```
Estimated expected survival times by start state:
0: x=[0], p=0.5882352941176472 --> N=334 T=7.271 +/- 0.310 (4.3%)
1: x=[1], p=0.411764705882353 --> N=233 T=5.727 +/- 0.362 (6.3%)
----- Total: N=567
simulate_expected_survival_time: Total simulation time: 0.1 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
simulate_survival: Total simulation time: 0.0 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
Generating trajectories for each particle until END OF SIMULATION TIME (T=71.42857142857143)...
execution time: 94.0 sec
        P(K) by MC: 5.900%, E(T) = 6.6 (simulation time = 40500.0)
        P(K) estimated by FV1: 4.683% (simulation time = 71.4)
        P(K) estimated by FV2: 13.415% (simulation time = 71.4)
        True P(K): 5.714%
        Replication 9 of 10... # particles processed so far: 1
Generating trajectories for each particle until END OF SIMULATION TIME (T=40500.0)...
# particles by start_state:
0: x=[0], p=0.5882352941176472 --> N=334
1: x=[1], p=0.411764705882353 --> N=233
Block of particle indices to simulate #0: [0, 333] (N=334)
Block of particle indices to simulate #1: [334, 566] (N=233)
simulate_expected_survival_time: Generating trajectories for 567 particles until absorption...
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
Total simulation time for Expected Survival Time estimation (E(T)): 0.0 min
Estimated expected survival times by start state:
0: x=[0], p=0.5882352941176472 --> N=334 T=7.239 +/- 0.322 (4.5%)
1: x=[1], p=0.411764705882353 --> N=233 T=5.933 +/- 0.370 (6.2%)
----- Total: N=567
simulate_expected_survival_time: Total simulation time: 0.0 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
```

```
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
simulate_survival: Total simulation time: 0.0 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
Generating trajectories for each particle until END OF SIMULATION TIME (T=71.42857142857143)...
execution time: 91.2 sec
        P(K) by MC: 5.536%, E(T) = 6.7 (simulation time = 40500.0)
        P(K) estimated by FV1: 4.575% (simulation time = 71.4)
        P(K) estimated by FV2: 12.198% (simulation time = 71.4)
        True P(K): 5.714%
        Replication 10 of 10... # particles processed so far: 1
Generating trajectories for each particle until END OF SIMULATION TIME (T=40500.0)...
# particles by start_state:
0: x=[0], p=0.5882352941176472 --> N=334
1: x=[1], p=0.411764705882353 --> N=233
Block of particle indices to simulate #0: [0, 333] (N=334)
Block of particle indices to simulate #1: [334, 566] (N=233)
simulate_expected_survival_time: Generating trajectories for 567 particles until absorption...
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
Total simulation time for Expected Survival Time estimation (E(T)): 0.0 min
Estimated expected survival times by start state:
0: x=[0], p=0.5882352941176472 --> N=334 T=7.293 +/- 0.308 (4.2%)
1: x=[1], p=0.411764705882353 --> N=233 T=5.638 +/- 0.372 (6.6%)
----- Total: N=567
simulate_expected_survival_time: Total simulation time: 0.0 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
```

```
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
simulate_survival: Total simulation time: 0.0 min
# particles by start_state:
0: x=[2], p=1.0 --> N=567
Block of particle indices to simulate #0: [0, 566] (N=567)
# particles processed so far: 1
# particles processed so far: 2
# particles processed so far: 3
# particles processed so far: 58
# particles processed so far: 115
# particles processed so far: 172
# particles processed so far: 228
# particles processed so far: 285
# particles processed so far: 342
# particles processed so far: 398
# particles processed so far: 455
# particles processed so far: 512
Generating trajectories for each particle until END OF SIMULATION TIME (T=71.42857142857143)...
execution time: 89.2 sec
        P(K) by MC: 5.691%, E(T) = 6.6 (simulation time = 40500.0)
        P(K) estimated by FV1: 4.671% (simulation time = 71.4)
        P(K) estimated by FV2: 11.745% (simulation time = 71.4)
        True P(K): 5.714%
Total execution time: 39.0 min
Simulation results for c=1, K=5, rhos=[0.7], (50<=N<=600), T<=71
Raw results by N:
                       Pr(MC)
                                                         Pr(FV)
     N replication
                                   Time(MC)
                                                 E(T)
                                                                  Time(FV)
                     0.065763
                                3571.428571 6.873666 0.010598 71.428571
                     0.056653
                                3571.428571 7.333581 0.045420 71.428571
1
     50
                  2
                     0.069424
                                3571.428571
                                                       0.038979
1
     50
                  3
                                             7.752060
                                                                 71.428571
                                3571.428571 8.012776 0.030495 71.428571
1
     50
                     0.059306
1
     50
                  5
                     0.055095
                                3571.428571 8.273113 0.046618 71.428571
                                3571.428571 7.535544 0.023923 71.428571 3571.428571 7.275008 0.039697 71.428571
                     0.049727
1
     50
                  6
1
     50
                     0.055748
                     0.065814
                                3571.428571 5.568150 0.075475 71.428571
     50
                  8
1
1
     50
                 9
                     0.048400
                                3571.428571 6.143795
                                                       0.045694 71.428571
                                3571.428571 7.109948 0.020225 71.428571 5357.142857 7.409746 0.021015 71.428571
1
     50
                 10
                     0.060833
2
     75
                 1
                     0.059838
                                5357.142857 7.145593 0.042821 71.428571
2
                     0.064875
     75
                 2
                     0.069354
2
     75
                  3
                                5357.142857 7.177443 0.041648 71.428571
2
     75
                  4
                     0.054375
                                5357.142857 7.253945
                                                       0.031832
                                                                 71.428571
                                5357.142857 7.372886 0.035572
2
     75
                 5
                     0.051728
                                                                 71.428571
2
     75
                  6
                     0.054722
                                5357.142857 6.910593 0.022414 71.428571
2
     75
                 7
                     0.061356
                                5357.142857 7.779453 0.046460 71.428571
2
     75
                  8
                     0.057477
                                5357.142857 6.064476
                                                       0.054383
                                                                 71.428571
                                5357.142857 6.627983 0.039330 71.428571
2
     75
                     0.051663
                 9
2
                 10 0.062387
                                5357.142857 7.912942 0.027842 71.428571
                 1 0.060985
                                8000.000000 6.873718 0.028263 71.428571
3
    112
3
                     0.058179
                                8000.000000 7.475278
                                                       0.037323
    112
                  2
                                                                 71.428571
3
                                8000.000000 7.092182 0.046974 71.428571
    112
                 3
                     0.064481
3
                     0.052649
                                8000.000000 7.536498
                                                       0.033671 71.428571
    112
                                8000.000000 7.861759
                                                       0.036625
                 5
                     0.053223
                                                                 71.428571
3
    112
3
    112
                  6
                     0.057401
                                8000.000000 6.786561
                                                       0.031918
                                                                 71.428571
3
                                8000.000000 6.933399 0.044596 71.428571
    112
                     0.063599
3
    112
                 8 0.054899
                                8000.000000 5.621526 0.053227 71.428571
3
    112
                 9
                     0.054375
                                8000.000000 6.457939
                                                       0.035662 71.428571
                                8000.000000 6.872825 0.035327 71.428571
3
    112
                10
                    0.063615
                                                       0.039517 71.428571
5
    252
                 1
                     0.055652
                               18000.000000 6.518977
5
    252
                  2
                     0.057110
                               18000.000000 7.432924
                                                       0.039134
                                                                 71.428571
                                                       0.041089 71.428571
                               18000.000000 7.276640
5
    252
                  3
                     0.060726
5
    252
                     0.054983
                               18000.000000 6.719045
                                                       0.043063 71.428571
5
                    0.054756 18000.000000 6.595712 0.055319 71.428571
    252
                 5
5
    252
                  6
                     0.054541
                               18000.000000 6.715444
                                                       0.044714
                                                                 71.428571
5
                               18000.000000 6.852993 0.040379 71.428571
                     0.061333
    252
                 7
5
    252
                     0.057369
                               18000.000000 6.715903 0.039566 71.428571
                     0.055200
                               18000.000000 6.479858 0.043705 71.428571
5
                 9
    252
    252
                 10
                     0.057864
                               18000.000000 6.705088 0.033714
                                                                 71.428571
```

```
6
    378
                  1 0.055397
                               27000.000000 6.814916 0.041611 71.428571
    378
                     0.055412
                               27000.000000
                                             7.444464
                                                        0.047618
                                                                  71.428571
6
                               27000.000000 7.053295
6
    378
                  3
                     0.058552
                                                        0.041547
                                                                  71.428571
6
    378
                     0.053646
                               27000.000000
                                              6.740980
                                                        0.046206
                                                                  71.428571
                                             7.035928
                                                                  71.428571
6
    378
                  5
                     0.055771
                               27000.000000
                                                        0.055396
                     0.057239
6
    378
                  6
                               27000.000000 6.908980
                                                        0.041442
                                                                  71.428571
                     0.059209
                               27000.000000 6.717959
                                                        0.044214 71.428571
6
    378
                  7
                  8
                     0.058271
                               27000.000000
                                              6.895481
                                                        0.040059
6
    378
                                                                  71.428571
6
    378
                  9
                     0.054937
                               27000.000000
                                             6.703634
                                                        0.045543
                                                                  71,428571
                                                        0.046419
                                                                  71.428571
                     0.056493
                               27000.000000
                                             6.660674
6
    378
                 10
                                             6.660442
7
    567
                     0.057801
                               40500.000000
                                                        0.036979
                                                                  71.428571
                  1
7
                  2
                     0.058567
                               40500.000000
                                              7.399971
                                                        0.045890
                                                                  71.428571
    567
7
                     0.058120 40500.000000 6.829571
                                                        0.043573 71.428571
    567
                  3
7
                  4
                     0.053438
                               40500.000000 6.924200
                                                        0.045809 71.428571
    567
7
                  5
                     0.057602
                               40500.000000 6.979780
                                                        0.058767
                                                                  71.428571
    567
7
    567
                  6
                     0.056209
                               40500.000000
                                              6.790975
                                                        0.049672
                                                                  71.428571
7
    567
                     0.059129
                               40500.000000
                                             7.027431
                                                        0.053160
                                                                  71.428571
7
    567
                     0.059000
                               40500.000000
                                              6.636141
                                                        0.046833 71.428571
7
                  9
                     0.055356
                               40500.000000
                                             6.702507
                                                        0.045746
                                                                  71.428571
    567
7
    567
                 10
                     0.056912
                               40500.000000
                                             6.612859
                                                        0.046709
                                                                  71.428571
       Pr(K)
              exec_time(s)
1
    0.057144
                  5.394300
                  5.226670
1
    0.057144
1
    0.057144
                  5.340783
1
    0.057144
                  5.558171
1
    0.057144
                  6.268520
                  6.080410
    0.057144
1
    0.057144
1
                  5.731022
                  5.640939
    0.057144
1
1
    0.057144
                  6.018536
    0.057144
                  8.104944
1
2
    0.057144
                  9.955087
2
    0.057144
                  8.951068
2
    0.057144
                 10.811963
2
    0.057144
                  9.552924
2
    0.057144
                  8.985104
    0.057144
                 10.206133
2
2
    0.057144
                  9.363191
    0.057144
2
                  9.145666
2
    0.057144
                  9.511020
2
    0.057144
                 11.736620
3
    0.057144
                 16.782656
3
    0.057144
                 13.884484
3
    0.057144
                 15.735974
3
    0.057144
                 18.171098
3
    0.057144
                 15.165880
3
    0.057144
                 14.081859
                 20.374883
3
    0.057144
                 17.132548
3
    0.057144
3
                 16.966583
    0.057144
                 13.701153
3
    0.057144
        . . .
                       . . .
5
    0.057144
                 34.467599
                 35.009234
5
    0.057144
5
    0.057144
                 34.194567
                 35.050870
5
    0.057144
5
    0.057144
                 34.223001
5
    0.057144
                 33.642534
5
    0.057144
                 33.695260
5
    0.057144
                 35.467036
5
    0.057144
                 38.431440
5
    0.057144
                 34.181941
6
    0.057144
                 53.859091
6
    0.057144
                 53.331795
6
    0.057144
                 54.051658
6
    0.057144
                 53.391778
                 58.212300
    0.057144
6
    0.057144
6
                 53.709187
                 52.435055
6
    0.057144
```

0.057144

0.057144

0.057144

6

6

53.430316

52.731931

53.557966

```
0.057144
                 92.669091
    0.057144
                 88.085045
                 85.627935
7
    0.057144
    0.057144
                 90.154181
    0.057144
                 88.939713
    0.057144
                 94.341787
    0.057144
                 91.484135
    0.057144
                 93.954785
                 91.176601
    0.057144
    0.057144
                 89.243846
```

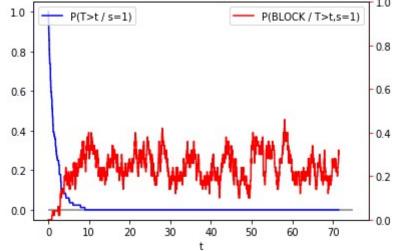
[70 rows x 9 columns]
Aggregated results by N:

00.									
	n		mean		std		min		\
	Pr(MC)	Pr(FV)	Pr(MC)	Pr(FV)	Pr(MC)	Pr(FV)	Pr(MC)	Pr(FV)	
N									
50	10	10	0.058676	0.037712	0.006936	0.018004	0.048400	0.010598	
75	10	10	0.058777	0.036332	0.005847	0.010693	0.051663	0.021015	
112	10	10	0.058341	0.038358	0.004561	0.007602	0.052649	0.028263	
168	10	10	0.058680	0.041894	0.003770	0.005468	0.054700	0.032519	
252	10	10	0.056953	0.042020	0.002444	0.005590	0.054541	0.033714	
378	10	10	0.056493	0.045006	0.001788	0.004470	0.053646	0.040059	
567	10	10	0.057213	0.047314	0.001789	0.005764	0.053438	0.036979	

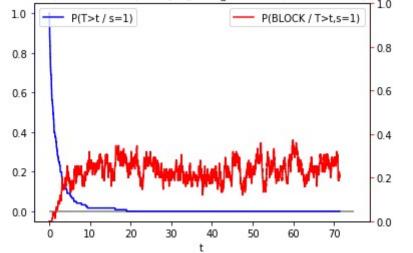
	max		SE	
	Pr(MC)	Pr(FV)	Pr(MC)	Pr(FV)
N				
50	0.069424	0.075475	0.002193	0.005693
75	0.069354	0.054383	0.001849	0.003381
112	0.064481	0.053227	0.001442	0.002404
168	0.065492	0.052510	0.001192	0.001729
252	0.061333	0.055319	0.000773	0.001768
378	0.059209	0.055396	0.000565	0.001413
567	0.059129	0.058767	0.000566	0.001823

C:\ProgramData\Anaconda\Anaconda3\lib\site-packages\pandas\core\groupby.py:4291: FutureWarning: using a
dict with renaming is deprecated and will be removed in a future version
 return super(DataFrameGroupBy, self).aggregate(arg, \*args, \*\*kwargs)

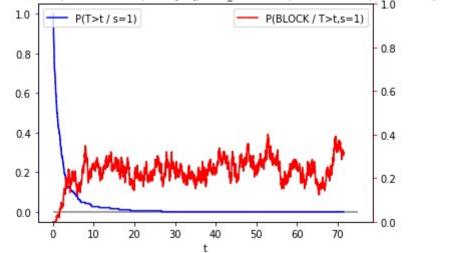




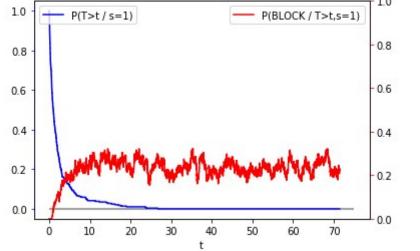
K=5, N=75, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=7.4, reactivate=True, finalize=ABS, seed=1717



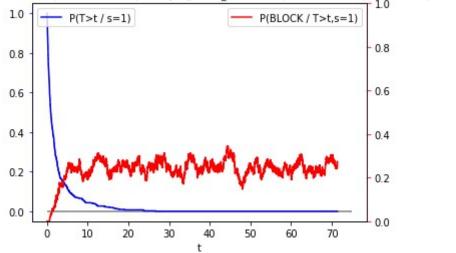
K=5, N=112, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=6.9, reactivate=True, finalize=ABS, seed=1717



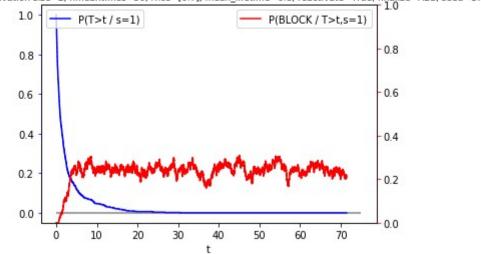
K=5, N=168, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=6.1, reactivate=True, finalize=ABS, seed=1717



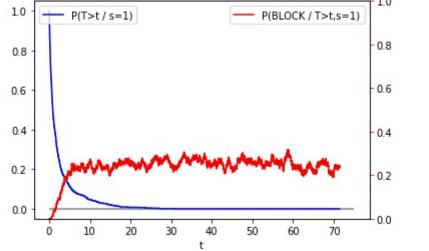
K=5, N=252, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=6.5, reactivate=True, finalize=ABS, seed=1717



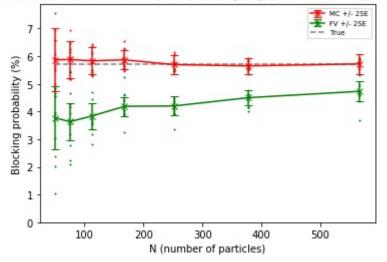
K=5, N=378, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=6.8, reactivate=True, finalize=ABS, seed=1717



K=5, N=567, activation size=2, nmeantimes=50, rhos=[0.7], mean\_lifetime=6.7, reactivate=True, finalize=ABS, seed=1717



## Simulation results for c=1, K=5, rhos=[0.7], (50<=N<=600), T<=71



## In [2]: results

378

6

7

0.059209

```
Out[2]:
        replication
                        Pr(MC)
                                     Time(MC)
                                                             Pr(FV)
                                                                       Time(FV)
      N
                                                     E(T)
                                                                                  \
1
     50
                   1
                      0.065763
                                  3571.428571
                                                6.873666
                                                           0.010598
                                                                      71.428571
1
     50
                      0.056653
                                                7.333581
                                                                      71,428571
                   2
                                  3571,428571
                                                           0.045420
1
                      0.069424
                                  3571.428571
                                                7.752060
                                                           0.038979
                                                                      71.428571
     50
                   4
                      0.059306
                                  3571.428571
                                                           0.030495
1
     50
                                                8.012776
                                                                      71.428571
1
     50
                   5
                      0.055095
                                  3571.428571
                                                8.273113
                                                           0.046618
                                                                      71.428571
1
     50
                   6
                      0.049727
                                  3571.428571
                                                7.535544
                                                           0.023923
                                                                      71.428571
1
     50
                   7
                      0.055748
                                  3571.428571
                                                7.275008
                                                           0.039697
                                                                      71.428571
                   8
                                  3571.428571
                                                5.568150
1
     50
                      0.065814
                                                           0.075475
                                                                      71.428571
1
     50
                   9
                      0.048400
                                  3571.428571
                                                6.143795
                                                           0.045694
                                                                      71.428571
     50
                  10
                      0.060833
                                  3571.428571
                                                7.109948
                                                           0.020225
                                                                      71.428571
1
2
     75
                   1
                      0.059838
                                  5357.142857
                                                7.409746
                                                           0.021015
                                                                      71.428571
2
     75
                   2
                      0.064875
                                  5357.142857
                                                7.145593
                                                           0.042821
                                                                      71.428571
2
     75
                   3
                      0.069354
                                  5357.142857
                                                7.177443
                                                           0.041648
                                                                      71.428571
2
     75
                   4
                      0.054375
                                  5357.142857
                                                7.253945
                                                           0.031832
                                                                      71.428571
2
                   5
     75
                      0.051728
                                  5357.142857
                                                7.372886
                                                           0.035572
                                                                      71.428571
2
     75
                   6
                      0.054722
                                  5357.142857
                                                6.910593
                                                           0.022414
                                                                      71.428571
2
     75
                   7
                      0.061356
                                  5357.142857
                                                7.779453
                                                           0.046460
                                                                      71.428571
2
     75
                   8
                      0.057477
                                  5357.142857
                                                6.064476
                                                           0.054383
                                                                      71.428571
2
                   9
                                                           0.039330
     75
                      0.051663
                                  5357,142857
                                                6.627983
                                                                      71,428571
2
                  10
     75
                      0.062387
                                  5357.142857
                                                7.912942
                                                           0.027842
                                                                      71,428571
3
                                  8000.000000
                                                           0.028263
                                                                      71.428571
    112
                   1
                      0.060985
                                                6.873718
3
                                  8000.000000
    112
                   2
                      0.058179
                                                7.475278
                                                           0.037323
                                                                      71.428571
3
                   3
                      0.064481
                                  8000,000000
                                                7.092182
                                                           0.046974
                                                                      71.428571
    112
3
    112
                   4
                      0.052649
                                  8000.000000
                                                7.536498
                                                           0.033671
                                                                      71.428571
3
                                  8000,000000
                                                7.861759
                                                           0.036625
                                                                      71.428571
                   5
                      0.053223
    112
3
                   6
                      0.057401
                                  8000.000000
                                                6.786561
                                                           0.031918
                                                                      71.428571
    112
                   7
                                  8000.000000
                                                           0.044596
3
                      0.063599
                                                6.933399
                                                                      71.428571
    112
3
    112
                   8
                      0.054899
                                  8000.000000
                                                5.621526
                                                           0.053227
                                                                      71.428571
3
                   9
                      0.054375
                                  8000.000000
                                                6.457939
                                                           0.035662
                                                                      71.428571
    112
3
    112
                  10
                      0.063615
                                  8000.000000
                                                6.872825
                                                           0.035327
                                                                      71.428571
    . . .
                            . . .
                                                      . . .
5
    252
                   1
                      0.055652
                                 18000.000000
                                                6.518977
                                                           0.039517
                                                                      71.428571
5
                      0.057110
                                 18000.000000
                                                7.432924
                                                           0.039134
                                                                      71.428571
    252
                   2
5
    252
                   3
                      0.060726
                                 18000.000000
                                                7.276640
                                                           0.041089
                                                                      71.428571
5
    252
                   4
                      0.054983
                                 18000.000000
                                                6.719045
                                                           0.043063
                                                                      71.428571
5
    252
                   5
                      0.054756
                                 18000.000000
                                                6.595712
                                                           0.055319
                                                                      71.428571
5
    252
                   6
                      0.054541
                                 18000.000000
                                                6.715444
                                                           0.044714
                                                                      71.428571
                                 18000.000000
5
                                                6.852993
                                                           0.040379
                                                                      71.428571
    252
                   7
                      0.061333
5
                   8
    252
                      0.057369
                                 18000.000000
                                                6.715903
                                                           0.039566
                                                                      71,428571
5
                   9
                      0.055200
                                 18000.000000
                                                6.479858
                                                           0.043705
                                                                      71.428571
    252
5
    252
                  10
                      0.057864
                                 18000.000000
                                                6.705088
                                                           0.033714
                                                                      71.428571
                                                           0.041611
6
                      0.055397
                                 27000,000000
                                                6.814916
                                                                      71.428571
    378
                   1
                      0.055412
                   2
                                 27000.000000
                                                7.444464
                                                           0.047618
6
    378
                                                                      71,428571
    378
                   3
                      0.058552
                                 27000.000000
                                                7.053295
                                                           0.041547
                                                                      71.428571
6
                   4
                      0.053646
                                 27000.000000
                                                6.740980
                                                           0.046206
                                                                      71.428571
6
    378
6
                   5
                      0.055771
                                 27000,000000
                                                7.035928
                                                           0.055396
                                                                      71.428571
    378
6
    378
                   6
                      0.057239
                                 27000.000000
                                                6.908980
                                                           0.041442
                                                                      71.428571
```

27000.000000

6.717959

0.044214

71.428571

```
6
    378
                    0.058271 27000.000000 6.895481 0.040059 71.428571
6
    378
                     0.054937
                               27000.000000
                                             6.703634
                                                        0.045543
                                                                   71.428571
6
    378
                 10
                     0.056493
                               27000.000000 6.660674
                                                        0.046419
                                                                   71.428571
7
    567
                     0.057801
                               40500.000000
                                              6.660442
                                                        0.036979
                                                                   71.428571
                  1
7
                                                                   71.428571
    567
                  2
                     0.058567
                               40500.000000
                                              7.399971
                                                        0.045890
7
    567
                     0.058120
                               40500.000000 6.829571
                                                        0.043573 71.428571
7
                     0.053438
                               40500.000000 6.924200 0.045809 71.428571
    567
                  4
7
                  5
                     0.057602
                                40500.000000
                                              6.979780
                                                        0.058767
    567
                                                                   71.428571
7
                                                        0.049672
                                                                   71.428571
    567
                  6
                     0.056209
                               40500.000000
                                              6.790975
7
                     0.059129
                                40500.000000
                                              7.027431
                                                        0.053160
                                                                  71.428571
    567
                                             6.636141
7
    567
                  8
                     0.059000
                               40500.000000
                                                        0.046833 71.428571
                                                                   71.428571
7
    567
                  9
                     0.055356
                               40500.000000
                                              6.702507
                                                        0.045746
7
                 10
                     0.056912 40500.000000 6.612859 0.046709
                                                                   71.428571
    567
       Pr(K)
              exec_time(s)
1
    0.057144
                  5.394300
    0.057144
                  5.226670
1
1
    0.057144
                  5.340783
    0.057144
                  5.558171
1
1
    0.057144
                  6.268520
1
    0.057144
                  6.080410
1
    0.057144
                  5.731022
1
    0.057144
                  5.640939
1
    0.057144
                  6.018536
1
    0.057144
                  8.104944
2
    0.057144
                  9.955087
2
    0.057144
                  8.951068
2
    0.057144
                 10.811963
2
    0.057144
                  9.552924
2
    0.057144
                  8.985104
2
    0.057144
                 10.206133
2
    0.057144
                  9.363191
2
    0.057144
                  9.145666
2
    0.057144
                  9.511020
2
    0.057144
                 11.736620
3
    0.057144
                 16,782656
3
    0.057144
                 13.884484
    0.057144
                 15.735974
3
3
    0.057144
                 18.171098
    0.057144
                 15.165880
3
3
    0.057144
                 14.081859
3
    0.057144
                 20.374883
3
    0.057144
                 17.132548
3
    0.057144
                 16.966583
3
    0.057144
                 13.701153
         . . .
                       . . .
    0.057144
5
                 34.467599
                 35.009234
5
    0.057144
5
    0.057144
                 34.194567
5
                 35.050870
    0.057144
5
                 34.223001
    0.057144
5
    0.057144
                 33.642534
5
                 33.695260
    0.057144
5
    0.057144
                 35.467036
5
    0.057144
                 38.431440
5
    0.057144
                 34.181941
6
    0.057144
                 53.859091
6
    0.057144
                 53.331795
    0.057144
                 54.051658
6
6
    0.057144
                 53.391778
6
    0.057144
                 58.212300
6
    0.057144
                 53.709187
    0.057144
                 52.435055
6
6
    0.057144
                 53.430316
6
    0.057144
                 52.731931
6
    0.057144
                 53.557966
7
    0.057144
                 92.669091
7
    0.057144
                 88.085045
    0.057144
                 85.627935
7
                 90.154181
    0.057144
                 88.939713
7
    0.057144
                 94.341787
7
    0.057144
```

0.057144

91.484135

```
0.057144
               93.954785
   0.057144
               91.176601
   0.057144
               89.243846
[70 rows x 9 columns]
In [3]: results_agg
Out[3]:
                     mean
                                         std
                                                            min
   Pr(MC) Pr(FV)
                             Pr(FV)
                                                Pr(FV)
                                                                   Pr(FV)
                   Pr(MC)
                                      Pr(MC)
                                                         Pr(MC)
N
              10 0.058676 0.037712 0.006936 0.018004 0.048400 0.010598
50
       10
75
       10
              10 0.058777
                           0.036332 0.005847 0.010693 0.051663 0.021015
              10 0.058341 0.038358 0.004561 0.007602 0.052649 0.028263
112
       10
168
       10
              10 0.058680
                           0.041894 0.003770 0.005468
                                                       0.054700 0.032519
252
       10
              10
                 0.056953
                           0.042020
                                    0.002444 0.005590
                                                       0.054541
                                                                 0.033714
              10 0.056493 0.045006 0.001788 0.004470 0.053646 0.040059
378
       10
              10 0.057213 0.047314 0.001789 0.005764 0.053438 0.036979
567
       10
         max
                             SE
      Pr(MC)
               Pr(FV)
                         Pr(MC)
                                  Pr(FV)
N
50
    0.069424 0.075475 0.002193 0.005693
    0.069354 0.054383 0.001849 0.003381
75
112 0.064481 0.053227 0.001442 0.002404
168 0.065492 0.052510 0.001192 0.001729
252 0.061333
             0.055319
                       0.000773
                                 0.001768
378 0.059209 0.055396 0.000565 0.001413
567 0.059129 0.058767 0.000566 0.001823
In [4]:
```