Appendix Table 10-13

Estimates of other parameters when $c_1^2 = 1,\ c_2^2 = 0$ for scenario 1-4

Yi

2021-04-05

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 when $c_1^2 = 1, c_2^2 = 0$

S_P	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	0.000	0.208 (0.019, 0.382)	0.042 (-0.161, 0.248)	0.271 (0.135, 0.411)	0.327 (0.209, 0.461)	0.010 (-0.106, 0.136)
	μ_2	1.735	1.585 (1.372, 1.761)	1.729 (1.565, 1.879)	1.588 (1.394, 1.742)	1.676 (1.533, 1.803)	1.729 (1.601, 1.850)
	τ_1^2	0.500	0.313 (0.156, 0.525)	0.425 (0.208, 0.701)	0.244 (0.120, 0.414)	0.225 (0.112, 0.363)	0.441 (0.314, 0.588)
	τ_2^2	0.500	0.466 (0.278, 0.697)	0.427 (0.274, 0.607)	0.439 (0.271, 0.652)	0.406 (0.251, 0.587)	0.433 (0.319, 0.576)
	τ_{12}	-0.150	-0.078 (-0.225, 0.038)	-0.130 (-0.284, 0.000)	-0.056 (-0.171, 0.042)	-0.086 (-0.197, 0.006)	-0.143 (-0.239, -0.039)
	c_1^2	1.000	0.609 (0.068, 1.000)				
	β	0.500	0.902 (0.247, 2.000)	0.635 (0.212, 2.000)	0.113 (0.000, 0.715)		
	$\alpha_{0.7}$	0.794	0.232 (-0.764, 0.738)	0.931 (0.538, 2.317)	0.241 (-0.395, 0.490)		
50	μ_1	0.000	0.193 (-0.034, 0.340)	0.003 (-0.144, 0.167)	0.288 (0.183, 0.376)	0.329 (0.246, 0.418)	-0.004 (-0.087, 0.080)
	μ_2	1.735	1.616 (1.457, 1.748)	1.732 (1.622, 1.844)	1.614 (1.470, 1.736)	1.674 (1.580, 1.769)	1.734 (1.657, 1.811)
	τ_1^2	0.500	0.350 (0.231, 0.532)	0.477 (0.318, 0.674)	0.275 (0.196, 0.376)	0.257 (0.183, 0.344)	0.474 (0.393, 0.578)
	τ_2^2	0.500	0.502 (0.390, 0.660)	0.468 (0.370, 0.592)	0.480 (0.373, 0.625)	0.458 (0.362, 0.570)	0.474 (0.377, 0.576)
	τ_{12}	-0.150	-0.101 (-0.197, -0.006)	-0.142 (-0.250, -0.050)	-0.077 (-0.163, 0.002)	-0.100 (-0.176, -0.034)	-0.145 (-0.221, -0.074)
	c_1^2	1.000	0.723 (0.089, 1.000)				
	β	0.500	0.658 (0.234, 1.418)	0.572 (0.286, 1.108)	0.050 (0.000, 0.438)		
	$\alpha_{0.7}$	0.794	0.419 (-0.437, 1.007)	0.901 (0.565, 1.669)	0.317 (-0.223, 0.495)		
200	μ_1	0.000	0.075 (-0.062, 0.304)	-0.005 (-0.081, 0.077)	0.321 (0.275, 0.365)	0.333 (0.295, 0.375)	-0.000 (-0.045, 0.041)
	μ_2	1.735	1.691 (1.602, 1.758)	1.735 (1.685, 1.794)	1.655 (1.597, 1.706)	1.677 (1.628, 1.725)	1.735 (1.694, 1.781)
	τ_1^2	0.500	0.425 (0.308, 0.553)	0.503 (0.412, 0.597)	0.285 (0.246, 0.330)	0.282 (0.243, 0.324)	0.494 (0.449, 0.544)
	τ_2^2	0.500	0.504 (0.443, 0.569)	0.492 (0.437, 0.555)	0.489 (0.433, 0.551)	0.483 (0.431, 0.543)	0.495 (0.448, 0.547)
	τ_{12}	-0.150	-0.128 (-0.183, -0.078)	-0.149 (-0.205, -0.100)	-0.100 (-0.142, -0.064)	-0.104 (-0.145, -0.068)	-0.148 (-0.192, -0.110)
	c_1^2	1.000	1.000 (0.180, 1.000)				
	β	0.500	0.467 (0.248, 0.685)	0.535 (0.392, 0.701)	0.006 (0.000, 0.087)		
	$\alpha_{0.7}$	0.794	0.629 (0.391, 0.992)	0.833 (0.640, 1.109)	0.461 (0.314, 0.524)		

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

S_P	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	0.000	0.241 (0.042, 0.402)	0.018 (-0.194, 0.229)	0.289 (0.153, 0.410)	0.328 (0.211, 0.448)	0.001 (-0.119, 0.125)
	μ_2	1.735	1.548 (1.348, 1.737)	1.719 (1.558, 1.916)	1.547 (1.368, 1.717)	1.620 (1.461, 1.770)	1.736 (1.608, 1.854)
	τ_1^2	0.500	0.324 (0.175, 0.535)	0.463 (0.243, 0.755)	0.264 (0.152, 0.422)	0.246 (0.141, 0.385)	0.458 (0.332, 0.596)
	τ_2^2	0.500	0.454 (0.292, 0.683)	0.441 (0.286, 0.623)	0.424 (0.274, 0.605)	0.399 (0.263, 0.563)	0.448 (0.326, 0.584)
	τ_{12}	-0.300	-0.215 (-0.371, -0.077)	-0.268 (-0.445, -0.126)	-0.177 (-0.293, -0.057)	-0.189 (-0.301, -0.082)	-0.277 (-0.390, -0.171)
	c_1^2	1.000	0.465 (0.053, 0.997)				
	β	0.500	0.896 (0.272, 2.000)	0.699 (0.239, 2.000)	0.118 (0.000, 0.815)		
	$\alpha_{0.7}$	0.795	0.096 (-0.914, 0.672)	1.029 (0.565, 2.539)	0.194 (-0.564, 0.491)		
50	μ_1	0.000	0.204 (-0.005, 0.351)	0.014 (-0.132, 0.173)	0.298 (0.199, 0.385)	0.326 (0.242, 0.411)	0.006 (-0.079, 0.089)
	μ_2	1.735	1.583 (1.426, 1.730)	1.719 (1.596, 1.838)	1.561 (1.437, 1.670)	1.604 (1.505, 1.704)	1.731 (1.648, 1.813)
	τ_1^2	0.500	0.352 (0.229, 0.510)	0.462 (0.313, 0.651)	0.264 (0.187, 0.366)	0.257 (0.182, 0.351)	0.461 (0.377, 0.566)
	τ_2^2	0.500	0.485 (0.358, 0.627)	0.464 (0.358, 0.599)	0.452 (0.345, 0.578)	0.435 (0.337, 0.557)	0.477 (0.390, 0.575)
	τ_{12}	-0.300	-0.228 (-0.347, -0.129)	-0.284 (-0.413, -0.169)	-0.186 (-0.271, -0.107)	-0.198 (-0.278, -0.122)	-0.291 (-0.364, -0.219)
	c_1^2	1.000	0.789 (0.125, 1.000)				
	β	0.500	0.613 (0.223, 1.318)	0.578 (0.309, 1.116)	0.031 (0.000, 0.382)		
	$\alpha_{0.7}$	0.795	0.428 (-0.376, 0.979)	0.879 (0.571, 1.730)	0.348 (-0.182, 0.515)		
200	μ_1	0.000	0.099 (-0.038, 0.324)	-0.004 (-0.082, 0.076)	0.316 (0.268, 0.359)	0.328 (0.284, 0.371)	0.002 (-0.041, 0.046)
	μ_2	1.735	1.675 (1.559, 1.760)	1.744 (1.687, 1.793)	1.604 (1.545, 1.654)	1.617 (1.571, 1.668)	1.739 (1.702, 1.777)
	τ_1^2	0.500	0.407 (0.312, 0.527)	0.501 (0.411, 0.607)	0.290 (0.249, 0.334)	0.287 (0.248, 0.331)	0.494 (0.449, 0.545)
	τ_2^2	0.500	0.490 (0.431, 0.552)	0.489 (0.431, 0.549)	0.461 (0.410, 0.518)	0.460 (0.408, 0.512)	0.489 (0.444, 0.539)
	τ_{12}	-0.300	-0.262 (-0.323, -0.208)	-0.299 (-0.357, -0.240)	-0.207 (-0.246, -0.169)	-0.209 (-0.247, -0.171)	-0.298 (-0.336, -0.254)
	c_1^2	1.000	0.999 (0.120, 1.000)				
	β	0.500	0.461 (0.226, 0.671)	0.532 (0.402, 0.705)	0.000 (0.000, 0.115)		
	$\alpha_{0.7}$	0.795	0.601 (0.296, 0.943)	0.845 (0.655, 1.115)	0.480 (0.256, 0.534)		

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

S_P	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	0.000	0.266 (-0.034, 0.517)	0.028 (-0.235, 0.280)	0.407 (0.222, 0.585)	0.469 (0.320, 0.630)	0.003 (-0.149, 0.163)
	μ_2	1.735	1.163 (0.556, 1.686)	1.731 (1.346, 2.094)	1.056 (0.543, 1.550)	1.567 (1.210, 1.838)	1.740 (1.485, 2.005)
	τ_1^2	1.000	0.675 (0.394, 1.068)	0.913 (0.508, 1.342)	0.519 (0.312, 0.779)	0.478 (0.274, 0.715)	0.908 (0.702, 1.197)
	τ_2^2	4.000	4.507 (3.322, 5.822)	3.686 (2.759, 4.697)	4.411 (3.166, 6.006)	3.478 (2.646, 4.506)	3.671 (2.963, 4.495)
	τ_{12}	-0.600	-0.334 (-0.792, 0.126)	-0.491 (-0.990, -0.049)	-0.227 (-0.613, 0.176)	-0.331 (-0.670, -0.023)	-0.553 (-0.881, -0.251)
	c_1^2	1.000	0.834 (0.244, 1.000)				
	β	0.500	2.000 (0.356, 2.000)	0.805 (0.311, 2.000)	0.204 (0.000, 0.967)		
	$\alpha_{0.7}$	0.892	1.062 (0.420, 2.838)	1.305 (0.595, 2.961)	0.484 (0.262, 0.764)		
50	μ_1	0.000	0.182 (-0.086, 0.457)	0.015 (-0.178, 0.208)	0.419 (0.291, 0.541)	0.474 (0.359, 0.579)	0.005 (-0.114, 0.111)
	μ_2	1.735	1.308 (0.772, 1.739)	1.723 (1.433, 2.013)	1.213 (0.781, 1.569)	1.556 (1.300, 1.785)	1.752 (1.539, 1.935)
	τ_1^2	1.000	0.775 (0.530, 1.111)	0.946 (0.658, 1.306)	0.547 (0.398, 0.731)	0.524 (0.384, 0.706)	0.947 (0.776, 1.133)
	τ_2^2	4.000	4.456 (3.562, 5.487)	3.885 (3.211, 4.662)	4.293 (3.475, 5.427)	3.786 (3.114, 4.513)	3.910 (3.326, 4.469)
	τ_{12}	-0.600	-0.417 (-0.791, -0.063)	-0.547 (-0.916, -0.237)	-0.302 (-0.584, -0.039)	-0.381 (-0.615, -0.161)	-0.559 (-0.817, -0.346)
	c_1^2	1.000	0.961 (0.353, 1.000)				
	β	0.500	0.697 (0.302, 1.936)	0.634 (0.334, 1.222)	0.077 (0.000, 0.385)		
	$\alpha_{0.7}$	0.892	0.983 (0.472, 2.162)	1.109 (0.626, 2.142)	0.466 (0.320, 0.620)		
200	μ_1	0.000	0.030 (-0.084, 0.296)	0.002 (-0.102, 0.091)	0.444 (0.386, 0.498)	0.460 (0.411, 0.513)	-0.001 (-0.057, 0.053)
	μ_2	1.735	1.625 (1.388, 1.792)	1.731 (1.584, 1.865)	1.446 (1.256, 1.598)	1.532 (1.419, 1.657)	1.733 (1.633, 1.837)
	τ_1^2	1.000	0.917 (0.702, 1.123)	0.989 (0.832, 1.160)	0.575 (0.493, 0.664)	0.573 (0.491, 0.661)	0.986 (0.900, 1.079)
	τ_2^2	4.000	4.035 (3.629, 4.461)	3.937 (3.580, 4.291)	3.948 (3.579, 4.380)	3.852 (3.505, 4.203)	3.948 (3.665, 4.249)
	τ_{12}	-0.600	-0.521 (-0.706, -0.332)	-0.585 (-0.761, -0.411)	-0.378 (-0.511, -0.254)	-0.396 (-0.521, -0.282)	-0.593 (-0.717, -0.479)
	c_1^2	1.000	1.000 (0.865, 1.000)				
	β	0.500	0.492 (0.325, 0.689)	0.522 (0.390, 0.662)	0.005 (0.000, 0.069)		
	$\alpha_{0.7}$	0.892	0.840 (0.539, 1.190)	0.910 (0.706, 1.222)	0.480 (0.387, 0.535)		

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

S_P	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	0.000	0.363 (0.059, 0.597)	0.025 (-0.233, 0.258)	0.431 (0.277, 0.597)	0.449 (0.298, 0.603)	-0.006 (-0.151, 0.150)
	μ_2	1.735	0.942 (0.346, 1.505)	1.670 (1.342, 2.076)	0.875 (0.360, 1.337)	1.364 (1.036, 1.661)	1.743 (1.451, 2.020)
	τ_1^2	1.000	0.660 (0.428, 0.953)	0.906 (0.558, 1.351)	0.528 (0.321, 0.760)	0.507 (0.305, 0.720)	0.916 (0.684, 1.151)
	τ_2^2	4.000	4.332 (3.010, 5.857)	3.725 (2.613, 4.843)	4.169 (2.891, 5.776)	3.373 (2.403, 4.350)	3.746 (2.982, 4.614)
	τ_{12}	-1.200	-0.881 (-1.339, -0.398)	-1.074 (-1.649, -0.545)	-0.704 (-1.137, -0.293)	-0.723 (-1.097, -0.388)	-1.133 (-1.507, -0.779)
	c_1^2	1.000	0.667 (0.223, 0.994)				
	β	0.500	1.731 (0.291, 2.000)	0.756 (0.283, 2.000)	0.233 (0.000, 0.831)		
	$\alpha_{0.7}$	0.892	0.892 (0.437, 2.525)	1.266 (0.602, 3.053)	0.482 (0.262, 0.710)		
50	μ_1	0.000	0.345 (0.062, 0.545)	-0.005 (-0.182, 0.195)	0.455 (0.323, 0.555)	0.458 (0.340, 0.565)	0.001 (-0.121, 0.100)
	μ_2	1.735	1.034 (0.467, 1.507)	1.687 (1.436, 1.977)	1.020 (0.572, 1.355)	1.324 (1.078, 1.543)	1.732 (1.528, 1.926)
	τ_1^2	1.000	0.706 (0.525, 0.980)	0.992 (0.691, 1.288)	0.558 (0.421, 0.729)	0.555 (0.422, 0.717)	0.962 (0.819, 1.124)
	τ_2^2	4.000	4.233 (3.429, 5.303)	3.794 (3.107, 4.610)	3.989 (3.192, 5.005)	3.483 (2.883, 4.140)	3.890 (3.331, 4.430)
	τ_{12}	-1.200	-0.930 (-1.269, -0.615)	-1.185 (-1.580, -0.772)	-0.783 (-1.054, -0.507)	-0.799 (-1.042, -0.558)	-1.159 (-1.422, -0.941)
	c_1^2	1.000	0.684 (0.293, 0.998)				
	β	0.500	0.615 (0.174, 1.866)	0.638 (0.318, 1.298)	0.071 (0.000, 0.466)		
	$\alpha_{0.7}$	0.892	0.688 (0.410, 1.666)	1.106 (0.593, 2.298)	0.452 (0.314, 0.594)		
200	μ_1	0.000	0.341 (-0.005, 0.478)	-0.006 (-0.095, 0.092)	0.450 (0.398, 0.499)	0.453 (0.401, 0.502)	-0.006 (-0.055, 0.047)
	μ_2	1.735	1.388 (1.007, 1.690)	1.731 (1.576, 1.867)	1.263 (1.053, 1.407)	1.339 (1.219, 1.456)	1.742 (1.640, 1.837)
	τ_1^2	1.000	0.707 (0.560, 0.985)	0.967 (0.817, 1.157)	0.576 (0.504, 0.648)	0.573 (0.502, 0.648)	0.976 (0.893, 1.065)
	τ_2^2	4.000	3.932 (3.503, 4.414)	3.909 (3.517, 4.323)	3.722 (3.348, 4.128)	3.612 (3.269, 3.961)	3.913 (3.610, 4.240)
	τ_{12}	-1.200	-0.930 (-1.163, -0.771)	-1.166 (-1.369, -0.977)	-0.797 (-0.914, -0.678)	-0.800 (-0.914, -0.680)	-1.165 (-1.304, -1.055)
	c_1^2	1.000	0.754 (0.337, 1.000)				
	β	0.500	0.335 (0.046, 0.592)	0.529 (0.396, 0.691)	0.000 (0.000, 0.080)		
	$\alpha_{0.7}$	0.892	0.555 (0.421, 0.921)	0.923 (0.694, 1.249)	0.484 (0.389, 0.539)		