 0.58]
	τ_{12}	-0.15	-0.10 [-0.20, -0.00]	-0.14 [-0.25, -0.05]	-0.08 [-0.16, 0.00]	-0.10 [-0.18, -0.03]	-0.14 [-0.22, -0.07]
	β	0.50	0.66 [0.23, 1.42]	0.57 [0.29, 1.10]	0.05 [0.00, 0.44]		
	$\alpha_{0.7}$	0.79	0.41 [-0.44, 0.99]	0.89 [0.56, 1.66]	0.32 [-0.23, 0.50]		
	c_1^2	1.00	0.72 [0.09, 1.00]				
200	μ_1	0.00	0.08 [-0.06, 0.31]	-0.01 [-0.08, 0.08]	0.32 [0.28, 0.37]	0.33 [0.29, 0.38]	-0.00 [-0.05, 0.04]
	μ_2	1.74	1.69 [1.60, 1.76]	1.74 [1.69, 1.79]	1.66 [1.60, 1.71]	1.68 [1.63, 1.73]	1.73 [1.69, 1.78]
	τ_1^2	0.50	0.42 [0.31, 0.55]	0.50 [0.41, 0.60]	0.29 [0.25, 0.33]	0.28 [0.24, 0.32]	0.49 [0.45, 0.54]
	τ_2^2	0.50	0.50 [0.44, 0.57]	0.49 [0.44, 0.55]	0.49 [0.43, 0.55]	0.48 [0.43, 0.54]	0.50 [0.45, 0.55]
	τ_{12}	-0.15	-0.13 [-0.18, -0.08]	-0.15 [-0.20, -0.10]	-0.10 [-0.14, -0.06]	-0.10 [-0.14, -0.07]	-0.15 [-0.19, -0.11]
	β	0.50	0.47 [0.25, 0.68]	0.54 [0.39, 0.70]	0.01 [0.00, 0.09]		
	$\alpha_{0.7}$	0.79	0.63 [0.39, 0.99]	0.83 [0.64, 1.11]	0.46 [0.31, 0.52]		
	c_1^2	1.00	1.00 [0.18, 1.00]				

Table 2: Estimates of the parameters in median with 25th and 75th enpirial quantiles 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	μ_1	0.00	0.23 [0.03, 0.39]	0.02 [-0.18, 0.23]	0.29 [0.15, 0.41]	0.33 [0.21, 0.45]	0.00 [-0.12, 0.13]
	μ_2	1.74	1.56 [1.35, 1.74]	1.72 [1.56, 1.92]	1.55 [1.37, 1.72]	1.62 [1.46, 1.77]	1.74 [1.61, 1.85]
	τ_1^2	0.50	0.33 [0.18, 0.54]	0.46 [0.25, 0.76]	0.26 [0.15, 0.42]	0.25 [0.14, 0.38]	0.46 [0.33, 0.60]
	τ_2^2	0.50	0.46 [0.30, 0.70]	0.44 [0.29, 0.63]	0.42 [0.27, 0.61]	0.40 [0.27, 0.57]	0.45 [0.33, 0.58]
	τ_{12}	-0.30	-0.22 [-0.37, -0.08]	-0.27 [-0.44, -0.13]	-0.18 [-0.29, -0.06]	-0.19 [-0.30, -0.08]	-0.28 [-0.39, -0.17]
	β	0.50	0.99 [0.29, 2.00]	0.71 [0.24, 2.00]	0.13 [0.00, 0.82]		
	$\alpha_{0.7}$	0.81	0.11 [-0.90, 0.72]	1.06 [0.58, 2.63]	0.19 [-0.55, 0.50]		
	c_1^2	1.00	0.51 [0.06, 1.00]				
50	μ_1	0.00	0.21 [-0.00, 0.36]	0.01 [-0.13, 0.16]	0.29 [0.20, 0.38]	0.32 [0.24, 0.41]	0.01 [-0.08, 0.09]
	μ_2	1.74	1.59 [1.43, 1.73]	1.72 [1.60, 1.84]	1.56 [1.44, 1.67]	1.61 [1.51, 1.71]	1.73 [1.65, 1.81]
	τ_1^2	0.50	0.36 [0.23, 0.51]	0.46 [0.32, 0.67]	0.27 [0.19, 0.37]	0.26 [0.18, 0.36]	0.46 [0.38, 0.57]
	τ_2^2	0.50	0.48 [0.36, 0.63]	0.47 [0.36, 0.60]	0.45 [0.35, 0.58]	0.43 [0.34, 0.56]	0.48 [0.39, 0.58]
	τ_{12}	-0.30	-0.23 [-0.35, -0.13]	-0.29 [-0.41, -0.17]	-0.19 [-0.28, -0.11]	-0.20 [-0.28, -0.12]	-0.29 [-0.36, -0.22]
	β	0.50	0.61 [0.22, 1.32]	0.58 [0.30, 1.13]	0.03 [0.00, 0.40]		
	$\alpha_{0.7}$	0.81	0.45 [-0.35, 0.99]	0.92 [0.58, 1.75]	0.36 [-0.18, 0.53]		
	c_1^2	1.00	0.77 [0.11, 1.00]				
200	μ_1	0.00	0.09 [-0.04, 0.32]	-0.01 [-0.08, 0.08]	0.31 [0.26, 0.35]	0.33 [0.28, 0.37]	0.00 [-0.04, 0.05]
	μ_2	1.74	1.68 [1.57, 1.76]	1.74 [1.69, 1.79]	1.61 [1.55, 1.65]	1.62 [1.57, 1.67]	1.74 [1.70, 1.78]
	τ_1^2	0.50	0.40 [0.31, 0.53]	0.50 [0.41, 0.61]	0.29 [0.25, 0.34]	0.29 [0.25, 0.33]	0.49 [0.45, 0.55]
	τ_2^2	0.50	0.49 [0.43, 0.55]	0.49 [0.43, 0.55]	0.46 [0.41, 0.52]	0.46 [0.41, 0.51]	0.49 [0.44, 0.54]
	τ_{12}	-0.30	-0.26 [-0.32, -0.21]	-0.30 [-0.36, -0.24]	-0.21 [-0.25, -0.17]	-0.21 [-0.25, -0.17]	-0.30 [-0.34, -0.25]
	β	0.50	0.45 [0.23, 0.68]	0.53 [0.40, 0.71]	0.00 [0.00, 0.12]		
	$\alpha_{0.7}$	0.81	0.63 [0.33, 0.96]	0.86 [0.67, 1.13]	0.49 [0.25, 0.54]		
	c_1^2	1.00	1.00 [0.13, 1.00]				

Table 3: Estimates of the parameters in median with 25th and 75th enpirial quantiles 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	μ_1	0.00	0.27 [-0.03, 0.53]	0.03 [-0.23, 0.28]	0.41 [0.23, 0.57]	0.47 [0.32, 0.63]	0.00 [-0.15, 0.16]
	μ_2	1.74	1.16 [0.56, 1.68]	1.73 [1.34, 2.09]	1.07 [0.57, 1.56]	1.57 [1.21, 1.84]	1.74 [1.49, 2.01]
	τ_1^2	1.00	0.68 [0.39, 1.06]	0.91 [0.52, 1.33]	0.52 [0.31, 0.78]	0.48 [0.28, 0.72]	0.91 [0.70, 1.20]
	τ_2^2	4.00	4.51 [3.34, 5.82]	3.68 [2.77, 4.69]	4.37 [3.17, 5.95]	3.51 [2.64, 4.50]	3.67 [2.96, 4.49]
	τ_{12}	-0.60	-0.33 [-0.80, 0.12]	-0.49 [-0.99, -0.06]	-0.23 [-0.61, 0.16]	-0.33 [-0.67, -0.03]	-0.55 [-0.88, -0.25]
	β	0.50	2.00 [0.35, 2.00]	0.81 [0.30, 2.00]	0.20 [0.00, 0.94]		
	$\alpha_{0.7}$	0.91	1.11 [0.43, 2.91]	1.36 [0.61, 3.03]	0.49 [0.27, 0.74]		
	c_1^2	1.00	0.79 [0.19, 1.00]				
50	μ_1	0.00	0.19 [-0.08, 0.46]	0.01 [-0.18, 0.21]	0.41 [0.29, 0.53]	0.47 [0.35, 0.57]	0.00 [-0.11, 0.11]
	μ_2	1.74	1.31 [0.74, 1.73]	1.73 [1.44, 2.02]	1.22 [0.78, 1.58]	1.56 [1.31, 1.78]	1.75 [1.54, 1.94]
	τ_1^2	1.00	0.77 [0.53, 1.10]	0.94 [0.67, 1.30]	0.55 [0.40, 0.74]	0.53 [0.38, 0.71]	0.95 [0.78, 1.13]
	τ_2^2	4.00	4.46 [3.59, 5.50]	3.92 [3.19, 4.67]	4.32 [3.47, 5.43]	3.81 [3.11, 4.51]	3.91 [3.33, 4.47]
	τ_{12}	-0.60	-0.42 [-0.79, -0.07]	-0.55 [-0.92, -0.24]	-0.31 [-0.58, -0.04]	-0.38 [-0.62, -0.16]	-0.56 [-0.82, -0.35]
	β	0.50	0.69 [0.30, 2.00]	0.64 [0.34, 1.25]	0.08 [0.00, 0.39]		
	$\alpha_{0.7}$	0.91	1.00 [0.49, 2.21]	1.12 [0.64, 2.16]	0.48 [0.33, 0.63]		
	c_1^2	1.00	0.94 [0.34, 1.00]				
200	μ_1	0.00	0.03 [-0.08, 0.27]	0.00 [-0.10, 0.09]	0.44 [0.38, 0.49]	0.46 [0.41, 0.51]	-0.00 [-0.06, 0.05]
	μ_2	1.74	1.62 [1.39, 1.79]	1.73 [1.58, 1.86]	1.45 [1.25, 1.59]	1.54 [1.42, 1.66]	1.73 [1.63, 1.84]
	τ_1^2	1.00	0.92 [0.70, 1.14]	0.98 [0.83, 1.16]	0.58 [0.50, 0.67]	0.57 [0.50, 0.66]	0.99 [0.90, 1.08]
	τ_2^2	4.00	4.04 [3.64, 4.45]	3.93 [3.57, 4.29]	3.96 [3.58, 4.37]	3.86 [3.51, 4.19]	3.95 [3.67, 4.25]
	τ_{12}	-0.60	-0.52 [-0.71, -0.34]	-0.58 [-0.76, -0.42]	-0.38 [-0.51, -0.25]	-0.40 [-0.52, -0.28]	-0.59 [-0.72, -0.48]
	β	0.50	0.49 [0.33, 0.69]	0.52 [0.39, 0.67]	0.01 [0.00, 0.07]		
	$\alpha_{0.7}$	0.91	0.86 [0.55, 1.21]	0.93 [0.72, 1.24]	0.49 [0.39, 0.54]		
	c_1^2	1.00	1.00 [0.86, 1.00]				

Table 4: Estimates of the parameters in median with 25th and 75th enpirial quantiles 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	μ_1	0.00	0.37 [0.07, 0.59]	0.03 [-0.22, 0.26]	0.43 [0.28, 0.60]	0.45 [0.30, 0.60]	-0.01 [-0.15, 0.15]
	μ_2	1.74	0.95 [0.35, 1.51]	1.67 [1.34, 2.07]	0.88 [0.36, 1.33]	1.36 [1.03, 1.66]	1.74 [1.45, 2.02]
	τ_1^2	1.00	0.66 [0.43, 0.96]	0.90 [0.56, 1.35]	0.53 [0.32, 0.76]	0.51 [0.31, 0.73]	0.92 [0.68, 1.15]
	τ_2^2	4.00	4.36 [3.05, 5.78]	3.72 [2.63, 4.81]	4.17 [2.91, 5.73]	3.37 [2.41, 4.35]	3.75 [2.98, 4.61]
	τ_{12}	-1.20	-0.88 [-1.36, -0.40]	-1.07 [-1.65, -0.54]	-0.71 [-1.14, -0.30]	-0.73 [-1.10, -0.39]	-1.13 [-1.51, -0.78]
	β	0.50	1.54 [0.29, 2.00]	0.76 [0.28, 2.00]	0.24 [0.00, 0.84]		
	$\alpha_{0.7}$	0.91	0.89 [0.42, 2.53]	1.30 [0.62, 3.06]	0.49 [0.28, 0.73]		
	c_1^2	1.00	0.67 [0.22, 1.00]				
50	μ_1	0.00	0.35 [0.06, 0.54]	-0.00 [-0.18, 0.19]	0.45 [0.32, 0.56]	0.45 [0.34, 0.56]	0.00 [-0.12, 0.10]
	μ_2	1.74	1.05 [0.49, 1.51]	1.69 [1.44, 1.97]	1.02 [0.60, 1.36]	1.33 [1.08, 1.56]	1.73 [1.53, 1.93]
	τ_1^2	1.00	0.70 [0.52, 0.97]	0.99 [0.70, 1.28]	0.56 [0.43, 0.73]	0.56 [0.43, 0.72]	0.96 [0.82, 1.12]
	τ_2^2	4.00	4.20 [3.42, 5.29]	3.80 [3.12, 4.59]	3.96 [3.17, 5.01]	3.49 [2.88, 4.14]	3.89 [3.33, 4.43]
	τ_{12}	-1.20	-0.93 [-1.25, -0.62]	-1.18 [-1.57, -0.77]	-0.78 [-1.05, -0.50]	-0.80 [-1.03, -0.55]	-1.16 [-1.42, -0.94]
	β	0.50	0.60 [0.16, 1.68]	0.65 [0.32, 1.33]	0.07 [0.00, 0.47]		
	$\alpha_{0.7}$	0.91	0.68 [0.42, 1.63]	1.12 [0.61, 2.31]	0.46 [0.33, 0.60]		
	c_1^2	1.00	0.68 [0.28, 1.00]				
200	μ_1	0.00	0.33 [-0.01, 0.47]	-0.01 [-0.09, 0.09]	0.45 [0.39, 0.49]	0.45 [0.40, 0.50]	-0.01 [-0.05, 0.05]
	μ_2	1.74	1.41 [1.01, 1.70]	1.73 [1.58, 1.87]	1.26 [1.06, 1.41]	1.34 [1.23, 1.46]	1.74 [1.64, 1.84]
	τ_1^2	1.00	0.71 [0.56, 0.99]	0.97 [0.81, 1.16]	0.58 [0.51, 0.65]	0.58 [0.50, 0.65]	0.98 [0.89, 1.06]
	τ_2^2	4.00	3.94 [3.51, 4.42]	3.92 [3.52, 4.31]	3.72 [3.35, 4.14]	3.62 [3.27, 3.96]	3.91 [3.61, 4.24]
	τ_{12}	-1.20	-0.94 [-1.17, -0.77]	-1.17 [-1.38, -0.98]	-0.79 [-0.92, -0.68]	-0.80 [-0.92, -0.69]	-1.16 [-1.30, -1.06]
	β	0.50	0.34 [0.05, 0.59]	0.53 [0.40, 0.69]	0.00 [0.00, 0.08]		
	$\alpha_{0.7}$	0.91	0.57 [0.43, 0.94]	0.94 [0.71, 1.28]	0.49 [0.39, 0.55]		
	c_1^2	1.00	0.76 [0.33, 1.00]				