Appendix Table 14-17

Estimates of other parameters when $c_1^2 = 1,\ c_2^2 = 0$ for scenario 5-8

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 9

Scenario 10

Scenario 15

Scenario 16

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	SAUC	0.828	0.837 (0.801, 0.866)	0.833 (0.791, 0.864)	0.844 (0.814, 0.869)	0.860 (0.837, 0.881)	0.826 (0.799, 0.850)
	μ_1	1.386	1.576 (1.368, 1.803)	1.431 (1.159, 1.654)	1.658 (1.469, 1.821)	1.710 (1.550, 1.868)	1.385 (1.218, 1.541)
	μ_2	1.386	0.744 (0.204, 1.282)	1.371 (0.997, 1.716)	0.688 (0.163, 1.179)	1.208 (0.866, 1.564)	1.392 (1.119, 1.687)
	τ_1^2	1.000	0.698 (0.464, 0.980)	0.836 (0.504, 1.315)	0.605 (0.412, 0.842)	0.587 (0.404, 0.812)	0.915 (0.670, 1.158)
	τ_2^2	4.000	4.476 (3.128, 6.033)	3.632 (2.690, 4.684)	4.443 (3.145, 6.055)	3.438 (2.595, 4.491)	3.659 (2.932, 4.595)
	τ_{12}	-0.600	-0.308 (-0.768, 0.065)	-0.465 (-0.972, -0.098)	-0.250 (-0.636, 0.092)	-0.358 (-0.705, -0.076)	-0.532 (-0.875, -0.255)
	c_1^2	1.000	0.760 (0.238, 0.993)				
	β	0.500	1.291 (0.381, 2.000)	0.656 (0.241, 2.000)	0.270 (0.062, 0.844)		
	$\alpha_{0.7}$	-0.569	-0.447 (-1.669, 0.460)	-0.578 (-1.304, -0.122)	0.102 (-0.267, 0.409)		
	CR		99.8	99.7	99.5	99.8	99.8
50	SAUC	0.828	0.834 (0.806, 0.858)	0.832 (0.806, 0.855)	0.849 (0.829, 0.865)	0.862 (0.847, 0.878)	0.826 (0.808, 0.845)
	μ_1	1.386	1.546 (1.367, 1.738)	1.418 (1.213, 1.595)	1.668 (1.546, 1.785)	1.719 (1.602, 1.840)	1.376 (1.262, 1.504)
	μ_2	1.386	0.859 (0.348, 1.292)	1.378 (1.121, 1.651)	0.778 (0.359, 1.152)	1.226 (0.985, 1.455)	1.386 (1.182, 1.584)
	τ_1^2	1.000	0.756 (0.600, 0.978)	0.905 (0.655, 1.270)	0.663 (0.532, 0.806)	0.648 (0.527, 0.787)	0.958 (0.807, 1.141)
	τ_2^2	4.000	4.477 (3.551, 5.507)	3.820 (3.104, 4.558)	4.398 (3.496, 5.557)	3.710 (3.024, 4.375)	3.832 (3.310, 4.448)
	τ_{12}	-0.600	-0.373 (-0.704, -0.025)	-0.565 (-0.922, -0.269)	-0.345 (-0.598, -0.049)	-0.425 (-0.654, -0.208)	-0.576 (-0.817, -0.347)
	c_1^2	1.000	0.857 (0.393, 1.000)				
	β	0.500	0.613 (0.307, 1.196)	0.542 (0.273, 0.930)	0.183 (0.042, 0.449)		
	$\alpha_{0.7}$	-0.569	-0.473 (-1.062, 0.257)	-0.525 (-0.917, -0.244)	0.143 (-0.112, 0.386)		
	CR		99.8	99.7	99.6	99.9	100
200	SAUC	0.828	0.834 (0.817, 0.849)	0.828 (0.815, 0.841)	0.852 (0.842, 0.862)	0.864 (0.856, 0.871)	0.828 (0.819, 0.835)
	μ_1	1.386	1.489 (1.356, 1.651)	1.394 (1.290, 1.480)	1.682 (1.621, 1.738)	1.727 (1.672, 1.777)	1.383 (1.332, 1.436)
	μ_2	1.386	1.108 (0.721, 1.381)	1.394 (1.239, 1.518)	0.905 (0.623, 1.123)	1.232 (1.102, 1.343)	1.384 (1.296, 1.488)
	τ_1^2	1.000	0.816 (0.705, 1.004)	0.973 (0.814, 1.170)	0.681 (0.608, 0.765)	0.678 (0.607, 0.758)	0.994 (0.903, 1.080)
	τ_2^2	4.000	4.168 (3.761, 4.703)	3.933 (3.614, 4.327)	4.261 (3.849, 4.852)	3.853 (3.538, 4.236)	3.977 (3.668, 4.263)
	τ_{12}	-0.600	-0.448 (-0.631, -0.246)	-0.584 (-0.760, -0.413)	-0.372 (-0.513, -0.220)	-0.432 (-0.547, -0.315)	-0.597 (-0.717, -0.473)
	c_1^2	1.000	0.972 (0.564, 1.000)				
	β	0.500	0.467 (0.280, 0.644)	0.524 (0.383, 0.670)	0.130 (0.023, 0.263)		
	$\alpha_{0.7}$	-0.569	-0.495 (-0.737, -0.048)	-0.564 (-0.709, -0.424)	0.128 (-0.061, 0.396)		
	CR		97.9	99.9	98.1	99.9	99.9

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	SAUC	0.846	0.851 (0.825, 0.873)	0.850 (0.823, 0.872)	0.855 (0.831, 0.875)	0.869 (0.849, 0.885)	0.845 (0.824, 0.864)
	μ_1	1.386	1.677 (1.427, 1.892)	1.428 (1.172, 1.668)	1.706 (1.529, 1.888)	1.715 (1.548, 1.892)	1.379 (1.208, 1.539)
	μ_2	1.386	0.539 (-0.025, 1.134)	1.311 (0.937, 1.718)	0.515 (0.022, 0.971)	1.053 (0.731, 1.380)	1.395 (1.126, 1.668)
	τ_1^2	1.000	0.679 (0.484, 0.974)	0.831 (0.546, 1.290)	0.600 (0.446, 0.830)	0.594 (0.432, 0.820)	0.924 (0.704, 1.186)
	τ_2^2	4.000	4.342 (2.951, 5.724)	3.495 (2.621, 4.659)	4.137 (2.946, 5.657)	3.239 (2.431, 4.202)	3.669 (2.933, 4.505)
	τ_{12}	-1.200	-0.877 (-1.354, -0.446)	-1.014 (-1.563, -0.590)	-0.757 (-1.171, -0.370)	-0.767 (-1.124, -0.453)	-1.101 (-1.493, -0.786)
	c_1^2	1.000	0.644 (0.263, 0.955)				
	β	0.500	1.669 (0.467, 2.000)	0.631 (0.227, 2.000)	0.353 (0.077, 1.252)		
	$\alpha_{0.7}$	-0.570	-0.536 (-1.786, 0.423)	-0.560 (-1.295, -0.088)	-0.012 (-0.524, 0.333)		
	CR		99.4	99.8	100	100	100
50	SAUC	0.846	0.851 (0.833, 0.867)	0.850 (0.833, 0.865)	0.856 (0.841, 0.871)	0.871 (0.857, 0.882)	0.847 (0.834, 0.859)
	μ_1	1.386	1.657 (1.454, 1.836)	1.431 (1.240, 1.591)	1.725 (1.606, 1.841)	1.730 (1.618, 1.833)	1.402 (1.289, 1.504)
	μ_2	1.386	0.593 (0.098, 1.072)	1.342 (1.061, 1.612)	0.572 (0.191, 0.882)	1.047 (0.817, 1.282)	1.372 (1.184, 1.566)
	τ_1^2	1.000	0.732 (0.577, 0.936)	0.896 (0.659, 1.244)	0.640 (0.518, 0.794)	0.640 (0.523, 0.790)	0.949 (0.788, 1.115)
	τ_2^2	4.000	4.336 (3.402, 5.658)	3.708 (3.040, 4.636)	4.168 (3.351, 5.415)	3.449 (2.852, 4.159)	3.868 (3.273, 4.496)
	τ_{12}	-1.200	-0.938 (-1.273, -0.593)	-1.096 (-1.460, -0.783)	-0.810 (-1.096, -0.560)	-0.831 (-1.080, -0.610)	-1.156 (-1.392, -0.921)
	c_1^2	1.000	0.671 (0.281, 0.965)				
	β	0.500	0.733 (0.363, 1.973)	0.538 (0.287, 1.022)	0.281 (0.085, 0.622)		
	$\alpha_{0.7}$	-0.570	-0.470 (-1.270, 0.371)	-0.553 (-0.996, -0.271)	-0.008 (-0.359, 0.293)		
	CR		99.6	99.8	99.7	100	100
200	SAUC	0.846	0.851 (0.840, 0.861)	0.847 (0.838, 0.856)	0.860 (0.851, 0.867)	0.870 (0.864, 0.876)	0.846 (0.839, 0.852)
	μ_1	1.386	1.618 (1.424, 1.739)	1.392 (1.299, 1.494)	1.718 (1.663, 1.776)	1.720 (1.667, 1.777)	1.384 (1.326, 1.437)
	μ_2	1.386	0.856 (0.476, 1.259)	1.368 (1.235, 1.515)	0.655 (0.448, 0.869)	1.055 (0.931, 1.168)	1.390 (1.284, 1.482)
	τ_1^2	1.000	0.763 (0.668, 0.920)	0.969 (0.812, 1.140)	0.683 (0.612, 0.750)	0.689 (0.618, 0.758)	0.993 (0.902, 1.076)
	τ_2^2	4.000	4.135 (3.719, 4.689)	3.958 (3.578, 4.385)	4.125 (3.698, 4.657)	3.666 (3.340, 4.006)	3.991 (3.689, 4.280)
	τ_{12}	-1.200	-0.962 (-1.171, -0.792)	-1.169 (-1.393, -0.995)	-0.869 (-1.004, -0.744)	-0.876 (-0.997, -0.764)	-1.197 (-1.323, -1.058)
	c_1^2	1.000	0.782 (0.406, 0.999)				
	β	0.500	0.437 (0.255, 0.641)	0.505 (0.375, 0.656)	0.200 (0.084, 0.337)		
	$\alpha_{0.7}$	-0.570	-0.473 (-0.779, 0.024)	-0.557 (-0.707, -0.422)	-0.019 (-0.188, 0.224)		
	CR		99.3	99.8	99.2	100	99.9

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	SAUC	0.892	0.902 (0.882, 0.918)	0.893 (0.866, 0.913)	0.907 (0.891, 0.923)	0.912 (0.897, 0.926)	0.891 (0.873, 0.905)
	μ_1	2.197	2.307 (2.112, 2.533)	2.224 (1.976, 2.435)	2.386 (2.207, 2.567)	2.459 (2.279, 2.631)	2.211 (2.048, 2.351)
	μ_2	-0.405	-1.003 (-1.499, -0.554)	-0.444 (-0.777, -0.062)	-1.041 (-1.543, -0.588)	-0.540 (-0.887, -0.208)	-0.406 (-0.681, -0.122)
	τ_1^2	1.000	0.800 (0.564, 1.097)	0.861 (0.589, 1.263)	0.722 (0.522, 0.970)	0.706 (0.514, 0.942)	0.920 (0.676, 1.165)
	τ_2^2	4.000	4.581 (3.285, 5.876)	3.753 (2.789, 4.928)	4.549 (3.256, 5.910)	3.632 (2.722, 4.786)	3.840 (2.979, 4.702)
	τ_{12}	-0.600	-0.384 (-0.794, 0.064)	-0.579 (-0.977, -0.154)	-0.342 (-0.746, 0.044)	-0.469 (-0.802, -0.120)	-0.598 (-0.900, -0.241)
	c_1^2	1.000	0.767 (0.365, 0.961)				
	β	0.500	2.000 (0.429, 2.000)	0.665 (0.284, 2.000)	0.224 (0.022, 0.660)		
	$\alpha_{0.7}$	-1.266	-0.466 (-2.536, 1.071)	-1.624 (-3.615, -0.730)	0.473 (0.233, 0.745)		
	CR		99.2	99.5	99.5	100	99.8
50	SAUC	0.892	0.900 (0.886, 0.913)	0.893 (0.876, 0.907)	0.910 (0.898, 0.920)	0.915 (0.903, 0.923)	0.891 (0.879, 0.902)
	μ_1	2.197	2.278 (2.108, 2.443)	2.211 (2.058, 2.363)	2.400 (2.271, 2.530)	2.464 (2.352, 2.574)	2.197 (2.085, 2.308)
	μ_2	-0.405	-0.945 (-1.389, -0.530)	-0.419 (-0.667, -0.146)	-0.980 (-1.376, -0.597)	-0.534 (-0.782, -0.314)	-0.412 (-0.607, -0.229)
	τ_1^2	1.000	0.879 (0.684, 1.116)	0.949 (0.715, 1.239)	0.787 (0.620, 0.948)	0.770 (0.611, 0.932)	0.962 (0.814, 1.157)
	τ_2^2	4.000	4.372 (3.524, 5.523)	3.737 (3.107, 4.497)	4.350 (3.537, 5.469)	3.663 (3.047, 4.400)	3.861 (3.272, 4.436)
	τ_{12}	-0.600	-0.342 (-0.659, -0.027)	-0.557 (-0.871, -0.288)	-0.357 (-0.627, -0.091)	-0.457 (-0.693, -0.231)	-0.561 (-0.807, -0.339)
	c_1^2	1.000	0.835 (0.468, 0.988)				
	β	0.500	0.712 (0.351, 1.684)	0.556 (0.327, 0.929)	0.169 (0.014, 0.390)		
	$\alpha_{0.7}$	-1.266	-0.732 (-1.875, 0.528)	-1.372 (-2.172, -0.852)	0.420 (0.267, 0.576)		
	CR		98.8	99.2	99	99.9	100
200	SAUC	0.892	0.897 (0.888, 0.906)	0.893 (0.885, 0.901)	0.912 (0.906, 0.917)	0.915 (0.910, 0.920)	0.892 (0.886, 0.897)
	μ_1	2.197	2.247 (2.150, 2.349)	2.213 (2.129, 2.285)	2.441 (2.377, 2.496)	2.469 (2.410, 2.523)	2.197 (2.143, 2.254)
	μ_2	-0.405	-0.655 (-0.936, -0.429)	-0.412 (-0.536, -0.276)	-0.775 (-0.992, -0.568)	-0.540 (-0.665, -0.409)	-0.403 (-0.505, -0.305)
	τ_1^2	1.000	0.912 (0.797, 1.068)	0.972 (0.860, 1.107)	0.787 (0.713, 0.865)	0.787 (0.715, 0.862)	0.995 (0.908, 1.077)
	τ_2^2	4.000	4.106 (3.732, 4.597)	3.948 (3.594, 4.310)	4.133 (3.751, 4.606)	3.886 (3.545, 4.248)	3.956 (3.683, 4.264)
	τ_{12}	-0.600	-0.452 (-0.626, -0.277)	-0.590 (-0.748, -0.426)	-0.453 (-0.575, -0.308)	-0.487 (-0.609, -0.360)	-0.578 (-0.708, -0.466)
	c_1^2	1.000	0.976 (0.701, 1.000)				
	β	0.500	0.482 (0.312, 0.645)	0.500 (0.395, 0.627)	0.067 (0.000, 0.160)		
	$\alpha_{0.7}$	-1.266	-1.072 (-1.487, -0.070)	-1.269 (-1.559, -1.026)	0.395 (0.300, 0.491)		
	CR		96.7	99.9	97.1	99.8	99.8

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	SAUC	0.877	0.889 (0.868, 0.908)	0.880 (0.855, 0.901)	0.895 (0.876, 0.911)	0.897 (0.879, 0.914)	0.876 (0.858, 0.893)
	μ_1	2.197	2.392 (2.180, 2.625)	2.239 (2.027, 2.461)	2.465 (2.285, 2.628)	2.469 (2.290, 2.615)	2.205 (2.045, 2.355)
	μ_2	-0.405	-1.210 (-1.736, -0.648)	-0.440 (-0.831, -0.065)	-1.250 (-1.752, -0.770)	-0.684 (-1.017, -0.340)	-0.415 (-0.704, -0.124)
	τ_1^2	1.000	0.778 (0.548, 1.035)	0.852 (0.575, 1.226)	0.720 (0.513, 0.935)	0.711 (0.500, 0.926)	0.910 (0.676, 1.139)
	τ_2^2	4.000	4.315 (3.115, 6.010)	3.593 (2.644, 4.777)	4.319 (3.140, 6.097)	3.406 (2.529, 4.421)	3.708 (3.006, 4.656)
	τ_{12}	-1.200	-0.918 (-1.405, -0.524)	-1.069 (-1.550, -0.664)	-0.889 (-1.351, -0.504)	-0.909 (-1.271, -0.583)	-1.132 (-1.508, -0.791)
	c_1^2	1.000	0.679 (0.387, 0.909)				
	β	0.500	2.000 (0.633, 2.000)	0.611 (0.244, 1.940)	0.326 (0.076, 1.243)		
	$\alpha_{0.7}$	-1.265	-0.392 (-2.452, 1.202)	-1.512 (-3.431, -0.578)	0.424 (0.157, 0.734)		
	CR		99.7	99.3	99.8	99.7	100
50	SAUC	0.877	0.889 (0.874, 0.901)	0.880 (0.861, 0.895)	0.896 (0.883, 0.906)	0.899 (0.887, 0.909)	0.876 (0.865, 0.888)
	μ_1	2.197	2.379 (2.200, 2.526)	2.216 (2.047, 2.378)	2.457 (2.333, 2.576)	2.458 (2.342, 2.568)	2.191 (2.072, 2.302)
	μ_2	-0.405	-1.147 (-1.590, -0.683)	-0.399 (-0.688, -0.120)	-1.109 (-1.510, -0.768)	-0.653 (-0.901, -0.437)	-0.388 (-0.585, -0.184)
	τ_1^2	1.000	0.802 (0.644, 0.992)	0.899 (0.692, 1.179)	0.735 (0.608, 0.893)	0.745 (0.610, 0.904)	0.942 (0.776, 1.137)
	τ_2^2	4.000	4.451 (3.501, 5.515)	3.817 (3.114, 4.640)	4.315 (3.411, 5.349)	3.608 (2.950, 4.304)	3.810 (3.322, 4.406)
	τ_{12}	-1.200	-0.926 (-1.277, -0.653)	-1.113 (-1.507, -0.815)	-0.932 (-1.237, -0.666)	-0.930 (-1.205, -0.706)	-1.157 (-1.401, -0.918)
	c_1^2	1.000	0.698 (0.434, 0.931)				
	β	0.500	0.757 (0.372, 1.997)	0.553 (0.307, 0.889)	0.222 (0.048, 0.529)		
	$\alpha_{0.7}$	-1.265	-0.403 (-1.704, 0.600)	-1.359 (-2.115, -0.791)	0.365 (0.187, 0.559)		
	CR		99.1	99.1	99.3	99.8	99.9
200	SAUC	0.877	0.884 (0.875, 0.893)	0.878 (0.869, 0.885)	0.896 (0.890, 0.902)	0.900 (0.894, 0.905)	0.877 (0.871, 0.882)
	μ_1	2.197	2.293 (2.176, 2.411)	2.201 (2.128, 2.282)	2.461 (2.403, 2.521)	2.464 (2.403, 2.518)	2.196 (2.135, 2.249)
	μ_2	-0.405	-0.757 (-1.157, -0.459)	-0.412 (-0.550, -0.269)	-0.981 (-1.214, -0.762)	-0.678 (-0.800, -0.557)	-0.398 (-0.502, -0.301)
	τ_1^2	1.000	0.869 (0.774, 1.017)	0.975 (0.851, 1.115)	0.787 (0.706, 0.862)	0.790 (0.716, 0.871)	0.995 (0.907, 1.083)
	τ_2^2	4.000	4.080 (3.664, 4.575)	3.963 (3.607, 4.344)	4.100 (3.668, 4.578)	3.739 (3.419, 4.057)	3.962 (3.659, 4.259)
	τ_{12}	-1.200	-1.022 (-1.211, -0.858)	-1.195 (-1.384, -1.023)	-0.983 (-1.120, -0.851)	-0.986 (-1.117, -0.868)	-1.197 (-1.338, -1.075)
	c_1^2	1.000	0.934 (0.651, 1.000)				
	β	0.500	0.507 (0.361, 0.660)	0.507 (0.401, 0.634)	0.125 (0.020, 0.253)		
	$\alpha_{0.7}$	-1.265	-1.061 (-1.498, -0.093)	-1.283 (-1.550, -1.031)	0.328 (0.225, 0.460)		
	CR		98.6	99.7	99.1	100	99.9