Chain Diagnostics

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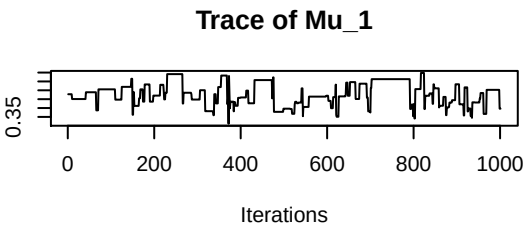
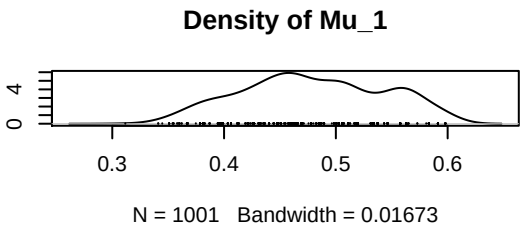
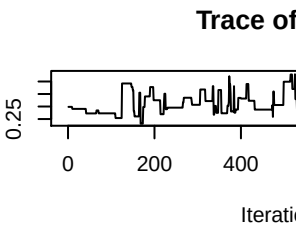
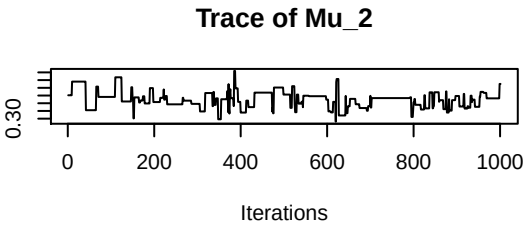
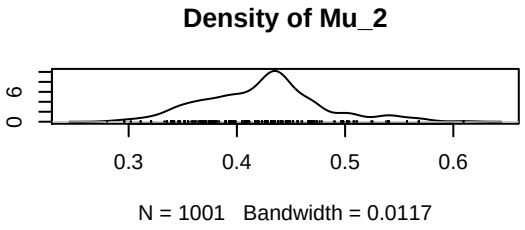
```
## [1] 0.1208791 0.3586414


##
## Iterations = 1:1001
## Thinning interval = 1
## Number of chains = 1
## Sample size per chain = 1001
##
## 1. Empirical mean and standard deviation for each variable,
##    plus standard error of the mean:
##
##         Mean      SD  Naive SE Time-series SE
## Mu_1 0.47957 0.06285 0.0019865      0.0093226
## Mu_2 0.42454 0.05434 0.0017175      0.0070947
## Mu_3 0.35906 0.05423 0.0017140      0.0054678
## Mu_4 0.31156 0.04044 0.0012781      0.0047137
## Mu_5 0.33182 0.05182 0.0016379      0.0078193
## Pi_0 0.05641 0.01922 0.0006074      0.0042463
## Pi_1 0.37153 0.04148 0.0013110      0.0047236
## Pi_2 0.27632 0.05388 0.0017030      0.0034650
## Pi_3 0.21489 0.04098 0.0012953      0.0028430
## Pi_4 0.06653 0.02349 0.0007425      0.0016848
## Pi_5 0.01432 0.01202 0.0003800      0.0009243
##
## 2. Quantiles for each variable:
##
##           2.5%      25%     50%     75%   97.5%
## Mu_1 0.3667794 0.432174 0.47007 0.53312 0.59136
## Mu_2 0.3206812 0.389795 0.43167 0.44869 0.54015
## Mu_3 0.2615660 0.325399 0.34699 0.38932 0.47654
## Mu_4 0.2554454 0.273030 0.30316 0.33458 0.40064
## Mu_5 0.2307043 0.290516 0.32583 0.36664 0.44148
## Pi_0 0.0181813 0.041991 0.05993 0.07046 0.08548
## Pi_1 0.2974007 0.341827 0.37161 0.40003 0.45925
## Pi_2 0.1890073 0.235918 0.27663 0.31338 0.39084
## Pi_3 0.1296586 0.184374 0.22041 0.24372 0.29388
## Pi_4 0.0293488 0.047911 0.06335 0.08412 0.11489
## Pi_5 0.0003659 0.004282 0.01114 0.02200 0.04215
```

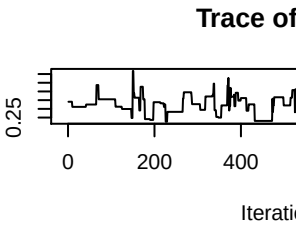

Trace of Mu_1
0.35
0
200
400
600
800
1000
Iterations

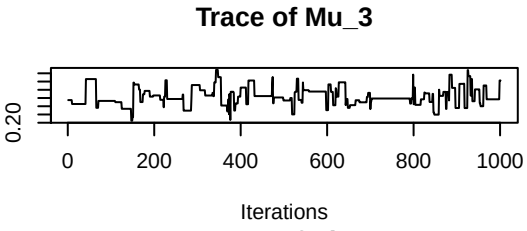

Density of Mu_1
0 4
0.3
0.4
0.5
0.6
N = 1001 Bandwidth = 0.01673

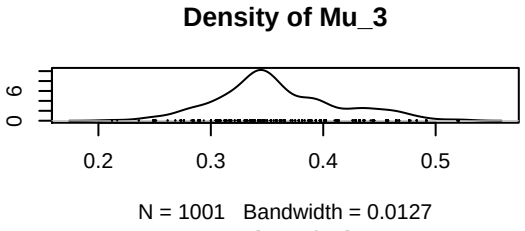

Trace of
0.25
0
200
400
Iterati

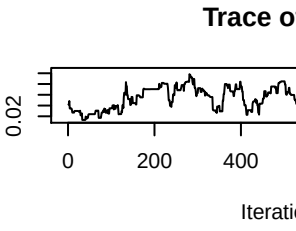

Trace of Mu_2
0.30
0
200
400
600
800
1000
Iterations

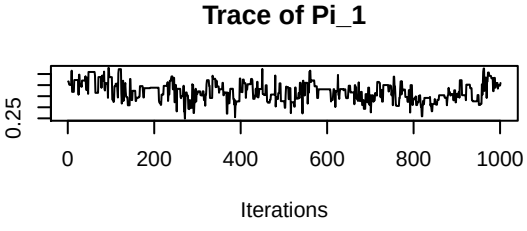

Density of Mu_2
0 6
0.3
0.4
0.5
0.6
N = 1001 Bandwidth = 0.0117

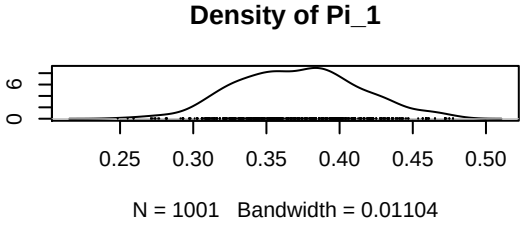

Trace of
0.25
0
200
400
Iterati

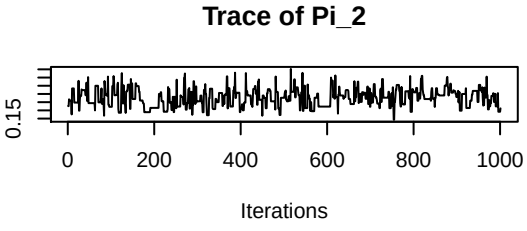

Trace of Mu_3
0.20
0
200
400
600
800
1000
Iterations

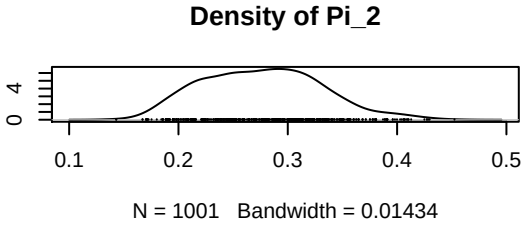

Density of Mu_3
0 6
0.2
0.3
0.4
0.5
N = 1001 Bandwidth = 0.0127

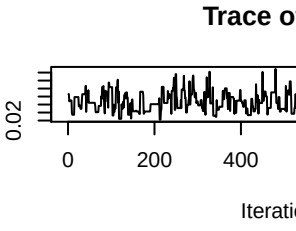

Trace o
0.02
0
200
400
Iterati

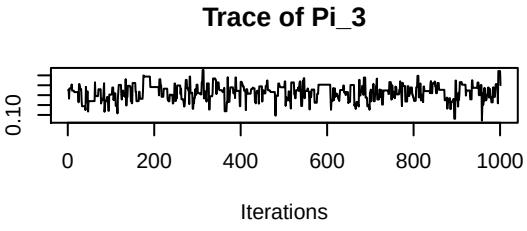

Trace of Pi_1
0.25
0
200
400
600
800
1000
Iterations

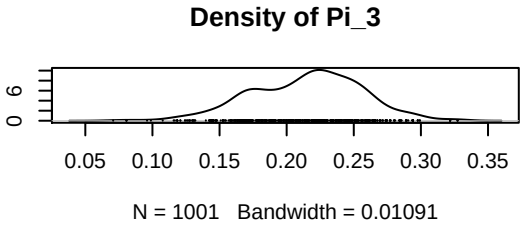

Density of Pi_1
0 6
0.25
0.30
0.35
0.40
0.45
0.50
N = 1001 Bandwidth = 0.01104

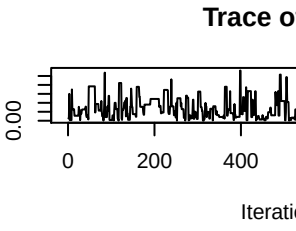

Trace of Pi_2
0.15
0
200
400
600
800
1000
Iterations

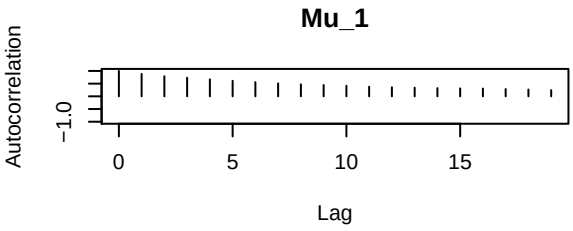

Density of Pi_2
0 4
0.1
0.2
0.3
0.4
0.5
N = 1001 Bandwidth = 0.01434

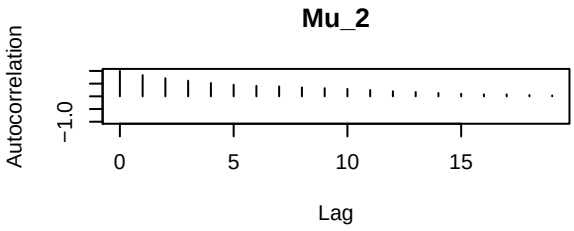

Trace o
0.02
0
200
400
Iterati

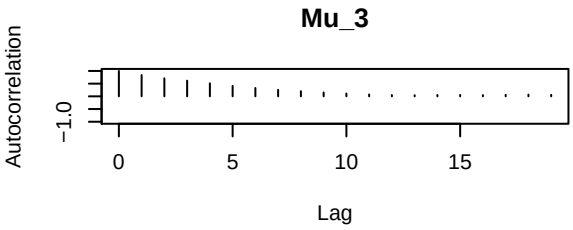

Trace of Pi_3
0.10
0
200
400
600
800
1000
Iterations

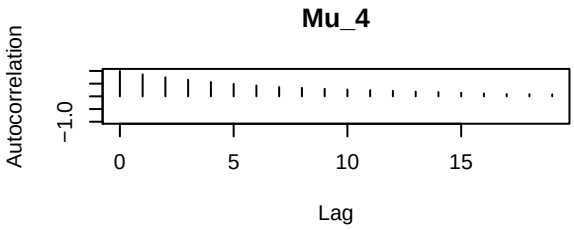

Density of Pi_3
0 6
0.05
0.10
0.15
0.20
0.25
0.30
0.35
N = 1001 Bandwidth = 0.01091

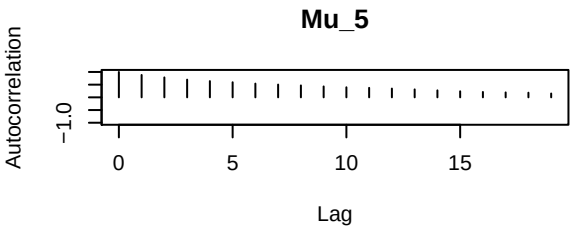

Trace o
0.00
0
200
400
Iterati

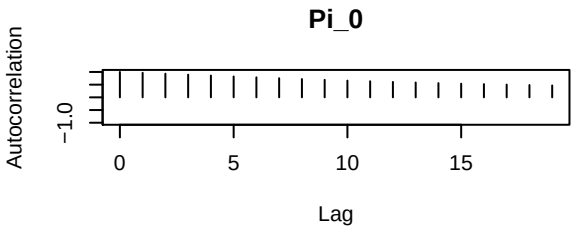


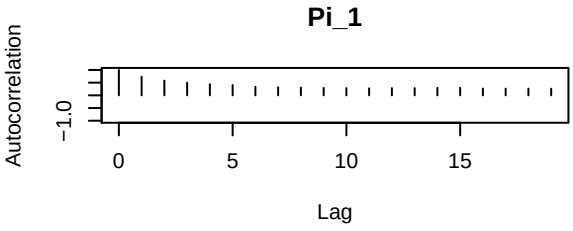


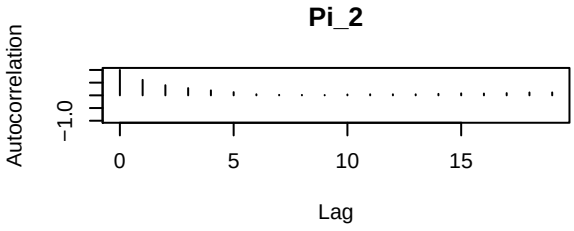


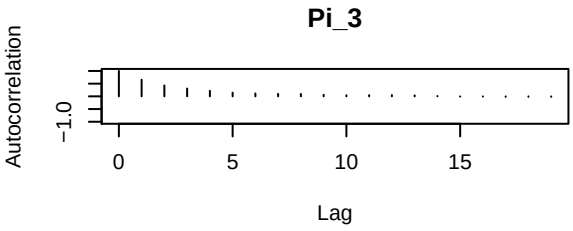


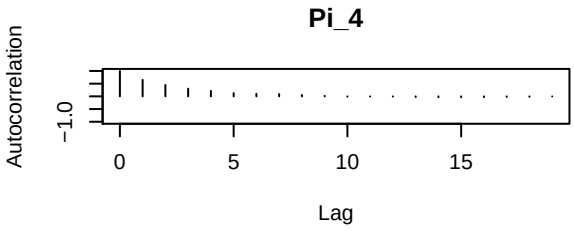


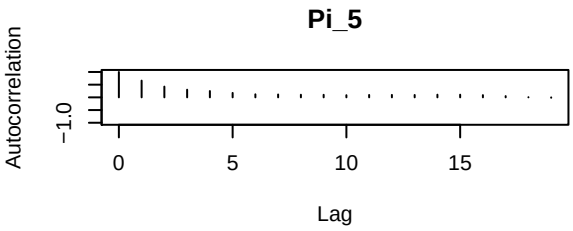













```
##       true  mle.gold mc.est prior
## Mu_1 0.470 0.4566667  0.480 0.503
## Mu_2 0.379 0.3566667  0.423 0.513
```

```
## Mu_3 0.273 0.2433333  0.359 0.493
## Mu_4 0.263 0.1533333  0.308 0.499
## Mu_5 0.279 0.2000000  0.337 0.491
## Pi_0 0.094 0.0900000  0.057 0.092
## Pi_1 0.468 0.5433333  0.369 0.404
## Pi_2 0.234 0.2333333  0.277 0.236
## Pi_3 0.117 0.1333333  0.217 0.122
## Pi_4 0.058 0.0000000  0.067 0.070
## Pi_5 0.029 0.0000000  0.013 0.077
```

```
##       true  mle.gold mc.est prior
## Mu_1 0.470 0.4566667  0.480 0.503
## Mu_2 0.379 0.3566667  0.425 0.513
## Mu_3 0.273 0.2433333  0.359 0.493
## Mu_4 0.263 0.1533333  0.312 0.499
## Mu_5 0.279 0.2000000  0.332 0.491
## Pi_0 0.094 0.0900000  0.056 0.092
## Pi_1 0.468 0.5433333  0.372 0.404
## Pi_2 0.234 0.2333333  0.276 0.236
## Pi_3 0.117 0.1333333  0.215 0.122
## Pi_4 0.058 0.0000000  0.067 0.070
## Pi_5 0.029 0.0000000  0.014 0.077
```