**Online Supplement to:**

**On the Almost Exact-Equivalence of the Radial and Spherical Unconstrained Cholesky-Based Parameterization Methods for Correlation Matrices**

By Chandra R. Bhat (corresponding author) and Aupal Mondal

**Appendix A: Detailed Simulation Results**

**Table A1. Simulation result for Low correlation case**

| **Parameter** | **Metrics** | **Scale = 0.2** | **Scale = 0.6** | **Scale = 0.8** | **Scale = 1.0** | **Scale = 1.2** | **Scale = 1.4** | **Scale = 2.0** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | True value | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 |
| Estimate | -0.254 | -0.252 | -0.250 | -0.252 | -0.252 | -0.251 | -0.252 |
| APB (%) | 1.597 | 0.759 | 0.193 | 0.824 | 0.766 | 0.225 | 0.991 |
| FSSD | 0.033 | 0.032 | 0.033 | 0.032 | 0.032 | 0.035 | 0.032 |
| ASE | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 | 0.033 |
| APBASE (%) | 0.540 | 4.127 | 1.660 | 2.414 | 4.183 | 4.669 | 4.178 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.004 | 1.004 | 1.002 | 1.003 | 1.004 | 1.002 | 1.003 |
| APB (%) | 0.371 | 0.411 | 0.206 | 0.258 | 0.402 | 0.229 | 0.350 |
| FSSD | 0.043 | 0.043 | 0.043 | 0.045 | 0.043 | 0.042 | 0.043 |
| ASE | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 | 0.044 |
| APBASE (%) | 2.137 | 1.753 | 0.724 | 2.982 | 1.813 | 2.731 | 1.738 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.502 | -0.501 | -0.501 | -0.502 | -0.501 | -0.499 | -0.501 |
| APB (%) | 0.475 | 0.143 | 0.136 | 0.463 | 0.250 | 0.230 | 0.246 |
| FSSD | 0.035 | 0.034 | 0.036 | 0.035 | 0.034 | 0.036 | 0.034 |
| ASE | 0.035 | 0.034 | 0.034 | 0.035 | 0.034 | 0.034 | 0.034 |
| APBASE (%) | 0.826 | 0.595 | 3.995 | 2.476 | 0.583 | 4.780 | 0.588 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.003 | 1.003 | 1.002 | 1.004 | 1.003 | 1.002 | 1.003 |
| APB (%) | 0.045 | 0.045 | 0.044 | 0.046 | 0.045 | 0.046 | 0.045 |
| FSSD | 0.045 | 0.045 | 0.044 | 0.046 | 0.045 | 0.046 | 0.045 |
| ASE | 0.044 | 0.045 | 0.044 | 0.044 | 0.045 | 0.044 | 0.045 |
| APBASE (%) | 1.921 | 0.435 | 0.786 | 3.660 | 0.313 | 4.242 | 0.334 |
|  | True value | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 |
| Estimate | -0.751 | -0.755 | -0.752 | -0.753 | -0.754 | -0.753 | -0.754 |
| APB (%) | 0.187 | 0.610 | 0.224 | 0.436 | 0.572 | 0.348 | 0.556 |
| FSSD | 0.037 | 0.036 | 0.040 | 0.036 | 0.036 | 0.036 | 0.036 |
| ASE | 0.038 | 0.038 | 0.038 | 0.038 | 0.038 | 0.037 | 0.038 |
| APBASE (%) | 1.808 | 6.534 | 6.852 | 3.840 | 6.447 | 3.491 | 6.514 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.001 | 1.003 | 1.003 | 1.006 | 1.003 | 1.005 | 1.003 |
| APB (%) | 0.061 | 0.335 | 0.305 | 0.579 | 0.349 | 0.523 | 0.340 |
| FSSD | 0.044 | 0.045 | 0.046 | 0.046 | 0.045 | 0.048 | 0.045 |
| ASE | 0.046 | 0.045 | 0.046 | 0.045 | 0.045 | 0.047 | 0.045 |
| APBASE (%) | 5.859 | 0.789 | 0.905 | 2.195 | 0.507 | 2.130 | 0.639 |
|  | True value | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| Estimate | -1.003 | -1.003 | -1.002 | -1.004 | -1.004 | -1.002 | -1.004 |
| APB (%) | 0.318 | 0.314 | 0.231 | 0.352 | 0.387 | 0.160 | 0.376 |
| FSSD | 0.048 | 0.046 | 0.045 | 0.046 | 0.046 | 0.048 | 0.046 |
| ASE | 0.048 | 0.046 | 0.047 | 0.048 | 0.046 | 0.049 | 0.046 |
| APBASE (%) | 0.998 | 0.425 | 3.617 | 4.794 | 0.490 | 0.410 | 0.539 |
|  | True value | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| Estimate | 0.502 | 0.500 | 0.500 | 0.501 | 0.501 | 0.498 | 0.501 |
| APB (%) | 0.462 | 0.006 | 0.013 | 0.274 | 0.201 | 0.335 | 0.195 |
| FSSD | 0.063 | 0.065 | 0.062 | 0.062 | 0.065 | 0.062 | 0.065 |
| ASE | 0.062 | 0.062 | 0.062 | 0.062 | 0.062 | 0.062 | 0.062 |
| APBASE (%) | 0.508 | 4.392 | 0.242 | 0.216 | 4.317 | 0.091 | 4.349 |
|  | True value | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 |
| Estimate | -1.252 | -1.251 | -1.251 | -1.251 | -1.252 | -1.250 | -1.251 |
| APB (%) | 0.149 | 0.118 | 0.043 | 0.082 | 0.150 | 0.006 | 0.080 |
| FSSD | 0.046 | 0.043 | 0.044 | 0.046 | 0.043 | 0.044 | 0.043 |
| ASE | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.044 | 0.045 |
| APBASE (%) | 1.737 | 3.156 | 1.765 | 1.385 | 3.155 | 0.151 | 3.071 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.510 | -0.507 | -0.510 | -0.513 | -0.508 | -0.507 | -0.509 |
| APB (%) | 1.985 | 1.358 | 2.037 | 2.582 | 1.623 | 1.426 | 1.760 |
| FSSD | 0.101 | 0.108 | 0.101 | 0.107 | 0.107 | 0.101 | 0.108 |
| ASE | 0.105 | 0.106 | 0.106 | 0.106 | 0.106 | 0.107 | 0.106 |
| APBASE (%) | 4.445 | 1.934 | 4.424 | 0.939 | 0.946 | 6.158 | 1.627 |
|  | True value | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 |
| Estimate | 0.297 | 0.296 | 0.294 | 0.296 | 0.295 | 0.295 | 0.295 |
| APB (%) | 0.987 | 1.324 | 2.099 | 1.207 | 1.528 | 1.552 | 1.766 |
| FSSD | 0.042 | 0.042 | 0.043 | 0.044 | 0.043 | 0.042 | 0.043 |
| ASE | 0.046 | 0.046 | 0.046 | 0.046 | 0.046 | 0.046 | 0.046 |
| APBASE (%) | 9.518 | 7.173 | 5.551 | 4.663 | 7.023 | 8.817 | 6.649 |
|  | True value | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 |
| Estimate | 0.199 | 0.198 | 0.199 | 0.201 | 0.198 | 0.198 | 0.199 |
| APB (%) | 0.297 | 0.844 | 0.615 | 0.460 | 0.952 | 1.187 | 0.590 |
| FSSD | 0.046 | 0.047 | 0.047 | 0.048 | 0.047 | 0.047 | 0.047 |
| ASE | 0.049 | 0.048 | 0.049 | 0.049 | 0.048 | 0.049 | 0.048 |
| APBASE (%) | 4.737 | 2.842 | 3.001 | 2.548 | 2.964 | 3.689 | 2.825 |
|  | True value | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 |
| Estimate | -0.196 | -0.195 | -0.197 | -0.200 | -0.196 | -0.198 | -0.197 |
| APB (%) | 1.759 | 2.361 | 1.606 | 0.243 | 1.964 | 1.243 | 1.629 |
| FSSD | 0.044 | 0.043 | 0.044 | 0.045 | 0.043 | 0.044 | 0.043 |
| ASE | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 |
| APBASE (%) | 2.076 | 5.205 | 1.543 | 0.472 | 5.172 | 2.712 | 5.284 |
|  | True value | -0.150 | -0.150 | -0.150 | -0.150 | -0.150 | -0.150 | -0.150 |
| Estimate | -0.148 | -0.153 | -0.149 | -0.146 | -0.152 | -0.149 | -0.151 |
| APB (%) | 1.056 | 1.695 | 0.944 | 2.470 | 1.265 | 0.462 | 0.795 |
| FSSD | 0.056 | 0.056 | 0.057 | 0.059 | 0.057 | 0.057 | 0.057 |
| ASE | 0.059 | 0.059 | 0.059 | 0.059 | 0.059 | 0.059 | 0.059 |
| APBASE (%) | 4.757 | 5.458 | 4.100 | 1.300 | 4.931 | 5.128 | 4.579 |
|  | True value | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 |
| Estimate | 0.247 | 0.246 | 0.248 | 0.247 | 0.247 | 0.248 | 0.247 |
| APB (%) | 1.390 | 1.631 | 0.964 | 1.382 | 1.295 | 0.994 | 1.314 |
| FSSD | 0.049 | 0.049 | 0.050 | 0.050 | 0.049 | 0.050 | 0.049 |
| ASE | 0.049 | 0.048 | 0.049 | 0.049 | 0.048 | 0.049 | 0.048 |
| APBASE (%) | 1.293 | 1.151 | 1.399 | 1.324 | 1.357 | 2.694 | 1.445 |
|  | True value | -0.300 | -0.300 | -0.300 | -0.300 | -0.300 | -0.300 | -0.300 |
| Estimate | -0.297 | -0.296 | -0.296 | -0.298 | -0.297 | -0.298 | -0.298 |
| APB (%) | 1.046 | 1.317 | 1.415 | 0.701 | 0.954 | 0.730 | 0.542 |
| FSSD | 0.046 | 0.043 | 0.042 | 0.042 | 0.043 | 0.043 | 0.042 |
| ASE | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 | 0.045 |
| APBASE (%) | 1.747 | 5.394 | 6.352 | 5.948 | 5.598 | 3.636 | 5.740 |
|  | True value | 0.100 | 0.100 | 0.100 | 0.100 | 0.100 | 0.100 | 0.100 |
| Estimate | 0.094 | 0.100 | 0.099 | 0.094 | 0.098 | 0.100 | 0.098 |
| APB (%) | 6.410 | 0.024 | 1.490 | 5.689 | 2.107 | 0.099 | 2.053 |
| FSSD | 0.059 | 0.058 | 0.058 | 0.060 | 0.058 | 0.060 | 0.058 |
| ASE | 0.060 | 0.059 | 0.060 | 0.060 | 0.059 | 0.060 | 0.059 |
| APBASE (%) | 2.167 | 2.665 | 3.041 | 0.051 | 2.276 | 1.379 | 1.874 |
|  | True value | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 |
| Estimate | -0.245 | -0.245 | -0.245 | -0.246 | -0.245 | -0.243 | -0.245 |
| APB (%) | 1.921 | 1.848 | 1.952 | 1.664 | 2.014 | 2.684 | 2.142 |
| FSSD | 0.046 | 0.043 | 0.045 | 0.046 | 0.043 | 0.048 | 0.043 |
| ASE | 0.047 | 0.048 | 0.048 | 0.048 | 0.048 | 0.047 | 0.048 |
| APBASE (%) | 2.668 | 10.306 | 6.436 | 4.613 | 10.325 | 0.688 | 10.365 |
|  | True value | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 | -0.200 |
| Estimate | -0.197 | -0.201 | -0.196 | -0.197 | -0.201 | -0.199 | -0.200 |
| APB (%) | 1.595 | 0.314 | 2.097 | 1.423 | 0.463 | 0.326 | 0.192 |
| FSSD | 0.063 | 0.064 | 0.061 | 0.067 | 0.063 | 0.061 | 0.063 |
| ASE | 0.064 | 0.063 | 0.064 | 0.065 | 0.063 | 0.064 | 0.063 |
| APBASE (%) | 1.783 | 0.699 | 5.390 | 2.436 | 0.761 | 3.768 | 1.078 |
|  | True value | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 | 0.250 |
| Estimate | 0.247 | 0.246 | 0.244 | 0.248 | 0.247 | 0.248 | 0.248 |
| APB (%) | 1.325 | 1.714 | 2.589 | 0.946 | 1.312 | 0.687 | 0.824 |
| FSSD | 0.049 | 0.053 | 0.051 | 0.052 | 0.053 | 0.051 | 0.053 |
| ASE | 0.052 | 0.053 | 0.053 | 0.052 | 0.053 | 0.052 | 0.052 |
| APBASE (%) | 6.517 | 0.184 | 3.738 | 1.330 | 0.198 | 2.345 | 0.211 |

**Table A2. Simulation result for High correlation case**

| **Parameter** | **Metrics** | **Scale = 0.2** | **Scale = 0.6** | **Scale = 0.8** | **Scale = 1.0** | **Scale = 1.2** | **Scale = 1.4** | **Scale = 2.0** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | True value | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 | -0.250 |
| Estimate | -0.257 | -0.256 | -0.255 | -0.255 | -0.256 | -0.255 | -0.256 |
| APB (%) | 2.815 | 2.449 | 2.083 | 1.977 | 2.247 | 1.877 | 2.264 |
| FSSD | 0.032 | 0.030 | 0.032 | 0.031 | 0.033 | 0.032 | 0.032 |
| ASE | 0.032 | 0.032 | 0.031 | 0.032 | 0.032 | 0.032 | 0.032 |
| APBASE (%) | 1.064 | 5.729 | 3.184 | 3.131 | 0.905 | 0.085 | 1.168 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.007 | 1.007 | 1.010 | 1.010 | 1.010 | 1.012 | 1.011 |
| APB (%) | 0.739 | 0.702 | 1.037 | 1.042 | 1.028 | 1.165 | 1.096 |
| FSSD | 0.038 | 0.041 | 0.040 | 0.040 | 0.039 | 0.040 | 0.038 |
| ASE | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 | 0.040 |
| APBASE (%) | 5.371 | 3.383 | 0.234 | 0.277 | 2.694 | 0.225 | 5.836 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.509 | -0.507 | -0.507 | -0.506 | -0.506 | -0.506 | -0.506 |
| APB (%) | 1.703 | 1.483 | 1.381 | 1.165 | 1.262 | 1.289 | 1.150 |
| FSSD | 0.034 | 0.035 | 0.034 | 0.034 | 0.034 | 0.032 | 0.033 |
| ASE | 0.034 | 0.034 | 0.035 | 0.034 | 0.034 | 0.034 | 0.034 |
| APBASE (%) | 1.153 | 1.945 | 1.334 | 0.823 | 0.497 | 5.742 | 2.607 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.008 | 1.009 | 1.013 | 1.013 | 1.012 | 1.012 | 1.012 |
| APB (%) | 0.038 | 0.042 | 0.041 | 0.039 | 0.041 | 0.041 | 0.043 |
| FSSD | 0.038 | 0.042 | 0.041 | 0.039 | 0.041 | 0.041 | 0.043 |
| ASE | 0.041 | 0.041 | 0.039 | 0.041 | 0.041 | 0.041 | 0.040 |
| APBASE (%) | 7.473 | 2.665 | 5.199 | 5.245 | 1.063 | 0.539 | 5.552 |
|  | True value | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 | -0.750 |
| Estimate | -0.756 | -0.756 | -0.757 | -0.757 | -0.758 | -0.758 | -0.758 |
| APB (%) | 0.802 | 0.768 | 0.948 | 0.938 | 1.121 | 1.045 | 1.007 |
| FSSD | 0.038 | 0.035 | 0.037 | 0.034 | 0.038 | 0.039 | 0.035 |
| ASE | 0.037 | 0.037 | 0.034 | 0.037 | 0.037 | 0.037 | 0.037 |
| APBASE (%) | 1.738 | 5.521 | 6.964 | 7.315 | 3.497 | 5.157 | 4.671 |
|  | True value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Estimate | 1.009 | 1.012 | 1.014 | 1.014 | 1.010 | 1.010 | 1.014 |
| APB (%) | 0.939 | 1.198 | 1.376 | 1.396 | 0.999 | 1.044 | 1.356 |
| FSSD | 0.043 | 0.041 | 0.043 | 0.044 | 0.041 | 0.040 | 0.043 |
| ASE | 0.043 | 0.042 | 0.044 | 0.043 | 0.043 | 0.044 | 0.043 |
| APBASE (%) | 0.319 | 3.715 | 1.033 | 1.454 | 6.302 | 8.590 | 0.296 |
|  | True value | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 | -1.000 |
| Estimate | -1.007 | -1.003 | -1.006 | -1.004 | -1.005 | -1.003 | -1.006 |
| APB (%) | 0.685 | 0.300 | 0.566 | 0.424 | 0.496 | 0.289 | 0.563 |
| FSSD | 0.047 | 0.042 | 0.045 | 0.047 | 0.044 | 0.045 | 0.046 |
| ASE | 0.045 | 0.045 | 0.047 | 0.045 | 0.045 | 0.045 | 0.046 |
| APBASE (%) | 2.813 | 7.649 | 3.344 | 3.254 | 2.831 | 0.109 | 1.228 |
|  | True value | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 | 0.500 |
| Estimate | 0.503 | 0.499 | 0.503 | 0.502 | 0.502 | 0.501 | 0.505 |
| APB (%) | 0.566 | 0.215 | 0.664 | 0.422 | 0.388 | 0.224 | 0.920 |
| FSSD | 0.055 | 0.053 | 0.056 | 0.053 | 0.055 | 0.055 | 0.059 |
| ASE | 0.056 | 0.056 | 0.053 | 0.056 | 0.056 | 0.056 | 0.056 |
| APBASE (%) | 1.070 | 5.507 | 5.199 | 5.290 | 1.737 | 0.913 | 5.321 |
|  | True value | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 | -1.250 |
| Estimate | -1.273 | -1.273 | -1.273 | -1.273 | -1.272 | -1.272 | -1.276 |
| APB (%) | 1.834 | 1.852 | 1.859 | 1.874 | 1.787 | 1.725 | 2.047 |
| FSSD | 0.044 | 0.045 | 0.043 | 0.043 | 0.044 | 0.045 | 0.043 |
| ASE | 0.043 | 0.043 | 0.043 | 0.043 | 0.044 | 0.044 | 0.043 |
| APBASE (%) | 1.899 | 3.054 | 0.189 | 0.101 | 0.444 | 3.368 | 0.236 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.507 | -0.509 | -0.507 | -0.509 | -0.504 | -0.502 | -0.505 |
| APB (%) | 1.488 | 1.851 | 1.432 | 1.865 | 0.850 | 0.401 | 1.035 |
| FSSD | 0.097 | 0.090 | 0.098 | 0.088 | 0.093 | 0.093 | 0.091 |
| ASE | 0.096 | 0.096 | 0.090 | 0.098 | 0.093 | 0.092 | 0.095 |
| APBASE (%) | 0.965 | 6.873 | 8.044 | 10.981 | 0.043 | 0.430 | 4.115 |
|  | True value | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 |
| Estimate | 0.596 | 0.594 | 0.593 | 0.594 | 0.591 | 0.590 | 0.595 |
| APB (%) | 0.677 | 1.081 | 1.205 | 1.022 | 1.514 | 1.653 | 0.835 |
| FSSD | 0.034 | 0.034 | 0.037 | 0.035 | 0.036 | 0.037 | 0.037 |
| ASE | 0.036 | 0.037 | 0.035 | 0.037 | 0.037 | 0.037 | 0.036 |
| APBASE (%) | 6.295 | 7.080 | 4.329 | 3.962 | 0.375 | 1.132 | 2.572 |
|  | True value | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 |
| Estimate | 0.198 | 0.200 | 0.198 | 0.196 | 0.196 | 0.191 | 0.192 |
| APB (%) | 0.899 | 0.244 | 1.239 | 1.805 | 2.207 | 4.279 | 3.899 |
| FSSD | 0.044 | 0.045 | 0.046 | 0.046 | 0.048 | 0.049 | 0.047 |
| ASE | 0.046 | 0.047 | 0.046 | 0.046 | 0.047 | 0.047 | 0.047 |
| APBASE (%) | 3.782 | 3.326 | 0.900 | 1.304 | 2.024 | 3.596 | 0.821 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.494 | -0.490 | -0.494 | -0.493 | -0.490 | -0.493 | -0.489 |
| APB (%) | 1.137 | 1.974 | 1.232 | 1.463 | 1.936 | 1.318 | 2.226 |
| FSSD | 0.039 | 0.037 | 0.038 | 0.037 | 0.039 | 0.038 | 0.036 |
| ASE | 0.038 | 0.038 | 0.037 | 0.038 | 0.039 | 0.038 | 0.038 |
| APBASE (%) | 2.112 | 3.533 | 2.940 | 2.443 | 1.680 | 0.382 | 5.638 |
|  | True value | -0.800 | -0.800 | -0.800 | -0.800 | -0.800 | -0.800 | -0.800 |
| Estimate | -0.786 | -0.779 | -0.776 | -0.775 | -0.781 | -0.781 | -0.780 |
| APB (%) | 1.788 | 2.643 | 2.957 | 3.100 | 2.352 | 2.385 | 2.544 |
| FSSD | 0.041 | 0.044 | 0.050 | 0.045 | 0.045 | 0.045 | 0.046 |
| ASE | 0.047 | 0.050 | 0.045 | 0.049 | 0.049 | 0.049 | 0.050 |
| APBASE (%) | 15.505 | 13.083 | 9.070 | 8.859 | 8.220 | 9.442 | 7.386 |
|  | True value | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 |
| Estimate | 0.593 | 0.591 | 0.590 | 0.592 | 0.594 | 0.592 | 0.591 |
| APB (%) | 1.215 | 1.561 | 1.648 | 1.382 | 1.052 | 1.381 | 1.432 |
| FSSD | 0.037 | 0.039 | 0.039 | 0.038 | 0.036 | 0.037 | 0.038 |
| ASE | 0.039 | 0.039 | 0.038 | 0.039 | 0.039 | 0.039 | 0.039 |
| APBASE (%) | 3.391 | 0.728 | 3.652 | 3.222 | 8.933 | 5.507 | 4.431 |
|  | True value | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 |
| Estimate | 0.204 | 0.208 | 0.207 | 0.207 | 0.205 | 0.204 | 0.208 |
| APB (%) | 2.155 | 3.999 | 3.468 | 3.329 | 2.620 | 1.795 | 4.059 |
| FSSD | 0.043 | 0.040 | 0.043 | 0.044 | 0.042 | 0.041 | 0.040 |
| ASE | 0.043 | 0.043 | 0.044 | 0.043 | 0.043 | 0.043 | 0.043 |
| APBASE (%) | 1.265 | 6.115 | 0.502 | 0.833 | 4.158 | 5.257 | 7.221 |
|  | True value | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 | -0.500 |
| Estimate | -0.496 | -0.514 | -0.513 | -0.512 | -0.506 | -0.503 | -0.510 |
| APB (%) | 0.858 | 2.748 | 2.510 | 2.319 | 1.208 | 0.646 | 1.925 |
| FSSD | 0.051 | 0.048 | 0.052 | 0.053 | 0.051 | 0.052 | 0.049 |
| ASE | 0.054 | 0.052 | 0.053 | 0.052 | 0.053 | 0.053 | 0.053 |
| APBASE (%) | 6.073 | 8.825 | 3.122 | 2.362 | 4.385 | 2.145 | 7.521 |
|  | True value | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 |
| Estimate | 0.599 | 0.596 | 0.596 | 0.595 | 0.594 | 0.594 | 0.592 |
| APB (%) | 0.248 | 0.606 | 0.711 | 0.793 | 1.024 | 1.003 | 1.293 |
| FSSD | 0.036 | 0.036 | 0.035 | 0.033 | 0.036 | 0.036 | 0.035 |
| ASE | 0.035 | 0.035 | 0.033 | 0.035 | 0.036 | 0.036 | 0.036 |
| APBASE (%) | 3.703 | 1.966 | 6.918 | 6.513 | 0.278 | 0.402 | 3.543 |
|  | True value | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 | 0.200 |
| Estimate | 0.204 | 0.200 | 0.200 | 0.201 | 0.198 | 0.204 | 0.197 |
| APB (%) | 2.226 | 0.133 | 0.016 | 0.572 | 0.833 | 1.877 | 1.609 |
| FSSD | 0.052 | 0.056 | 0.056 | 0.054 | 0.056 | 0.055 | 0.055 |
| ASE | 0.057 | 0.057 | 0.053 | 0.056 | 0.057 | 0.057 | 0.057 |
| APBASE (%) | 9.444 | 1.776 | 5.071 | 3.333 | 2.141 | 3.649 | 3.700 |
|  | True value | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 | 0.600 |
| Estimate | 0.589 | 0.591 | 0.590 | 0.589 | 0.592 | 0.594 | 0.595 |
| APB (%) | 1.781 | 1.498 | 1.738 | 1.794 | 1.391 | 1.069 | 0.894 |
| FSSD | 0.037 | 0.036 | 0.039 | 0.037 | 0.037 | 0.036 | 0.037 |
| ASE | 0.039 | 0.039 | 0.036 | 0.039 | 0.039 | 0.039 | 0.039 |
| APBASE (%) | 3.603 | 6.287 | 6.419 | 5.421 | 6.367 | 9.313 | 3.714 |