# Estimates of other parameters

t12

Yi

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## Load data

```
# s.rdt <- "../../scenario/scenario-t12/set-t12-c11.RData"
# dt <- "c11"


# s.rdt <- "../../scenario/scenario-t12/set-t12-c10.RData"
# dt <- "c10"

#
s.rdt <- "../../scenario/scenario-t12/set-t12-c01.RData"
dt <- "c01"
```

## Scenario 1

## Scenario 2

## Scenario 3

## Scenario 4

## Scenario 5

Table 1: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 0.000 | -0.288 (-0.547, -0.003) | -0.041 (-0.243, 0.195) | -0.257 (-0.484, -0.040) | -0.111 (-0.289, 0.080) | 0.016 (-0.135, 0.171) |
| | $\mu_2$ | 1.735 | 2.125 (1.712, 2.500) | 1.932 (1.513, 2.336) | 2.158 (1.786, 2.527) | 2.569 (2.289, 2.833) | 1.716 (1.442, 1.997) |
| | $\tau_1$ | 1.000 | 0.991 (0.814, 1.199) | 0.941 (0.783, 1.105) | 0.967 (0.791, 1.128) | 0.916 (0.761, 1.075) | 0.947 (0.825, 1.077) |
| | $\tau_2$ | 2.000 | 1.629 (1.338, 1.963) | 1.784 (1.440, 2.134) | 1.575 (1.311, 1.891) | 1.430 (1.220, 1.626) | 1.916 (1.707, 2.122) |
| | $\rho$ | -0.300 | -0.158 (-0.416, 0.106) | -0.302 (-0.544, -0.037) | -0.083 (-0.369, 0.148) | -0.254 (-0.484, -0.029) | -0.319 (-0.465, -0.151) |
| | $\beta$ | 0.500 | 1.825 (0.390, 2.000) | 0.581 (0.210, 2.000) | 0.403 (0.071, 1.441) | | |
| | $\alpha$ | -0.429 | 0.006 (-0.888, 0.738) | -0.343 (-1.118, 0.039) | 0.135 (-0.251, 0.451) | | |
| | $c_1$ | 0.000 | 0.601 (0.089, 0.908) | | | | |
| 50 | $\mu_1$ | 0.000 | -0.239 (-0.482, -0.032) | -0.021 (-0.172, 0.130) | -0.269 (-0.431, -0.112) | -0.121 (-0.257, 0.017) | -0.006 (-0.114, 0.118) |
| | $\mu_2$ | 1.735 | 2.024 (1.653, 2.389) | 1.829 (1.484, 2.183) | 2.224 (1.903, 2.495) | 2.607 (2.405, 2.794) | 1.746 (1.543, 1.946) |
| | $\tau_1$ | 1.000 | 1.026 (0.900, 1.147) | 0.974 (0.864, 1.080) | 0.993 (0.874, 1.110) | 0.950 (0.846, 1.054) | 0.970 (0.884, 1.056) |
| | $\tau_2$ | 2.000 | 1.756 (1.526, 2.036) | 1.926 (1.614, 2.197) | 1.642 (1.443, 1.873) | 1.500 (1.347, 1.647) | 1.983 (1.824, 2.129) |
| | $\rho$ | -0.300 | -0.168 (-0.345, 0.031) | -0.292 (-0.469, -0.109) | -0.105 (-0.289, 0.093) | -0.249 (-0.398, -0.093) | -0.311 (-0.411, -0.188) |
| | $\beta$ | 0.500 | 0.774 (0.412, 2.000) | 0.602 (0.310, 1.279) | 0.364 (0.068, 0.742) | | |
| | $\alpha$ | -0.429 | -0.154 (-0.661, 0.515) | -0.411 (-0.798, -0.116) | 0.129 (-0.157, 0.395) | | |
| | $c_1$ | 0.000 | 0.404 (0.039, 0.875) | | | | |
| 200 | $\mu_1$ | 0.000 | -0.093 (-0.242, 0.013) | -0.003 (-0.077, 0.070) | -0.251 (-0.345, -0.153) | -0.118 (-0.185, -0.051) | 0.007 (-0.051, 0.059) |
| | $\mu_2$ | 1.735 | 1.852 (1.651, 2.165) | 1.763 (1.586, 1.928) | 2.263 (2.054, 2.475) | 2.598 (2.497, 2.691) | 1.733 (1.634, 1.835) |
| | $\tau_1$ | 1.000 | 1.002 (0.945, 1.062) | 0.989 (0.936, 1.045) | 0.999 (0.942, 1.058) | 0.973 (0.920, 1.022) | 0.993 (0.948, 1.037) |
| | $\tau_2$ | 2.000 | 1.896 (1.665, 2.062) | 1.976 (1.834, 2.113) | 1.602 (1.509, 1.735) | 1.516 (1.446, 1.586) | 1.990 (1.915, 2.062) |
| | $\rho$ | -0.300 | -0.231 (-0.329, -0.131) | -0.299 (-0.382, -0.211) | -0.138 (-0.234, -0.050) | -0.246 (-0.314, -0.175) | -0.302 (-0.359, -0.245) |
| | $\beta$ | 0.500 | 0.506 (0.374, 0.687) | 0.509 (0.405, 0.663) | 0.266 (0.056, 0.423) | | |
| | $\alpha$ | -0.429 | -0.354 (-0.528, 0.009) | -0.412 (-0.555, -0.309) | 0.050 (-0.079, 0.331) | | |
| | $c_1$ | 0.000 | 0.092 (0.000, 0.596) | | | | |

Table 2: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 0.000 | -0.378 (-0.655, -0.095) | -0.064 (-0.277, 0.148) | -0.319 (-0.514, -0.121) | -0.240 (-0.411, -0.050) | 0.004 (-0.150, 0.163) |
| | $\mu_2$ | 1.735 | 2.205 (1.804, 2.585) | 1.949 (1.497, 2.357) | 2.222 (1.852, 2.555) | 2.571 (2.316, 2.853) | 1.740 (1.425, 2.012) |
| | $\tau_1$ | 1.000 | 0.955 (0.791, 1.143) | 0.919 (0.762, 1.088) | 0.889 (0.740, 1.042) | 0.867 (0.722, 1.015) | 0.960 (0.839, 1.081) |
| | $\tau_2$ | 2.000 | 1.617 (1.381, 1.906) | 1.783 (1.467, 2.091) | 1.573 (1.341, 1.868) | 1.434 (1.259, 1.649) | 1.923 (1.712, 2.132) |
| | $\rho$ | -0.600 | -0.478 (-0.682, -0.225) | -0.596 (-0.780, -0.403) | -0.435 (-0.653, -0.175) | -0.538 (-0.728, -0.353) | -0.631 (-0.731, -0.486) |
| | $\beta$ | 0.500 | 2.000 (0.491, 2.000) | 0.589 (0.200, 2.000) | 0.452 (0.071, 1.476) | | |
| | $\alpha$ | -0.433 | 0.017 (-0.914, 0.838) | -0.372 (-1.087, 0.038) | 0.024 (-0.418, 0.378) | | |
| | $c_1$ | 0.000 | 0.682 (0.161, 0.933) | | | | |
| 50 | $\mu_1$ | 0.000 | -0.293 (-0.578, -0.080) | -0.053 (-0.216, 0.107) | -0.317 (-0.460, -0.187) | -0.245 (-0.373, -0.107) | -0.011 (-0.121, 0.112) |
| | $\mu_2$ | 1.735 | 2.109 (1.744, 2.489) | 1.865 (1.523, 2.210) | 2.228 (1.917, 2.519) | 2.598 (2.402, 2.791) | 1.736 (1.556, 1.953) |
| | $\tau_1$ | 1.000 | 0.986 (0.856, 1.114) | 0.960 (0.849, 1.074) | 0.912 (0.815, 1.026) | 0.901 (0.806, 1.005) | 0.977 (0.896, 1.066) |
| | $\tau_2$ | 2.000 | 1.677 (1.474, 1.960) | 1.870 (1.612, 2.176) | 1.605 (1.426, 1.818) | 1.480 (1.342, 1.647) | 1.967 (1.819, 2.110) |
| | $\rho$ | -0.600 | -0.472 (-0.619, -0.303) | -0.602 (-0.718, -0.468) | -0.429 (-0.581, -0.249) | -0.535 (-0.648, -0.406) | -0.609 (-0.685, -0.535) |
| | $\beta$ | 0.500 | 0.822 (0.420, 2.000) | 0.522 (0.280, 1.083) | 0.395 (0.099, 0.810) | | |
| | $\alpha$ | -0.433 | -0.145 (-0.714, 0.528) | -0.381 (-0.761, -0.108) | -0.018 (-0.314, 0.294) | | |
| | $c_1$ | 0.000 | 0.581 (0.078, 0.905) | | | | |
| 200 | $\mu_1$ | 0.000 | -0.123 (-0.393, 0.007) | -0.007 (-0.083, 0.078) | -0.309 (-0.386, -0.241) | -0.237 (-0.297, -0.174) | -0.000 (-0.052, 0.055) |
| | $\mu_2$ | 1.735 | 1.903 (1.648, 2.382) | 1.744 (1.560, 1.925) | 2.261 (2.063, 2.468) | 2.587 (2.500, 2.680) | 1.728 (1.631, 1.836) |
| | $\tau_1$ | 1.000 | 0.982 (0.925, 1.047) | 0.986 (0.935, 1.048) | 0.931 (0.884, 0.979) | 0.921 (0.875, 0.969) | 0.991 (0.953, 1.034) |
| | $\tau_2$ | 2.000 | 1.861 (1.597, 2.064) | 1.997 (1.850, 2.125) | 1.620 (1.511, 1.749) | 1.518 (1.453, 1.592) | 1.989 (1.918, 2.060) |
| | $\rho$ | -0.600 | -0.532 (-0.608, -0.444) | -0.599 (-0.659, -0.539) | -0.430 (-0.520, -0.339) | -0.516 (-0.572, -0.461) | -0.603 (-0.639, -0.561) |
| | $\beta$ | 0.500 | 0.535 (0.375, 0.701) | 0.520 (0.410, 0.679) | 0.319 (0.088, 0.523) | | |
| | $\alpha$ | -0.433 | -0.328 (-0.530, 0.250) | -0.414 (-0.539, -0.303) | -0.072 (-0.205, 0.254) | | |
| | $c_1$ | 0.000 | 0.141 (0.000, 0.859) | | | | |

Table 3: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 1.386 | 1.142 (0.846, 1.391) | 1.355 (1.139, 1.562) | 1.127 (0.878, 1.331) | 1.265 (1.078, 1.446) | 1.389 (1.237, 1.549) |
| | $\mu_2$ | 1.386 | 1.893 (1.459, 2.274) | 1.593 (1.176, 2.002) | 1.960 (1.595, 2.256) | 2.277 (2.009, 2.526) | 1.392 (1.136, 1.657) |
| | $\tau_1$ | 1.000 | 0.995 (0.828, 1.189) | 0.953 (0.806, 1.106) | 0.960 (0.809, 1.139) | 0.922 (0.783, 1.071) | 0.953 (0.838, 1.094) |
| | $\tau_2$ | 2.000 | 1.600 (1.339, 1.913) | 1.775 (1.448, 2.118) | 1.533 (1.295, 1.817) | 1.417 (1.219, 1.629) | 1.916 (1.721, 2.120) |
| | $\rho$ | -0.300 | -0.209 (-0.474, 0.097) | -0.314 (-0.542, -0.022) | -0.139 (-0.403, 0.154) | -0.266 (-0.475, -0.019) | -0.312 (-0.464, -0.146) |
| | $\beta$ | 0.500 | 1.164 (0.305, 2.000) | 0.565 (0.205, 2.000) | 0.302 (0.061, 1.184) | | |
| | $\alpha$ | -0.111 | -0.381 (-1.497, 0.211) | -0.027 (-0.456, 0.315) | -0.315 (-1.212, 0.192) | | |
| | $c_1$ | 0.000 | 0.581 (0.046, 0.940) | | | | |
| 50 | $\mu_1$ | 1.386 | 1.201 (0.900, 1.390) | 1.375 (1.227, 1.530) | 1.142 (0.979, 1.291) | 1.275 (1.142, 1.401) | 1.389 (1.278, 1.499) |
| | $\mu_2$ | 1.386 | 1.819 (1.392, 2.174) | 1.488 (1.149, 1.851) | 1.949 (1.639, 2.233) | 2.264 (2.067, 2.470) | 1.384 (1.182, 1.577) |
| | $\tau_1$ | 1.000 | 1.021 (0.893, 1.174) | 0.979 (0.867, 1.092) | 0.990 (0.872, 1.112) | 0.949 (0.846, 1.066) | 0.977 (0.886, 1.068) |
| | $\tau_2$ | 2.000 | 1.699 (1.461, 2.007) | 1.909 (1.617, 2.166) | 1.579 (1.393, 1.787) | 1.468 (1.317, 1.621) | 1.978 (1.825, 2.115) |
| | $\rho$ | -0.300 | -0.229 (-0.411, -0.017) | -0.310 (-0.473, -0.128) | -0.159 (-0.339, 0.070) | -0.257 (-0.399, -0.104) | -0.309 (-0.422, -0.189) |
| | $\beta$ | 0.500 | 0.709 (0.303, 2.000) | 0.545 (0.263, 1.357) | 0.262 (0.056, 0.665) | | |
| | $\alpha$ | -0.111 | -0.213 (-0.816, 0.230) | -0.045 (-0.282, 0.253) | -0.321 (-0.852, 0.226) | | |
| | $c_1$ | 0.000 | 0.413 (0.000, 0.933) | | | | |
| 200 | $\mu_1$ | 1.386 | 1.320 (1.176, 1.415) | 1.383 (1.308, 1.461) | 1.162 (1.061, 1.240) | 1.268 (1.199, 1.333) | 1.387 (1.331, 1.441) |
| | $\mu_2$ | 1.386 | 1.512 (1.281, 1.956) | 1.388 (1.222, 1.560) | 2.004 (1.824, 2.163) | 2.264 (2.172, 2.359) | 1.383 (1.278, 1.485) |
| | $\tau_1$ | 1.000 | 1.008 (0.945, 1.073) | 0.994 (0.939, 1.051) | 0.996 (0.943, 1.054) | 0.975 (0.926, 1.030) | 0.996 (0.952, 1.041) |
| | $\tau_2$ | 2.000 | 1.900 (1.618, 2.074) | 1.992 (1.841, 2.134) | 1.574 (1.479, 1.683) | 1.502 (1.424, 1.572) | 1.994 (1.913, 2.066) |
| | $\rho$ | -0.300 | -0.260 (-0.344, -0.165) | -0.302 (-0.374, -0.221) | -0.172 (-0.257, -0.070) | -0.246 (-0.312, -0.179) | -0.301 (-0.357, -0.246) |
| | $\beta$ | 0.500 | 0.507 (0.360, 0.661) | 0.520 (0.403, 0.664) | 0.218 (0.066, 0.389) | | |
| | $\alpha$ | -0.111 | -0.116 (-0.273, 0.060) | -0.080 (-0.199, 0.047) | -0.236 (-0.542, 0.228) | | |
| | $c_1$ | 0.000 | 0.025 (0.000, 0.583) | | | | |

Table 4: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 1.386 | 1.066 (0.782, 1.314) | 1.299 (1.102, 1.515) | 1.062 (0.876, 1.255) | 1.135 (0.955, 1.312) | 1.381 (1.236, 1.537) |
| | $\mu_2$ | 1.386 | 1.955 (1.548, 2.397) | 1.617 (1.192, 2.047) | 1.996 (1.652, 2.339) | 2.280 (1.988, 2.543) | 1.395 (1.103, 1.671) |
| | $\tau_1$ | 1.000 | 0.939 (0.769, 1.119) | 0.925 (0.748, 1.078) | 0.877 (0.724, 1.017) | 0.867 (0.712, 0.992) | 0.957 (0.827, 1.073) |
| | $\tau_2$ | 2.000 | 1.603 (1.348, 1.890) | 1.782 (1.460, 2.132) | 1.516 (1.284, 1.782) | 1.422 (1.234, 1.650) | 1.936 (1.727, 2.148) |
| | $\rho$ | -0.600 | -0.550 (-0.749, -0.285) | -0.625 (-0.785, -0.405) | -0.492 (-0.699, -0.226) | -0.559 (-0.730, -0.358) | -0.631 (-0.744, -0.487) |
| | $\beta$ | 0.500 | 1.093 (0.348, 2.000) | 0.587 (0.202, 2.000) | 0.287 (0.049, 0.952) | | |
| | $\alpha$ | -0.118 | -0.554 (-1.823, 0.212) | -0.071 (-0.504, 0.276) | -0.408 (-1.391, 0.235) | | |
| | $c_1$ | 0.000 | 0.674 (0.044, 0.961) | | | | |
| 50 | $\mu_1$ | 1.386 | 1.157 (0.922, 1.353) | 1.350 (1.193, 1.494) | 1.088 (0.940, 1.224) | 1.154 (1.020, 1.268) | 1.395 (1.285, 1.506) |
| | $\mu_2$ | 1.386 | 1.853 (1.408, 2.227) | 1.485 (1.180, 1.862) | 2.005 (1.753, 2.237) | 2.260 (2.082, 2.441) | 1.377 (1.184, 1.569) |
| | $\tau_1$ | 1.000 | 0.963 (0.845, 1.104) | 0.955 (0.843, 1.079) | 0.909 (0.805, 1.014) | 0.897 (0.800, 1.006) | 0.977 (0.886, 1.069) |
| | $\tau_2$ | 2.000 | 1.655 (1.427, 1.978) | 1.879 (1.586, 2.150) | 1.534 (1.366, 1.733) | 1.460 (1.320, 1.609) | 1.963 (1.818, 2.110) |
| | $\rho$ | -0.600 | -0.524 (-0.665, -0.369) | -0.595 (-0.712, -0.457) | -0.464 (-0.599, -0.287) | -0.521 (-0.638, -0.394) | -0.612 (-0.691, -0.521) |
| | $\beta$ | 0.500 | 0.674 (0.278, 1.636) | 0.512 (0.264, 1.098) | 0.243 (0.044, 0.614) | | |
| | $\alpha$ | -0.118 | -0.264 (-0.886, 0.208) | -0.051 (-0.290, 0.197) | -0.329 (-0.971, 0.260) | | |
| | $c_1$ | 0.000 | 0.446 (0.000, 0.916) | | | | |
| 200 | $\mu_1$ | 1.386 | 1.297 (1.130, 1.415) | 1.371 (1.287, 1.458) | 1.095 (1.026, 1.164) | 1.140 (1.080, 1.203) | 1.383 (1.327, 1.441) |
| | $\mu_2$ | 1.386 | 1.525 (1.295, 2.066) | 1.412 (1.241, 1.595) | 2.077 (1.940, 2.225) | 2.273 (2.187, 2.368) | 1.382 (1.282, 1.484) |
| | $\tau_1$ | 1.000 | 0.982 (0.919, 1.043) | 0.990 (0.926, 1.053) | 0.932 (0.878, 0.979) | 0.927 (0.874, 0.975) | 0.995 (0.955, 1.040) |
| | $\tau_2$ | 2.000 | 1.877 (1.584, 2.067) | 1.966 (1.807, 2.125) | 1.535 (1.447, 1.630) | 1.496 (1.414, 1.572) | 1.992 (1.916, 2.072) |
| | $\rho$ | -0.600 | -0.562 (-0.633, -0.485) | -0.599 (-0.657, -0.528) | -0.476 (-0.547, -0.401) | -0.515 (-0.570, -0.452) | -0.600 (-0.645, -0.557) |
| | $\beta$ | 0.500 | 0.502 (0.323, 0.681) | 0.520 (0.394, 0.669) | 0.183 (0.039, 0.335) | | |
| | $\alpha$ | -0.118 | -0.134 (-0.307, 0.061) | -0.110 (-0.219, 0.029) | -0.163 (-0.536, 0.317) | | |
| | $c_1$ | 0.000 | 0.024 (0.000, 0.579) | | | | |

Table 5: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 2.197 | 2.019 (1.771, 2.244) | 2.163 (1.978, 2.377) | 1.967 (1.753, 2.172) | 2.076 (1.900, 2.256) | 2.199 (2.038, 2.339) |
| | $\mu_2$ | -0.405 | -0.039 (-0.494, 0.394) | -0.277 (-0.638, 0.112) | 0.161 (-0.215, 0.525) | 0.488 (0.226, 0.780) | -0.374 (-0.660, -0.101) |
| | $\tau_1$ | 1.000 | 0.974 (0.803, 1.141) | 0.941 (0.790, 1.094) | 0.953 (0.791, 1.112) | 0.918 (0.766, 1.066) | 0.950 (0.820, 1.073) |
| | $\tau_2$ | 2.000 | 1.740 (1.463, 2.075) | 1.845 (1.563, 2.154) | 1.628 (1.368, 1.929) | 1.486 (1.255, 1.702) | 1.922 (1.702, 2.139) |
| | $\rho$ | -0.300 | -0.249 (-0.505, 0.021) | -0.334 (-0.558, -0.081) | -0.162 (-0.452, 0.101) | -0.285 (-0.506, -0.072) | -0.326 (-0.476, -0.161) |
| | $\beta$ | 0.500 | 2.000 (0.401, 2.000) | 0.892 (0.312, 2.000) | 0.186 (0.037, 0.947) | | |
| | $\alpha$ | 1.744 | 1.059 (-0.367, 4.750) | 2.686 (1.051, 6.777) | 0.268 (-0.041, 0.529) | | |
| | $c_1$ | 0.000 | 0.231 (0.000, 0.915) | | | | |
| 50 | $\mu_1$ | 2.197 | 2.086 (1.878, 2.261) | 2.194 (2.052, 2.340) | 1.981 (1.813, 2.134) | 2.089 (1.962, 2.216) | 2.198 (2.092, 2.302) |
| | $\mu_2$ | -0.405 | -0.207 (-0.553, 0.281) | -0.343 (-0.624, -0.079) | 0.233 (-0.095, 0.510) | 0.511 (0.321, 0.699) | -0.394 (-0.597, -0.199) |
| | $\tau_1$ | 1.000 | 0.998 (0.888, 1.129) | 0.975 (0.874, 1.086) | 0.975 (0.874, 1.093) | 0.955 (0.858, 1.053) | 0.976 (0.896, 1.056) |
| | $\tau_2$ | 2.000 | 1.863 (1.573, 2.152) | 1.939 (1.704, 2.195) | 1.617 (1.419, 1.890) | 1.523 (1.354, 1.694) | 1.976 (1.835, 2.120) |
| | $\rho$ | -0.300 | -0.267 (-0.437, -0.068) | -0.317 (-0.482, -0.138) | -0.191 (-0.360, 0.017) | -0.275 (-0.426, -0.121) | -0.308 (-0.410, -0.198) |
| | $\beta$ | 0.500 | 0.773 (0.400, 2.000) | 0.632 (0.387, 1.933) | 0.118 (0.039, 0.496) | | |
| | $\alpha$ | 1.744 | 1.521 (0.127, 4.146) | 2.187 (1.247, 5.487) | 0.280 (0.037, 0.475) | | |
| | $c_1$ | 0.000 | 0.035 (0.000, 0.837) | | | | |
| 200 | $\mu_1$ | 2.197 | 2.168 (2.071, 2.249) | 2.200 (2.127, 2.270) | 2.021 (1.936, 2.096) | 2.083 (2.017, 2.145) | 2.206 (2.146, 2.256) |
| | $\mu_2$ | -0.405 | -0.360 (-0.520, -0.179) | -0.394 (-0.530, -0.264) | 0.350 (0.184, 0.475) | 0.500 (0.404, 0.585) | -0.416 (-0.510, -0.316) |
| | $\tau_1$ | 1.000 | 1.009 (0.951, 1.070) | 1.000 (0.942, 1.056) | 0.997 (0.937, 1.050) | 0.985 (0.930, 1.038) | 0.999 (0.953, 1.044) |
| | $\tau_2$ | 2.000 | 1.964 (1.792, 2.100) | 1.983 (1.870, 2.108) | 1.594 (1.499, 1.701) | 1.550 (1.468, 1.631) | 1.991 (1.918, 2.075) |
| | $\rho$ | -0.300 | -0.288 (-0.368, -0.211) | -0.300 (-0.380, -0.229) | -0.226 (-0.300, -0.136) | -0.257 (-0.326, -0.197) | -0.303 (-0.358, -0.250) |
| | $\beta$ | 0.500 | 0.522 (0.412, 0.700) | 0.517 (0.414, 0.677) | 0.064 (0.038, 0.161) | | |
| | $\alpha$ | 1.744 | 1.702 (1.210, 2.344) | 1.788 (1.380, 2.429) | 0.325 (0.139, 0.431) | | |
| | $c_1$ | 0.000 | 0.000 (0.000, 0.040) | | | | |

## Scenario 6

Table 6: Estimates of the parameters

| $S$ | Par | True | Proposed $(\hat{c}_1^2, \hat{c}_2^2)$ | Proposed (correct) | Proposed (wrong) | Reitsma$_O$ | Reitsma$_P$ |
|---|---|---|---|---|---|---|---|
| 25 | $\mu_1$ | 2.197 | 1.937 (1.686, 2.192) | 2.147 (1.946, 2.360) | 1.898 (1.686, 2.106) | 1.951 (1.772, 2.144) | 2.202 (2.039, 2.352) |
| | $\mu_2$ | -0.405 | 0.047 (-0.467, 0.547) | -0.252 (-0.674, 0.100) | 0.201 (-0.185, 0.542) | 0.498 (0.191, 0.766) | -0.419 (-0.691, -0.128) |
| | $\tau_1$ | 1.000 | 0.940 (0.791, 1.129) | 0.930 (0.785, 1.092) | 0.890 (0.751, 1.048) | 0.881 (0.739, 1.031) | 0.952 (0.829, 1.080) |
| | $\tau_2$ | 2.000 | 1.714 (1.359, 2.037) | 1.834 (1.522, 2.145) | 1.572 (1.290, 1.877) | 1.448 (1.217, 1.694) | 1.901 (1.696, 2.109) |
| | $\rho$ | -0.600 | -0.578 (-0.762, -0.333) | -0.630 (-0.793, -0.424) | -0.514 (-0.716, -0.240) | -0.577 (-0.748, -0.382) | -0.623 (-0.734, -0.495) |
| | $\beta$ | 0.500 | 2.000 (0.447, 2.000) | 1.276 (0.343, 2.000) | 0.164 (0.024, 0.901) | | |
| | $\alpha$ | 1.733 | 0.548 (-0.688, 4.183) | 3.622 (1.028, 6.748) | 0.213 (-0.145, 0.502) | | |
| | $c_1$ | 0.000 | 0.528 (0.000, 0.937) | | | | |
| 50 | $\mu_1$ | 2.197 | 2.048 (1.817, 2.241) | 2.189 (2.030, 2.344) | 1.923 (1.772, 2.061) | 1.965 (1.844, 2.107) | 2.204 (2.091, 2.316) |
| | $\mu_2$ | -0.405 | -0.203 (-0.551, 0.297) | -0.351 (-0.657, -0.102) | 0.251 (-0.051, 0.499) | 0.494 (0.301, 0.673) | -0.418 (-0.612, -0.214) |
| | $\tau_1$ | 1.000 | 0.979 (0.862, 1.099) | 0.975 (0.858, 1.087) | 0.925 (0.823, 1.025) | 0.922 (0.819, 1.017) | 0.971 (0.883, 1.064) |
| | $\tau_2$ | 2.000 | 1.833 (1.544, 2.101) | 1.917 (1.688, 2.149) | 1.595 (1.399, 1.838) | 1.509 (1.348, 1.669) | 1.958 (1.798, 2.106) |
| | $\rho$ | -0.600 | -0.578 (-0.705, -0.415) | -0.617 (-0.725, -0.479) | -0.489 (-0.637, -0.343) | -0.556 (-0.671, -0.424) | -0.615 (-0.689, -0.522) |
| | $\beta$ | 0.500 | 0.752 (0.388, 2.000) | 0.614 (0.375, 2.000) | 0.095 (0.025, 0.561) | | |
| | $\alpha$ | 1.733 | 1.252 (-0.105, 3.735) | 2.121 (1.194, 5.435) | 0.268 (-0.052, 0.459) | | |
| | $c_1$ | 0.000 | 0.058 (0.000, 0.863) | | | | |
| 200 | $\mu_1$ | 2.197 | 2.168 (2.066, 2.242) | 2.194 (2.127, 2.265) | 1.938 (1.869, 2.002) | 1.961 (1.898, 2.022) | 2.195 (2.143, 2.249) |
| | $\mu_2$ | -0.405 | -0.377 (-0.522, -0.155) | -0.404 (-0.541, -0.270) | 0.395 (0.251, 0.504) | 0.495 (0.403, 0.595) | -0.398 (-0.501, -0.296) |
| | $\tau_1$ | 1.000 | 1.000 (0.936, 1.056) | 0.998 (0.936, 1.052) | 0.941 (0.890, 0.992) | 0.940 (0.889, 0.991) | 0.994 (0.955, 1.038) |
| | $\tau_2$ | 2.000 | 1.974 (1.794, 2.106) | 1.994 (1.880, 2.123) | 1.585 (1.500, 1.691) | 1.554 (1.479, 1.636) | 1.992 (1.918, 2.060) |
| | $\rho$ | -0.600 | -0.597 (-0.653, -0.525) | -0.609 (-0.664, -0.545) | -0.523 (-0.586, -0.454) | -0.544 (-0.601, -0.480) | -0.605 (-0.646, -0.559) |
| | $\beta$ | 0.500 | 0.538 (0.400, 0.689) | 0.541 (0.429, 0.682) | 0.052 (0.029, 0.121) | | |
| | $\alpha$ | 1.733 | 1.747 (1.142, 2.350) | 1.888 (1.454, 2.424) | 0.356 (0.188, 0.455) | | |
| | $c_1$ | 0.000 | 0.000 (0.000, 0.061) | | | | |