**Table. Unconditional LGM parameters**

|  | | **0.05-0.95** | | | **0.1-0.9** | | | **0.2-0.8** | | | **0.3-0.7** | | | **0.4-0.6** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** |
| **type** | **N** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** |
| **I~1** | **200** | 0.002 | 0.000 | **0.486** | 0.009 | 0.000 | **0.092** | 0.048 | 0.000 | **0.021** | 0.107 | -0.001 | **0.018** | 0.165 | -0.003 | **0.026** |
| **500** | 0.002 | 0.000 | **0.242** | 0.009 | 0.000 | **0.038** | 0.048 | 0.000 | **0.009** | 0.106 | -0.001 | **0.006** | 0.165 | -0.001 | **0.009** |
| **1,000** | 0.002 | 0.000 | **0.127** | 0.009 | 0.000 | **0.019** | 0.048 | 0.000 | **0.004** | 0.107 | 0.000 | **0.003** | 0.165 | 0.000 | **0.004** |
| **2,000** | 0.002 | 0.000 | **0.065** | 0.009 | 0.000 | **0.010** | 0.048 | 0.000 | **0.002** | 0.107 | 0.000 | **0.002** | 0.165 | -0.001 | **0.002** |
| **S~1** | **200** | -0.029 | 0.000 | **0.372** | -0.106 | 0.000 | **0.119** | -0.342 | -0.005 | **0.038** | -0.591 | -0.011 | **0.023** | -0.810 | -0.028 | **0.026** |
| **500** | -0.030 | 0.001 | **0.216** | -0.105 | 0.000 | **0.056** | -0.339 | -0.002 | **0.016** | -0.589 | -0.001 | **0.008** | -0.810 | -0.015 | **0.009** |
| **1,000** | -0.031 | 0.000 | **0.121** | -0.108 | -0.002 | **0.030** | -0.339 | -0.001 | **0.007** | -0.590 | -0.001 | **0.005** | -0.810 | -0.007 | **0.005** |
| **2,000** | -0.031 | 0.000 | **0.070** | -0.106 | 0.000 | **0.015** | -0.340 | -0.002 | **0.003** | -0.591 | -0.002 | **0.002** | -0.809 | 0.000 | **0.002** |
| **I~~I** | **200** | 0.104 | -0.004 | **0.103** | 0.112 | -0.008 | **0.237** | -0.128 | -0.015 | **0.642** | -0.528 | -0.030 | **0.124** | -0.868 | -0.031 | **0.131** |
| **500** | 0.106 | 0.000 | **0.047** | 0.111 | -0.005 | **0.111** | -0.124 | -0.003 | **0.313** | -0.524 | -0.010 | **0.049** | -0.869 | -0.028 | **0.046** |
| **1,000** | 0.106 | -0.001 | **0.023** | 0.111 | -0.002 | **0.058** | -0.126 | -0.002 | **0.160** | -0.527 | -0.008 | **0.026** | -0.869 | -0.016 | **0.025** |
| **2,000** | 0.106 | 0.000 | **0.012** | 0.112 | 0.000 | **0.028** | -0.126 | -0.001 | **0.080** | -0.527 | -0.002 | **0.012** | -0.869 | -0.005 | **0.012** |
| **S~~S** | **200** | -0.379 | -0.003 | **0.025** | -0.631 | -0.009 | **0.022** | -0.865 | -0.018 | **0.028** | -0.954 | -0.038 | **0.047** | -0.989 | -0.088 | **0.089** |
| **500** | -0.385 | -0.005 | **0.010** | -0.631 | -0.003 | **0.009** | -0.864 | -0.006 | **0.013** | -0.954 | -0.015 | **0.020** | -0.990 | -0.037 | **0.037** |
| **1,000** | -0.383 | -0.001 | **0.005** | -0.631 | -0.002 | **0.005** | -0.865 | -0.003 | **0.006** | -0.954 | -0.009 | **0.009** | -0.990 | -0.018 | **0.019** |
| **2,000** | -0.384 | -0.002 | **0.003** | -0.632 | -0.002 | **0.002** | -0.865 | -0.002 | **0.003** | -0.954 | -0.007 | **0.005** | -0.990 | -0.011 | **0.010** |
| **I~~S** | **200** | -0.352 | -0.005 | **0.031** | -0.644 | -0.021 | **0.027** | -0.946 | -0.052 | **0.033** | -1.025 | -0.099 | **0.060** | -1.014 | -0.267 | **0.176** |
| **500** | -0.357 | -0.005 | **0.013** | -0.640 | -0.006 | **0.009** | -0.947 | -0.025 | **0.012** | -1.026 | -0.038 | **0.021** | -1.013 | -0.107 | **0.055** |
| **1,000** | -0.356 | -0.002 | **0.007** | -0.640 | -0.005 | **0.005** | -0.946 | -0.013 | **0.006** | -1.024 | -0.019 | **0.011** | -1.013 | -0.047 | **0.026** |
| **2,000** | -0.356 | -0.002 | **0.003** | -0.640 | -0.002 | **0.002** | -0.945 | -0.005 | **0.003** | -1.024 | -0.013 | **0.005** | -1.013 | -0.029 | **0.011** |
| *Note.* N: sample size; GBIT: generalized tobit estimator; ML: ML estimator with censored data; Number of timepoints equals 5 and ICC equals 0.5 | | | | | | | | | | | | | | | | |

**Table. Conditional LGM parameters**

|  | | **0.05-0.95** | | | **0.1-0.9** | | | **0.2-0.8** | | | **0.3-0.7** | | | **0.4-0.6** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** | **rBias** | | **MSER** |
| **type** | **N** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** | **ML** | **GBIT** | **.** |
| **I~x1.cov** | **200** | 0.059 | -0.002 | **0.043** | 0.075 | -0.006 | **0.082** | -0.034 | -0.015 | **0.782** | -0.271 | -0.028 | **0.107** | -0.582 | -0.079 | **0.086** |
| **500** | 0.060 | -0.001 | **0.016** | 0.075 | -0.003 | **0.031** | -0.034 | -0.005 | **0.422** | -0.271 | -0.010 | **0.033** | -0.578 | -0.034 | **0.026** |
| **1,000** | 0.060 | 0.000 | **0.008** | 0.075 | -0.001 | **0.017** | -0.035 | -0.003 | **0.260** | -0.273 | -0.006 | **0.016** | -0.578 | -0.017 | **0.012** |
| **2,000** | 0.060 | 0.000 | **0.004** | 0.075 | 0.000 | **0.008** | -0.035 | -0.001 | **0.141** | -0.274 | -0.003 | **0.007** | -0.577 | -0.008 | **0.005** |
| **S~x1.cov** | **200** | -0.247 | 0.000 | **0.018** | -0.459 | -0.003 | **0.012** | -0.737 | -0.010 | **0.012** | -0.892 | -0.024 | **0.017** | -0.979 | -0.077 | **0.036** |
| **500** | -0.252 | -0.002 | **0.007** | -0.460 | -0.001 | **0.005** | -0.737 | -0.005 | **0.005** | -0.891 | -0.008 | **0.007** | -0.981 | -0.028 | **0.013** |
| **1,000** | -0.250 | 0.000 | **0.004** | -0.459 | -0.001 | **0.002** | -0.737 | -0.002 | **0.002** | -0.892 | -0.005 | **0.003** | -0.982 | -0.011 | **0.006** |
| **2,000** | -0.251 | 0.000 | **0.002** | -0.460 | -0.001 | **0.001** | -0.737 | 0.000 | **0.001** | -0.892 | -0.003 | **0.002** | -0.982 | -0.009 | **0.003** |
| **z1~I.cov** | **200** | 0.053 | 0.000 | **0.028** | 0.116 | 0.000 | **0.014** | 0.166 | -0.001 | **0.016** | 0.073 | 0.000 | **0.021** | 0.109 | 0.002 | **0.024** |
| **500** | 0.055 | 0.000 | **0.011** | 0.115 | 0.000 | **0.006** | 0.159 | 0.000 | **0.009** | 0.040 | 0.001 | **0.067** | 0.168 | 0.000 | **0.007** |
| **1,000** | 0.054 | 0.000 | **0.005** | 0.113 | 0.000 | **0.003** | 0.155 | 0.000 | **0.005** | 0.032 | 0.000 | **0.071** | 0.146 | -0.001 | **0.005** |
| **2,000** | 0.054 | 0.000 | **0.003** | 0.114 | 0.000 | **0.001** | 0.154 | 0.000 | **0.002** | 0.029 | 0.000 | **0.064** | 0.085 | 0.002 | **0.010** |
| **z1~S.cov** | **200** | 0.546 | -0.001 | **0.013** | 1.387 | -0.003 | **0.005** | 3.513 | -0.006 | **0.002** | 5.364 | 0.008 | **0.001** | 16.785 | 0.024 | **0.000** |
| **500** | 0.558 | 0.002 | **0.005** | 1.377 | -0.002 | **0.002** | 3.411 | 0.002 | **0.001** | 4.588 | 0.008 | **0.001** | 19.759 | 0.008 | **0.000** |
| **1,000** | 0.552 | -0.001 | **0.003** | 1.361 | -0.001 | **0.001** | 3.356 | 0.000 | **0.000** | 4.412 | 0.001 | **0.001** | 18.557 | -0.003 | **0.000** |
| **2,000** | 0.552 | 0.000 | **0.001** | 1.367 | 0.001 | **0.001** | 3.345 | -0.001 | **0.000** | 4.343 | 0.001 | **0.000** | 15.438 | 0.006 | **0.000** |
| *Note.* N: sample size; GBIT: generalized tobit estimator; ML: ML estimator with censored data; Number of timepoints equals 5 and ICC equals 0.5 | | | | | | | | | | | | | | | | |