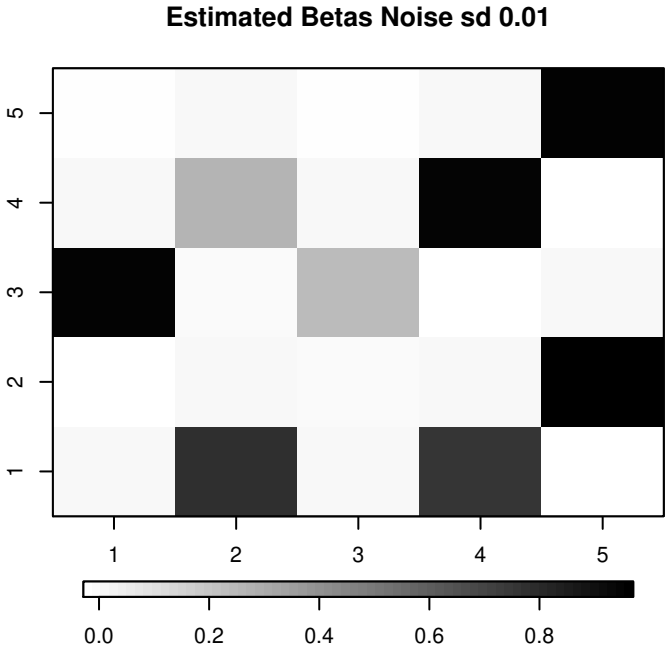
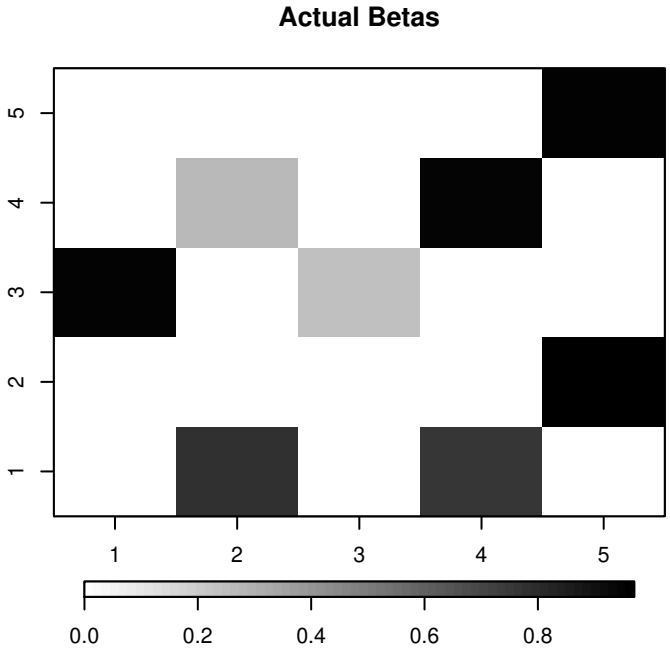
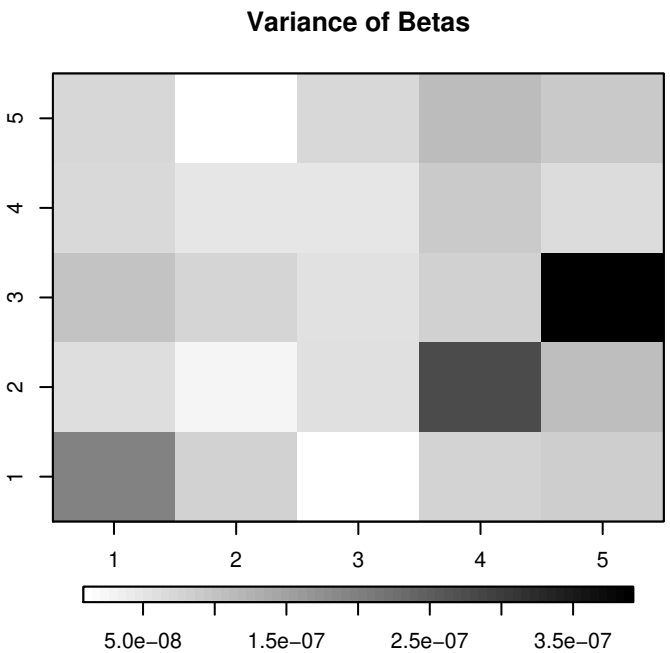
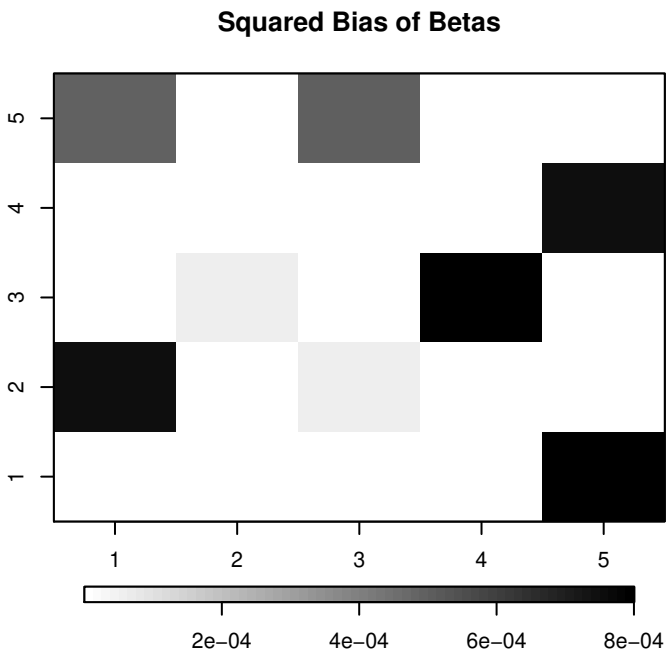
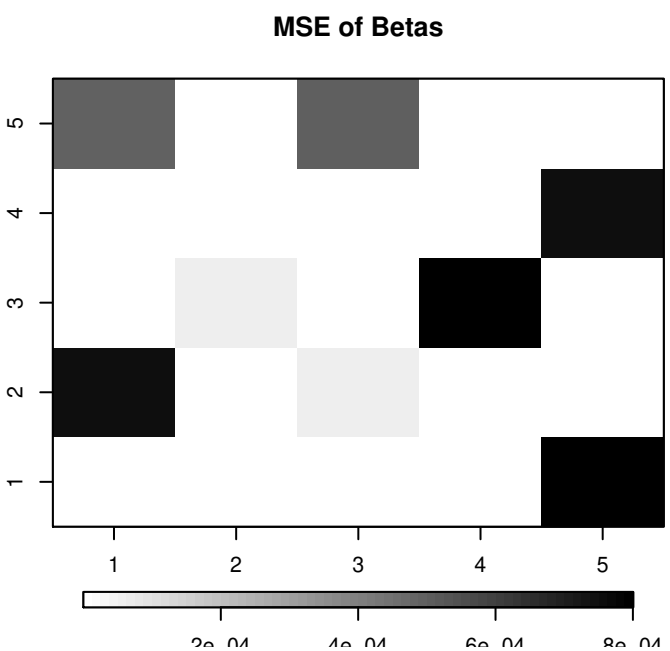
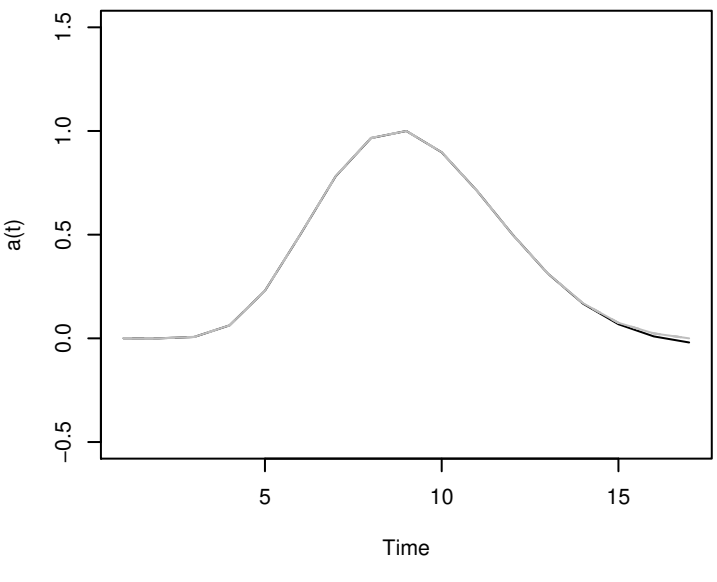

Estimated Betas Noise sd 0.01
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

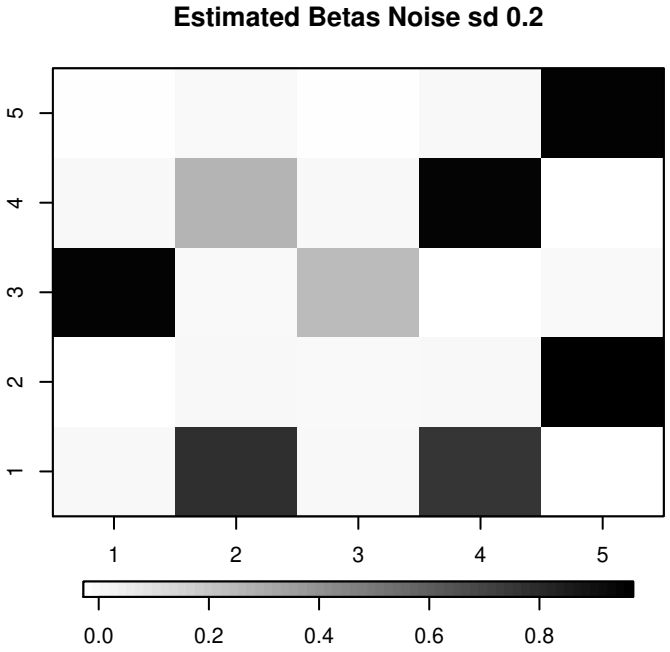

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

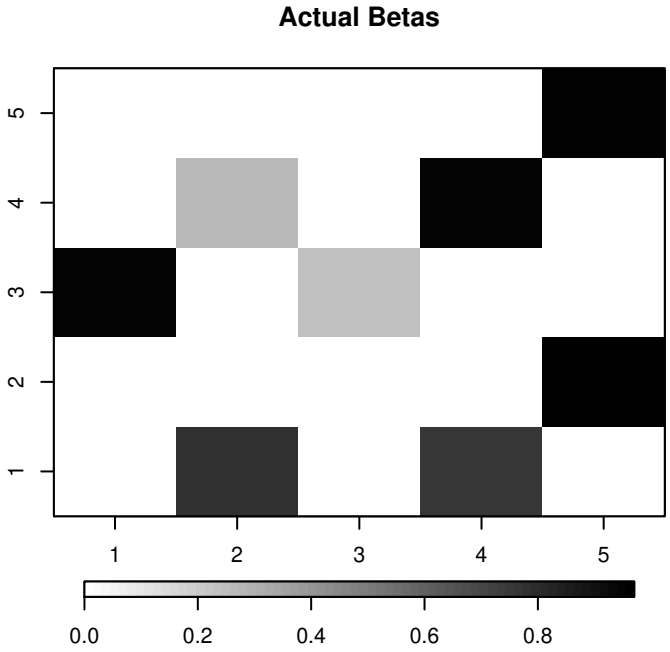

Variance of Betas
1
2
3
4
5
5.0e−08
1.5e−07
2.5e−07
3.5e−07

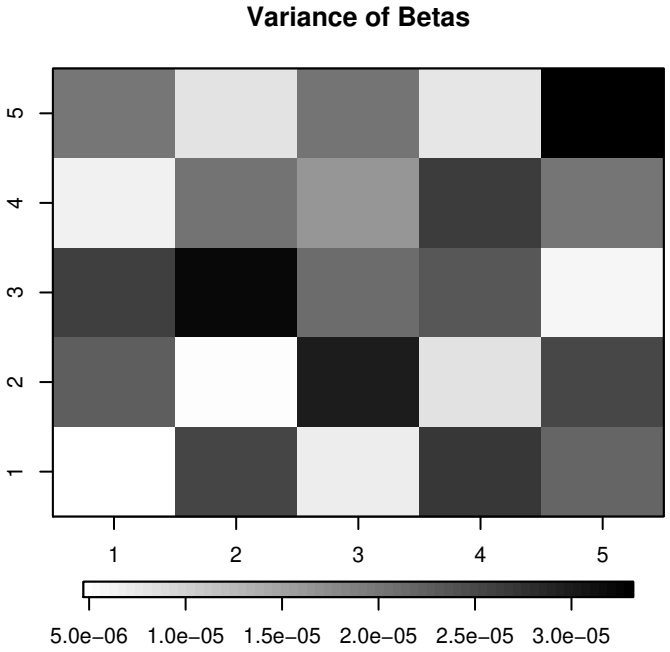

Squared Bias of Betas
1
2
3
4
5
2e−04
4e−04
6e−04
8e−04

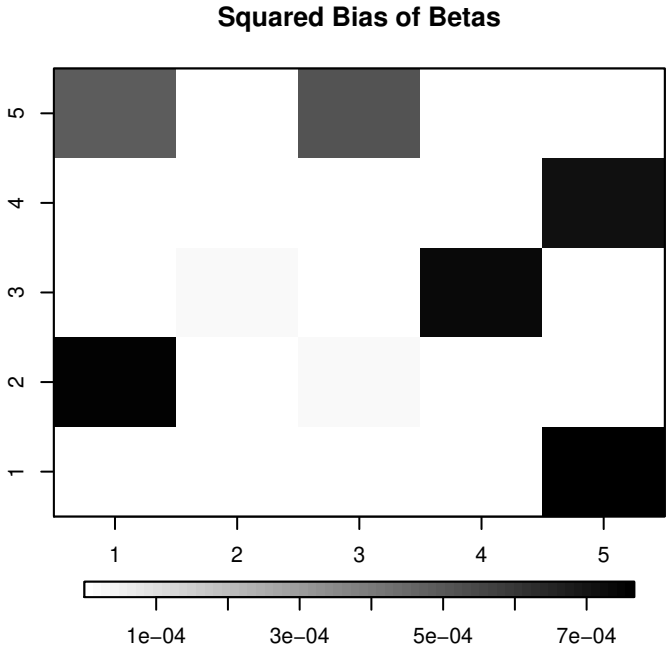

MSE of Betas
1
2
3
4
5

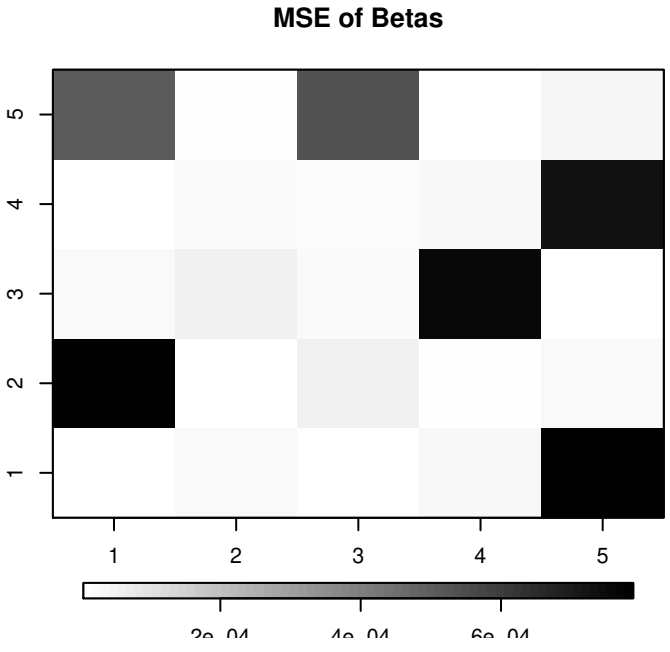

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

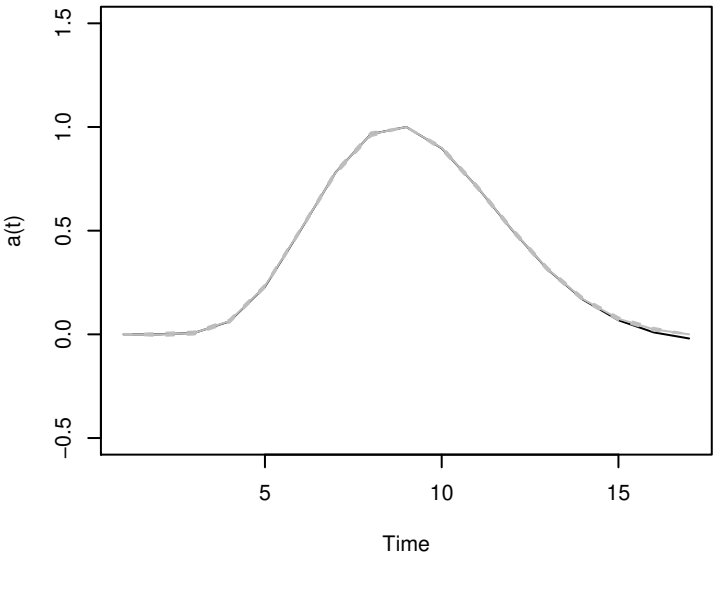

Estimated Betas Noise sd 0.2
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

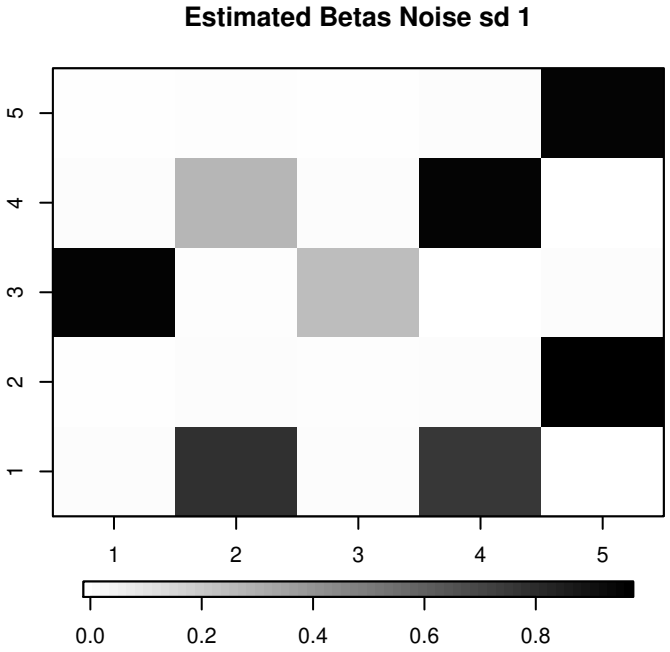

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

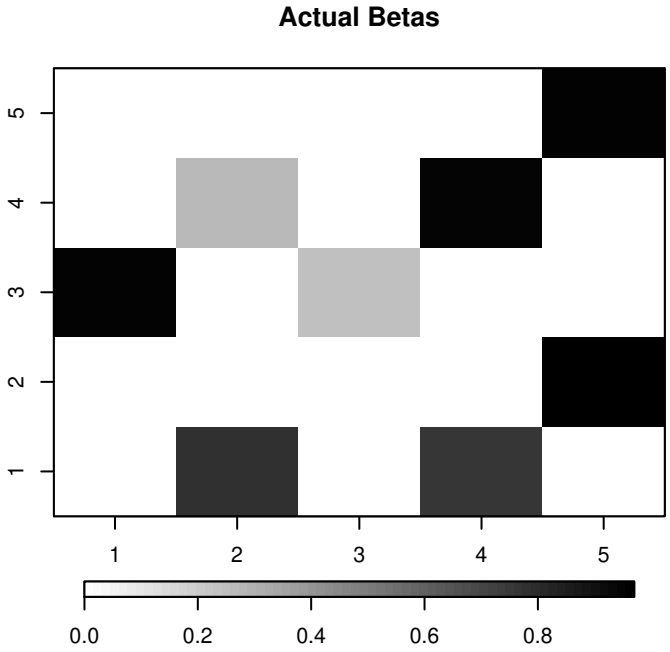

Variance of Betas
1
2
3
4
5
5.0e−06
1.0e−05
1.5e−05
2.0e−05
2.5e−05
3.0e−05

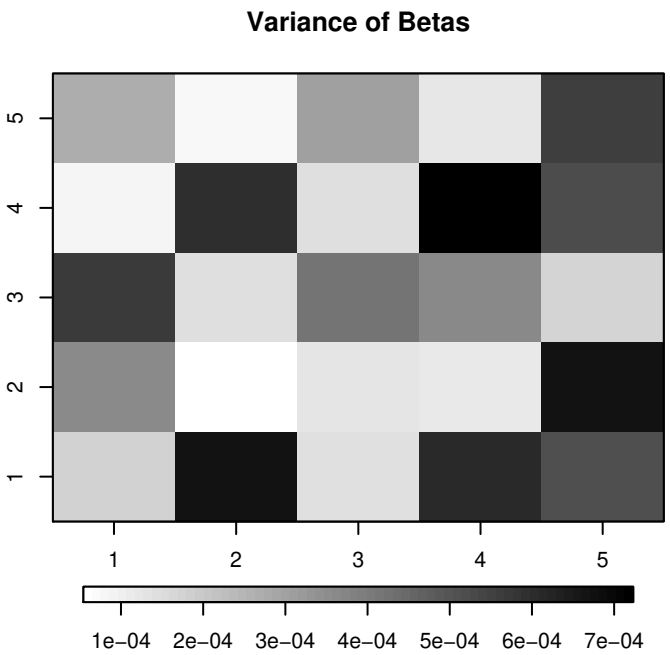

Squared Bias of Betas
1
2
3
4
5
1e−04
3e−04
5e−04
7e−04

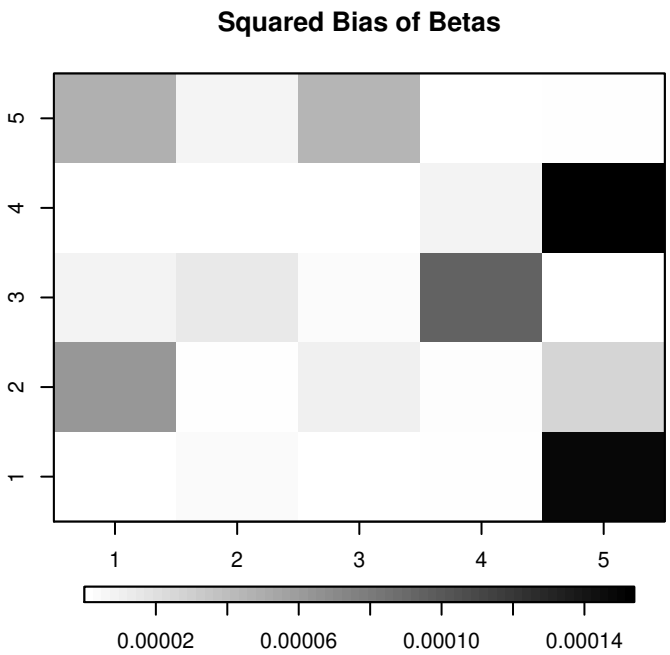

MSE of Betas
1
2
3
4
5

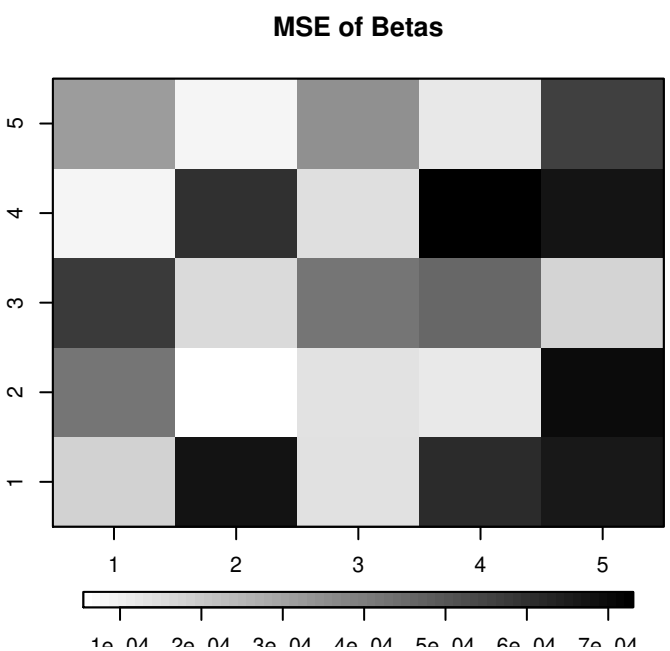

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

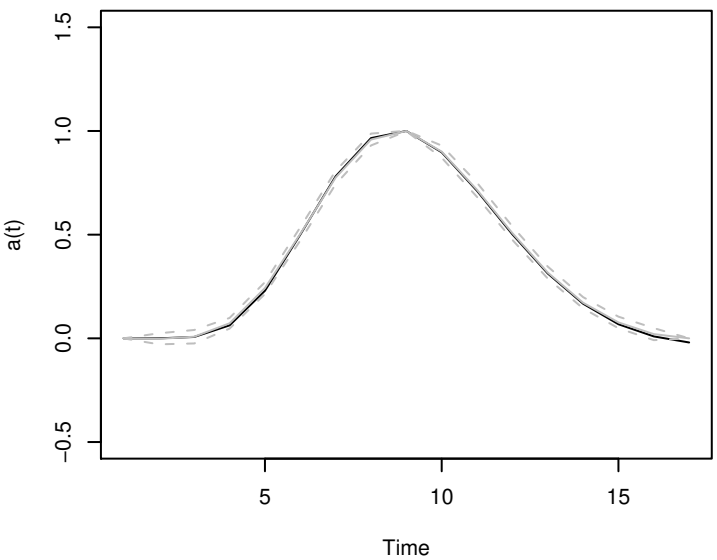

Estimated Betas Noise sd 1
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

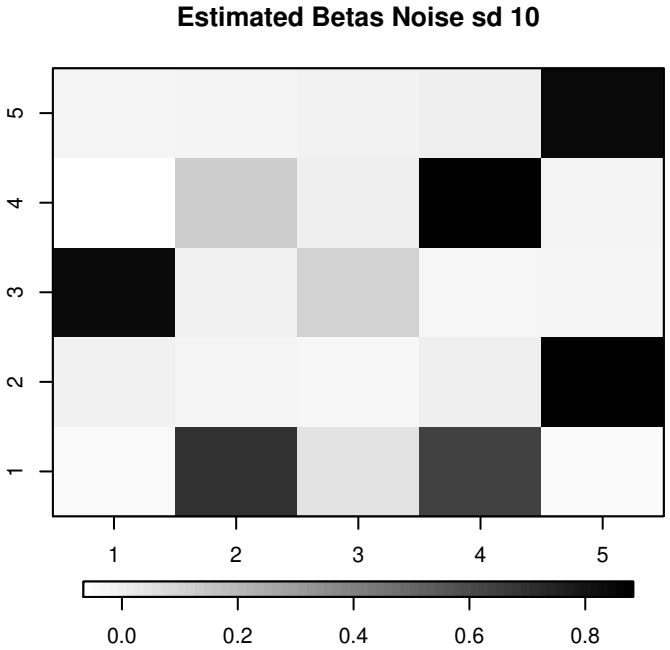

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

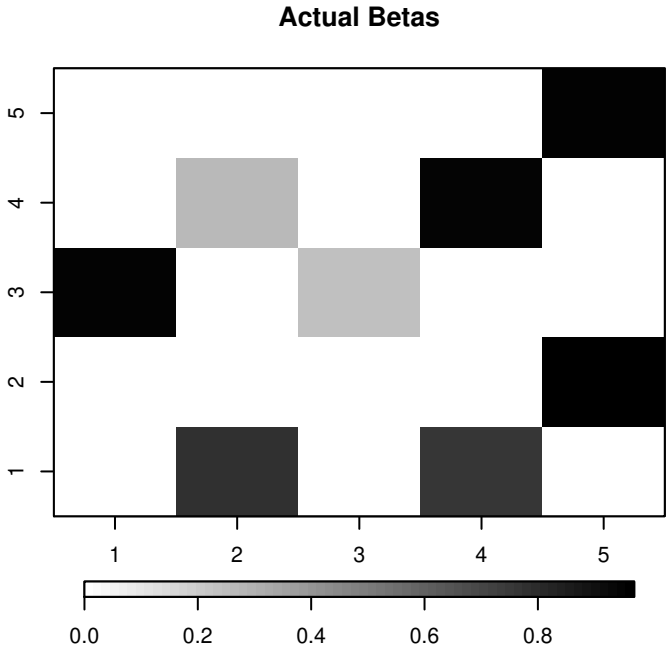

Variance of Betas
1
2
3
4
5
1e−04
2e−04
3e−04
4e−04
5e−04
6e−04
7e−04

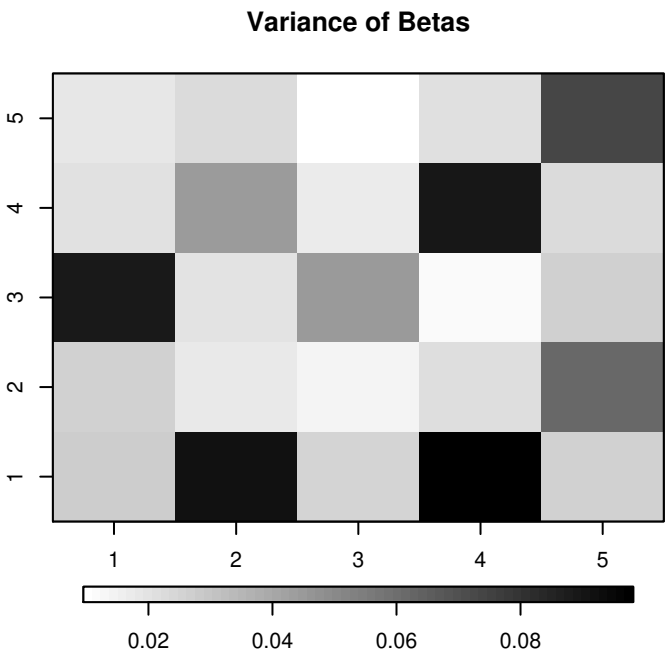

Squared Bias of Betas
1
2
3
4
5
0.00002
0.00006
0.00010
0.00014

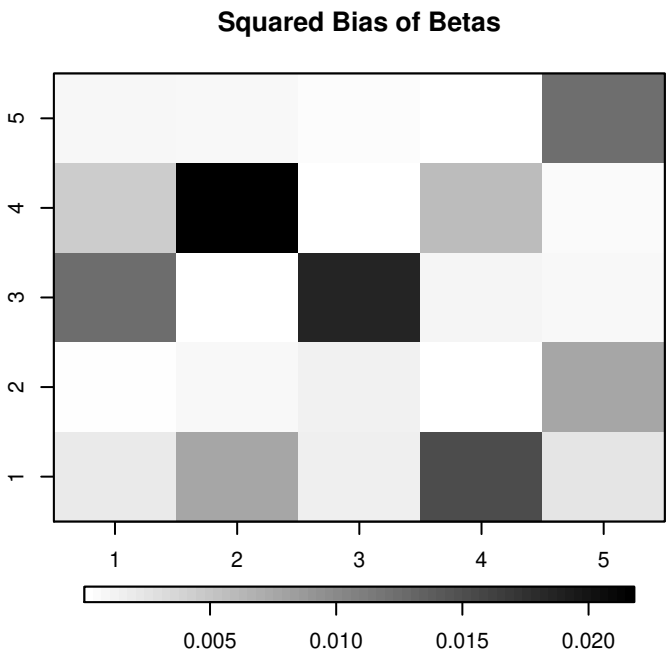

MSE of Betas
1
2
3
4
5

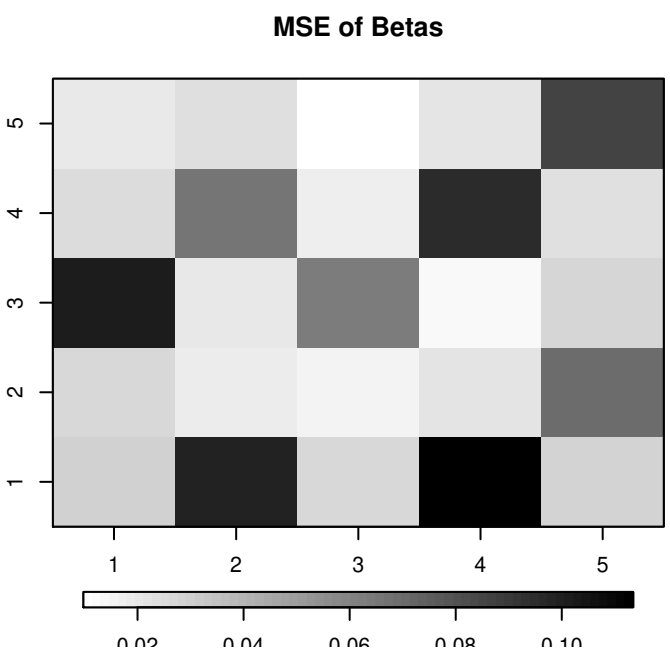

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

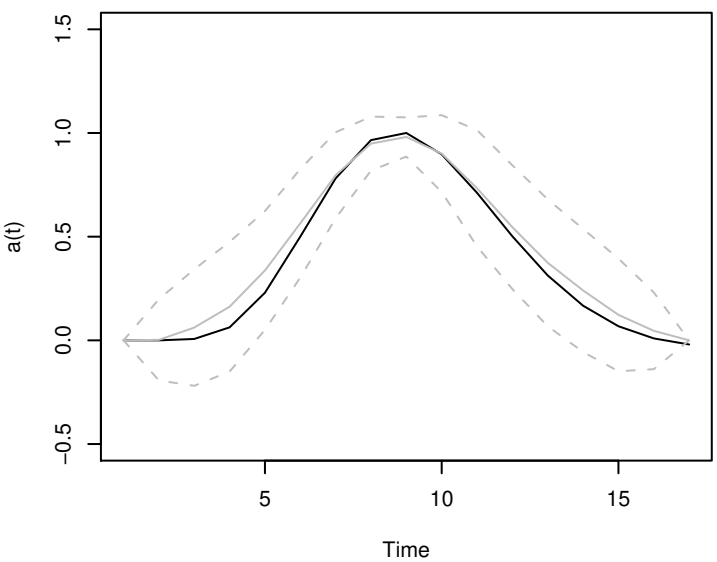

Estimated Betas Noise sd 10
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

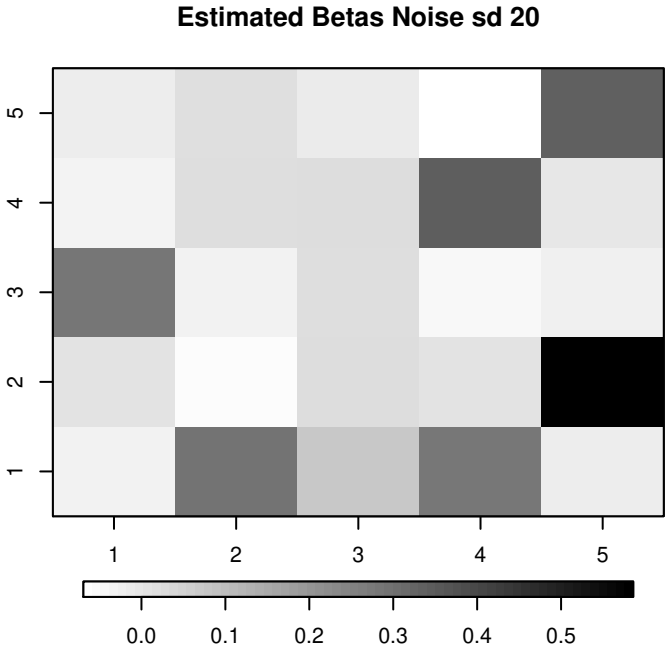

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

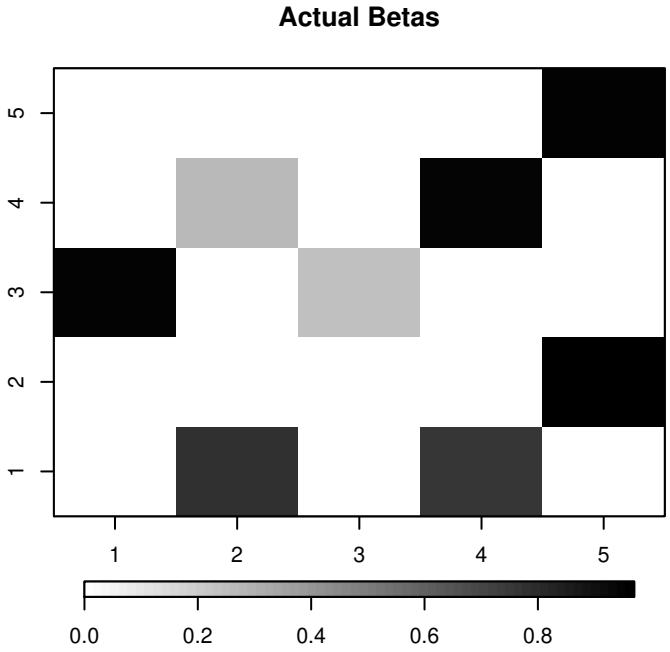

Variance of Betas
1
2
3
4
5
0.02
0.04
0.06
0.08

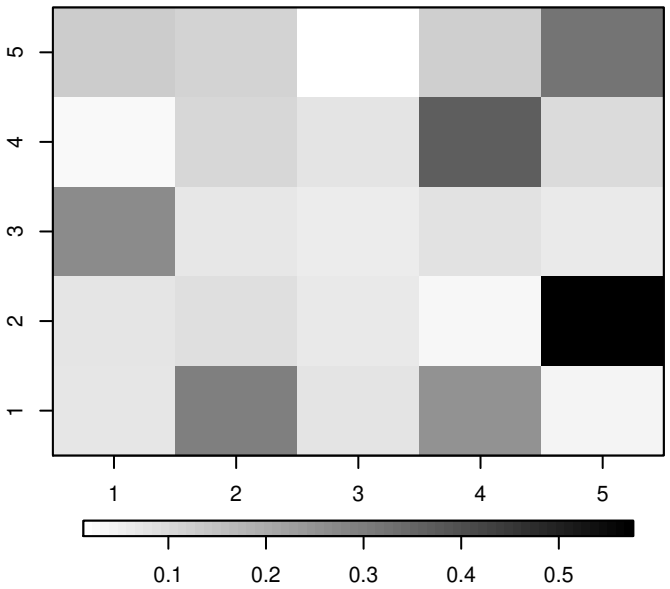

Squared Bias of Betas
1
2
3
4
5
0.005
0.010
0.015
0.020

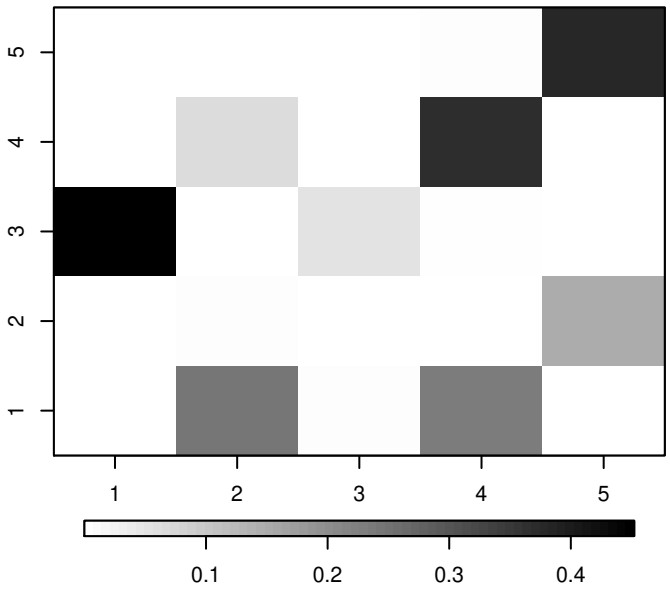

MSE of Betas
1
2
3
4
5
0.02
0.04
0.06
0.08
0.10

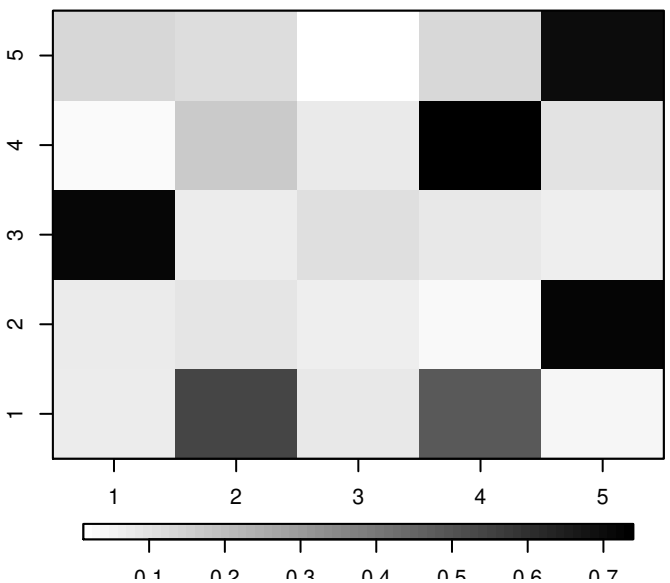

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

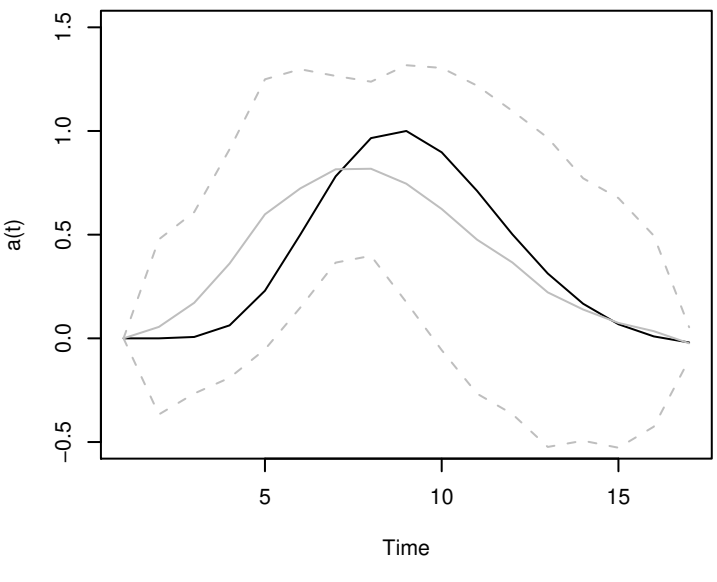

Estimated Betas Noise sd 20
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

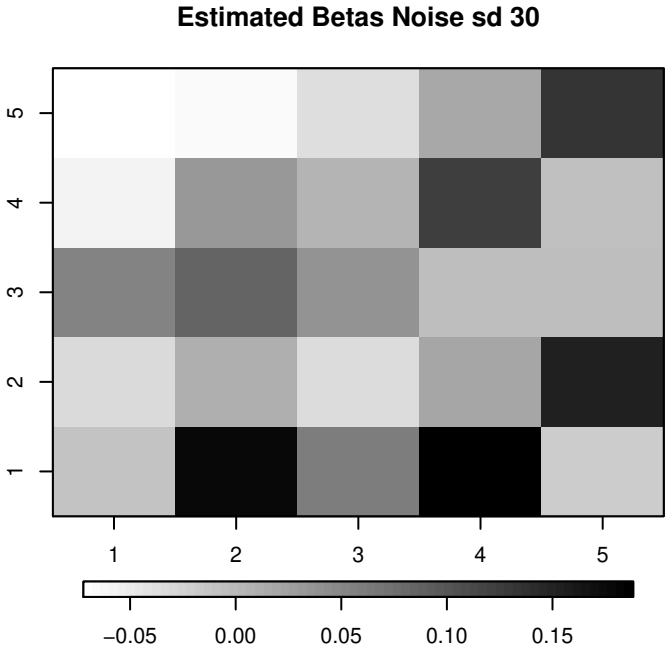

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

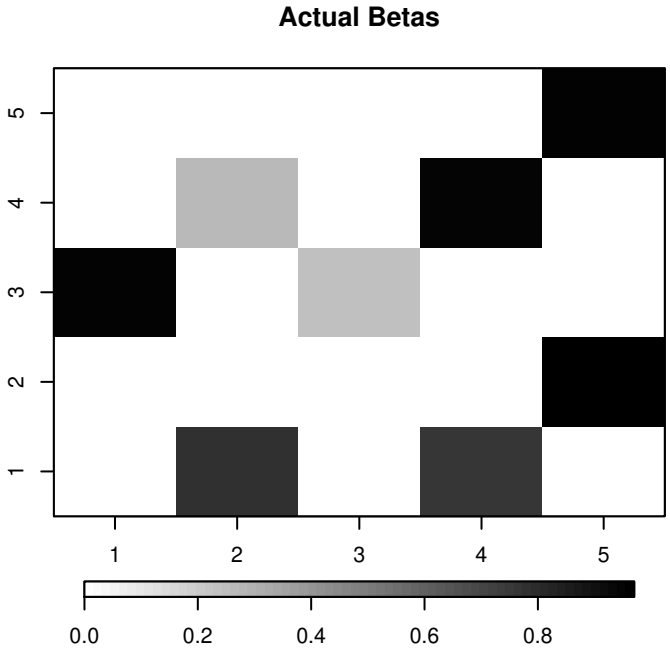

Variance of Betas
1
2
3
4
5
0.1
0.2
0.3
0.4
0.5

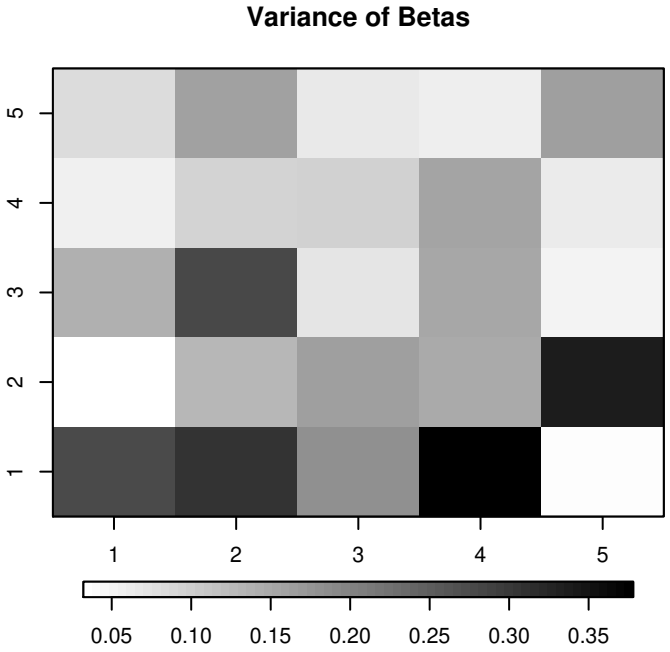

Squared Bias of Betas
1
2
3
4
5
0.1
0.2
0.3
0.4

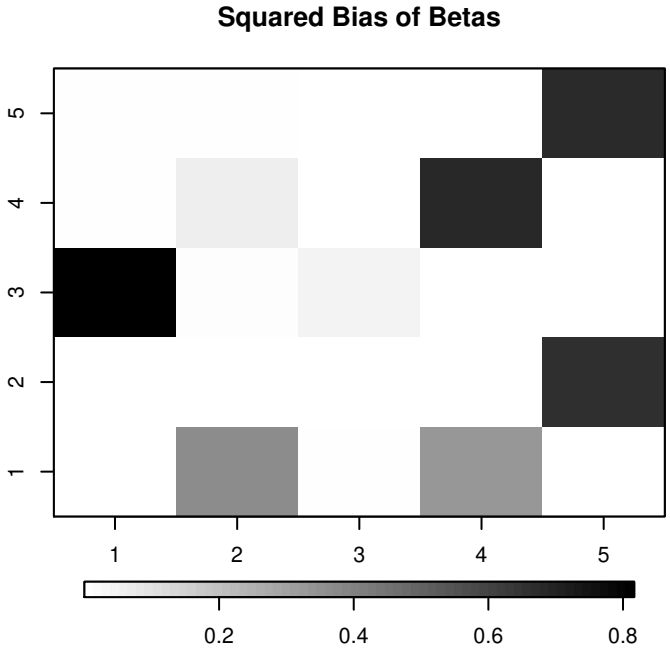

MSE of Betas
1
2
3
4
5
0.1
0.2
0.3
0.4
0.5
0.6
0.7

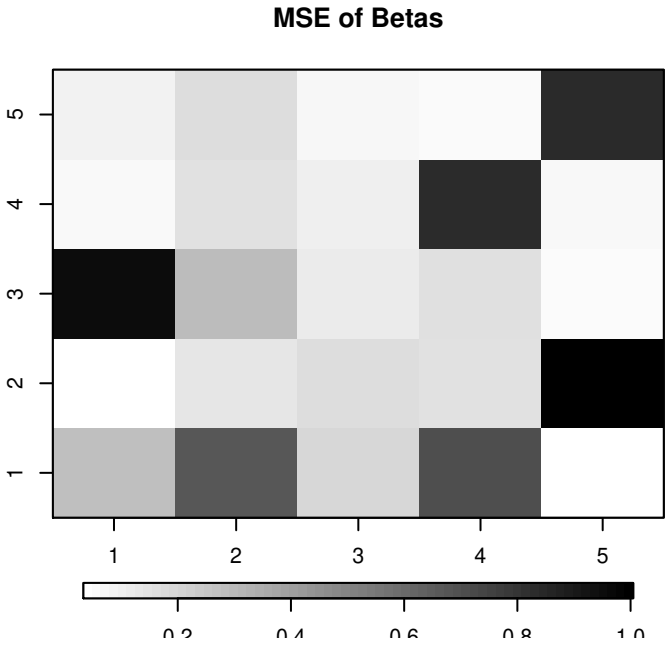

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

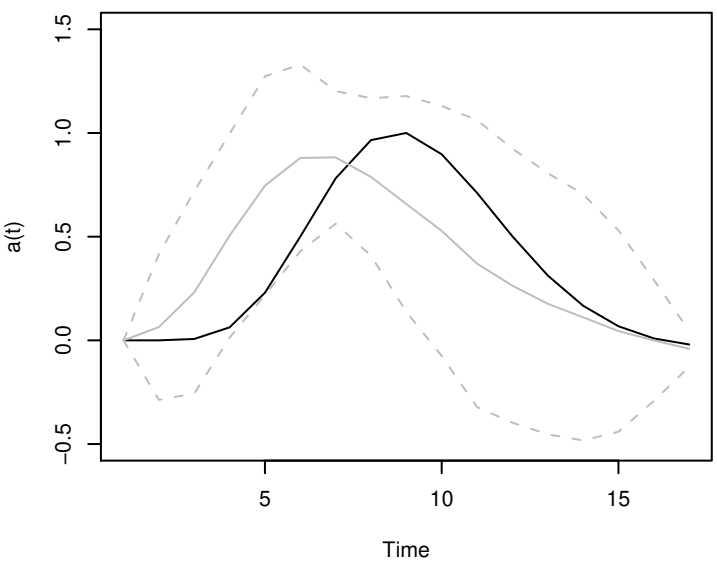

Estimated Betas Noise sd 30
1
2
3
4
5
−0.05
0.00
0.05
0.10
0.15

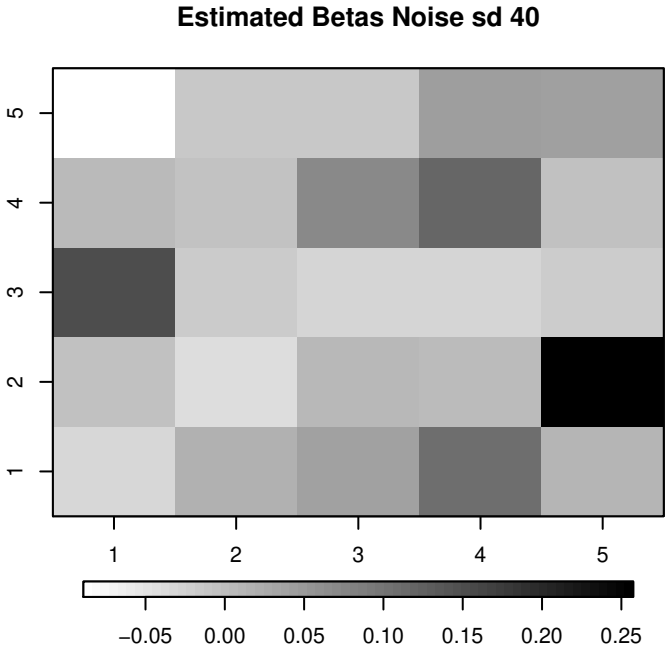

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

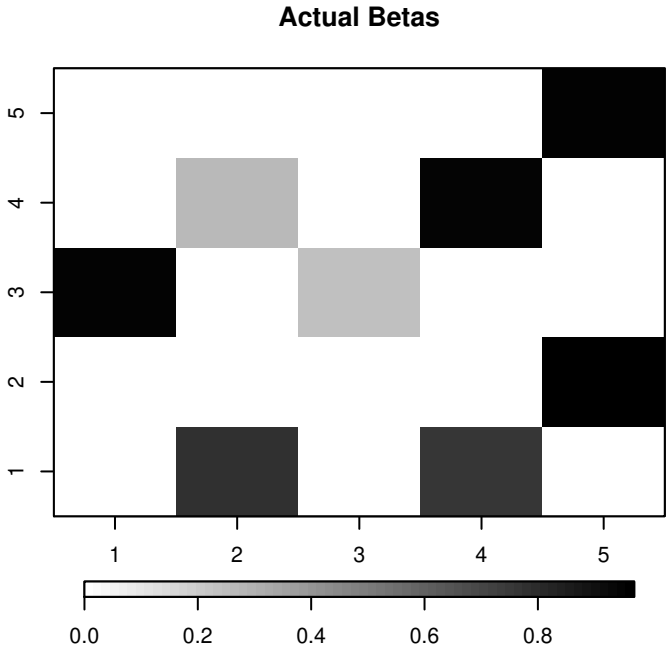

Variance of Betas
1
2
3
4
5
0.05
0.10
0.15
0.20
0.25
0.30
0.35

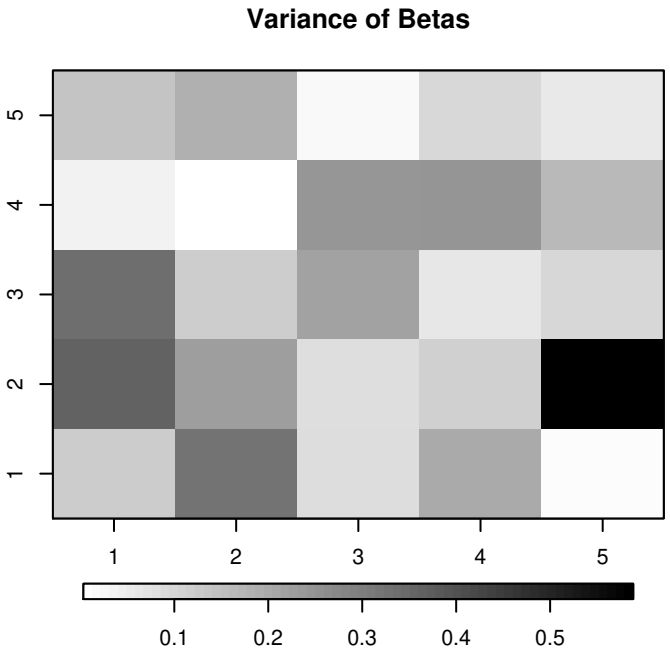

Squared Bias of Betas
1
2
3
4
5
0.2
0.4
0.6
0.8

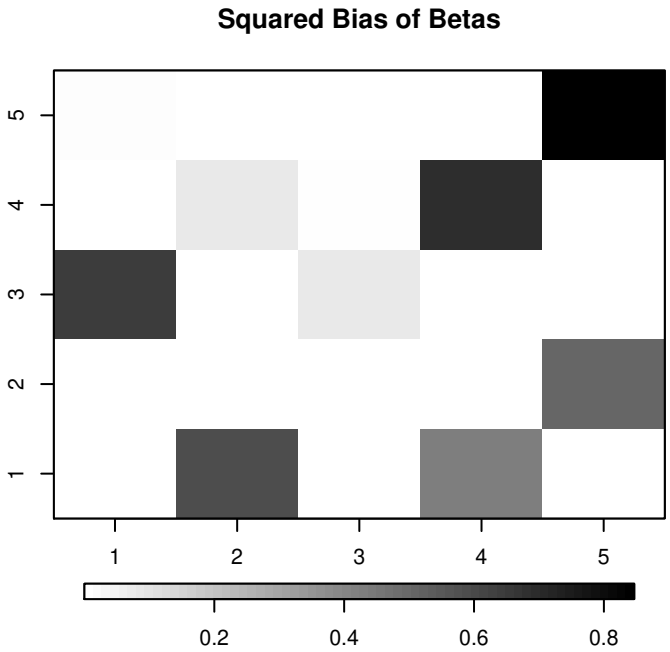

MSE of Betas
1
2
3
4
5
0.2
0.4
0.6
0.8
1.0

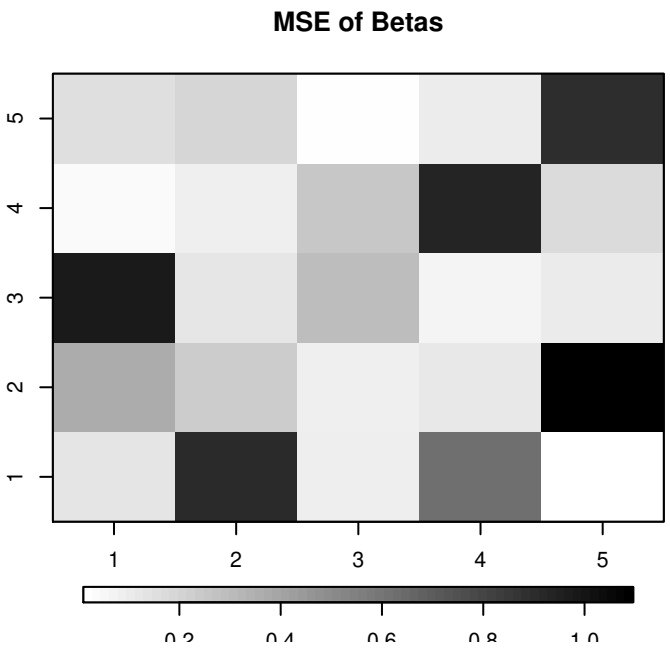

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

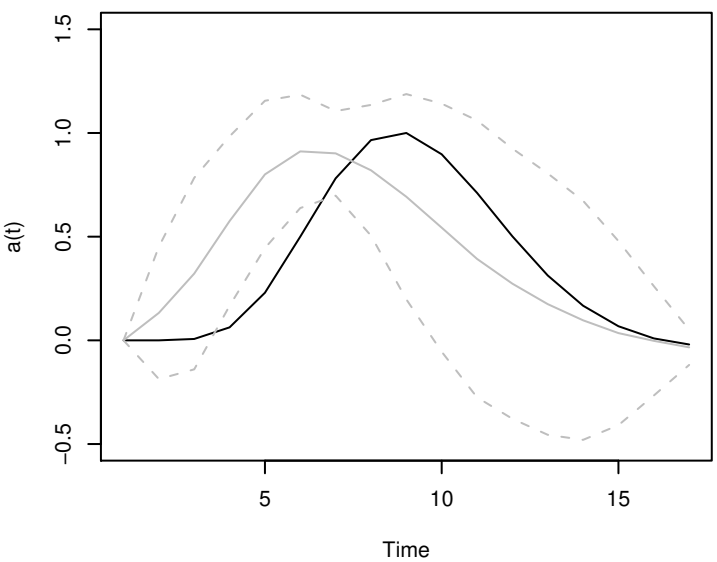

Estimated Betas Noise sd 40
1
2
3
4
5
−0.05
0.00
0.05
0.10
0.15
0.20
0.25

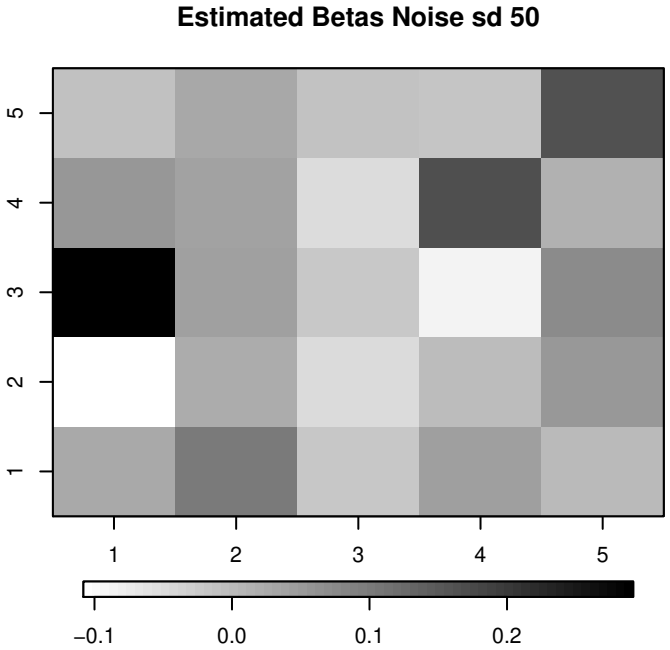

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

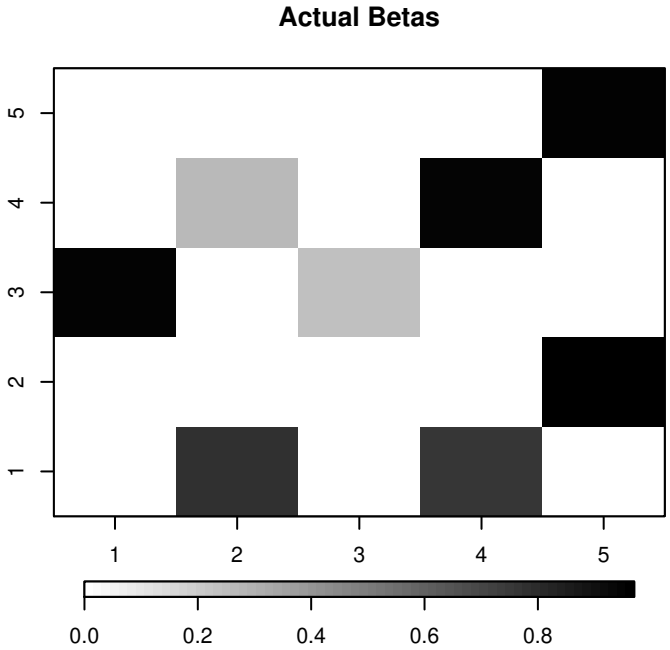

Variance of Betas
1
2
3
4
5
0.1
0.2
0.3
0.4
0.5

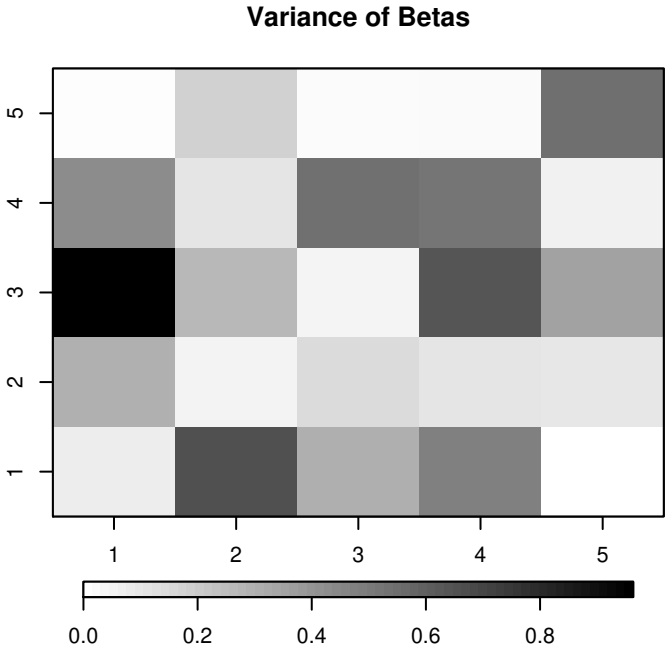

Squared Bias of Betas
1
2
3
4
5
0.2
0.4
0.6
0.8

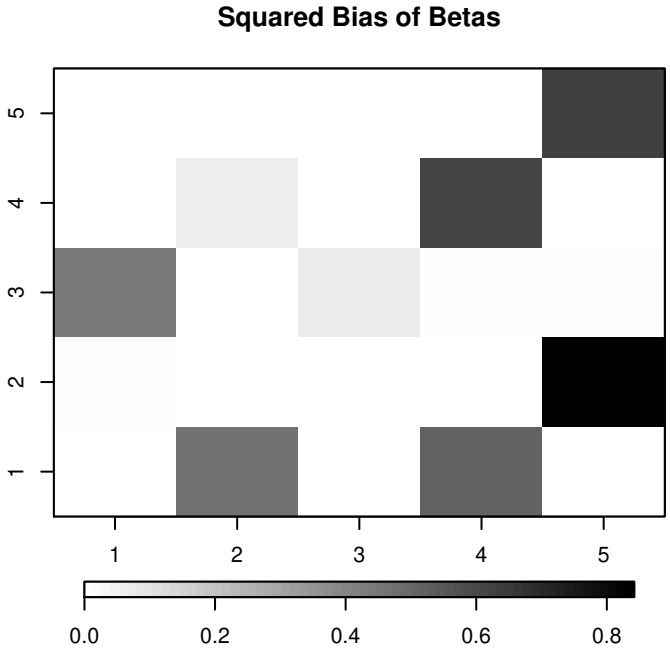

MSE of Betas
1
2
3
4
5

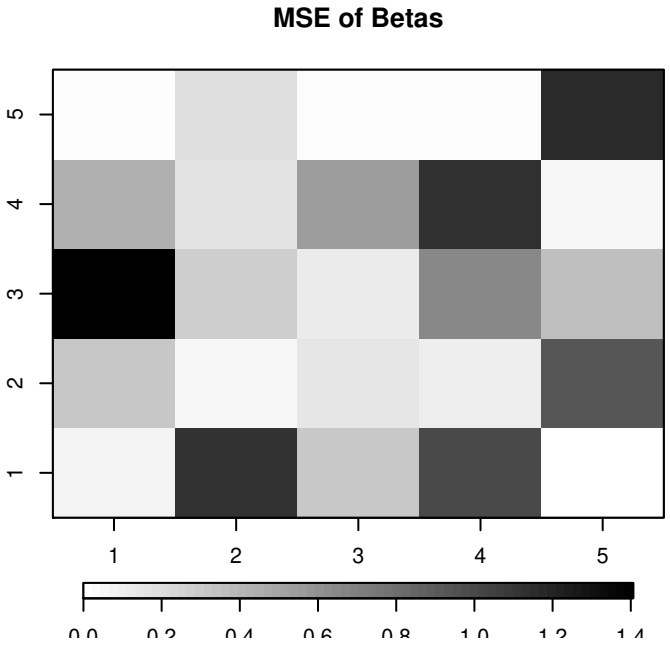

a(t)
−0.5
0.0
0.5
1.0
1.5
5
10
15
Time

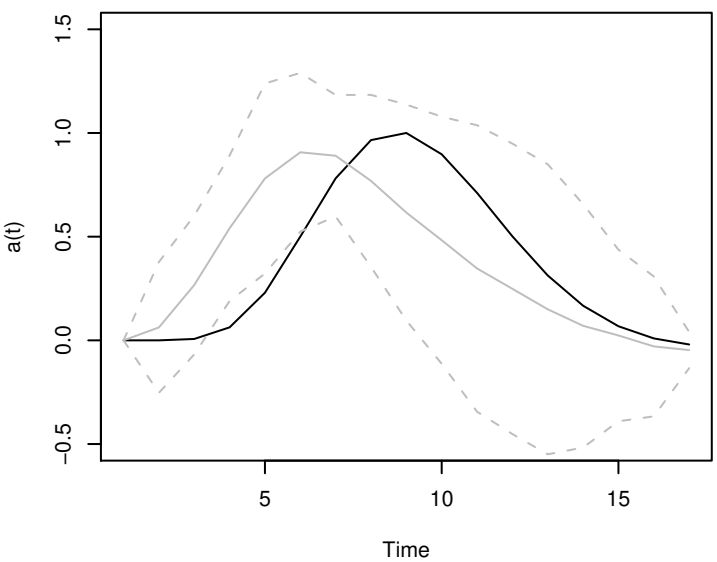

Estimated Betas Noise sd 50
1
2
3
4
5
−0.1
0.0
0.1
0.2

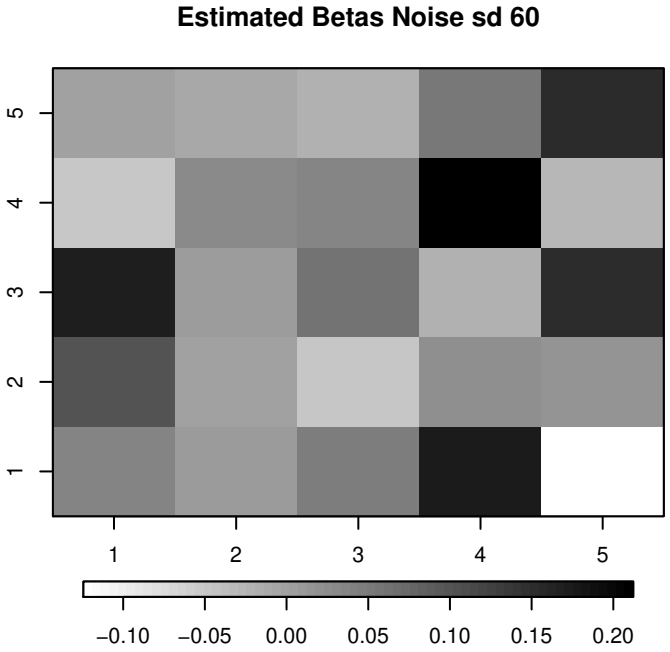

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

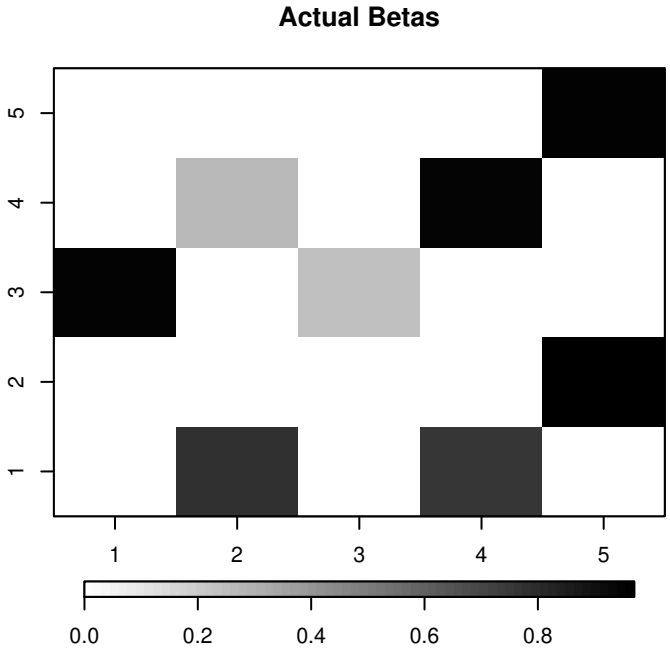

Variance of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

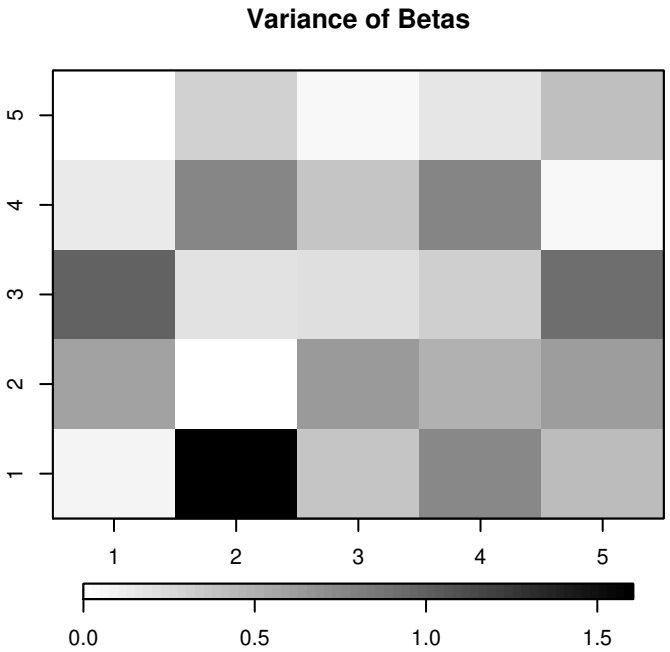

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

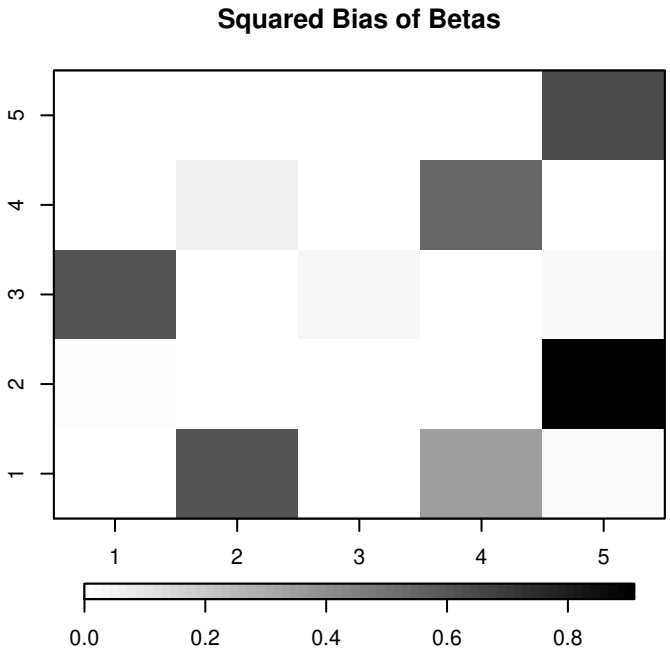

MSE of Betas
1
2
3
4
5

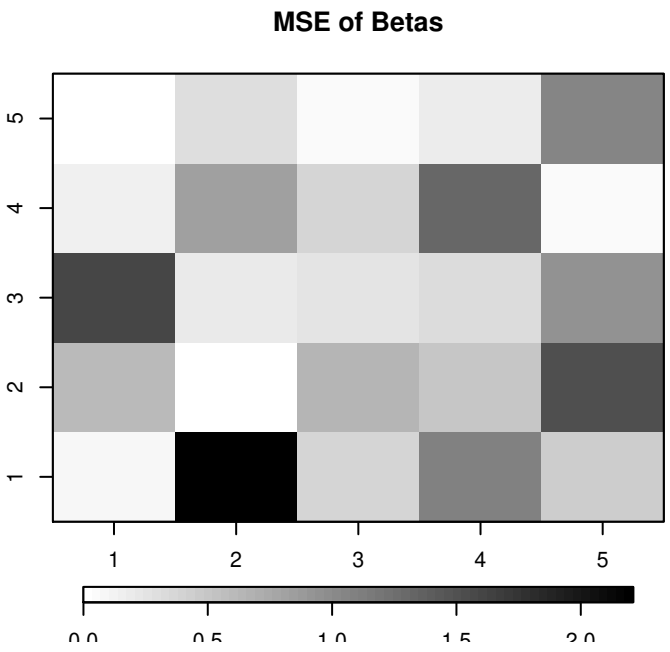

a(t)
−0.5
0.0
0.5
1.0
1.5
5
10
15
Time

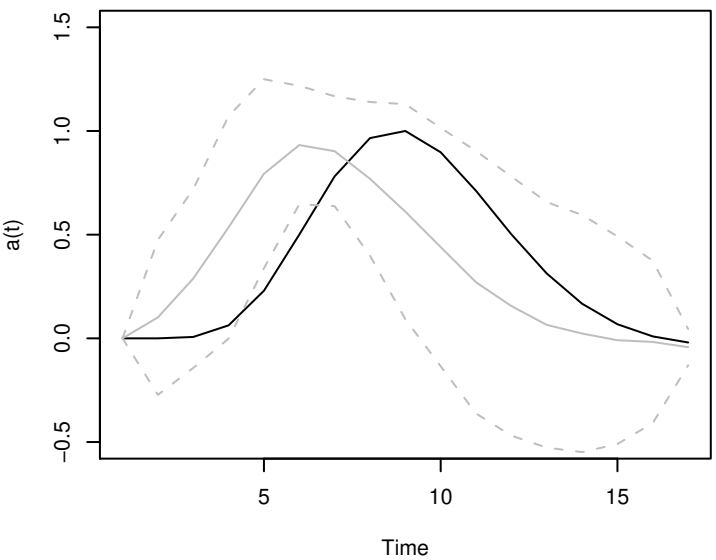

Estimated Betas Noise sd 60
1
2
3
4
5
−0.10
−0.05
0.00
0.05
0.10
0.15
0.20

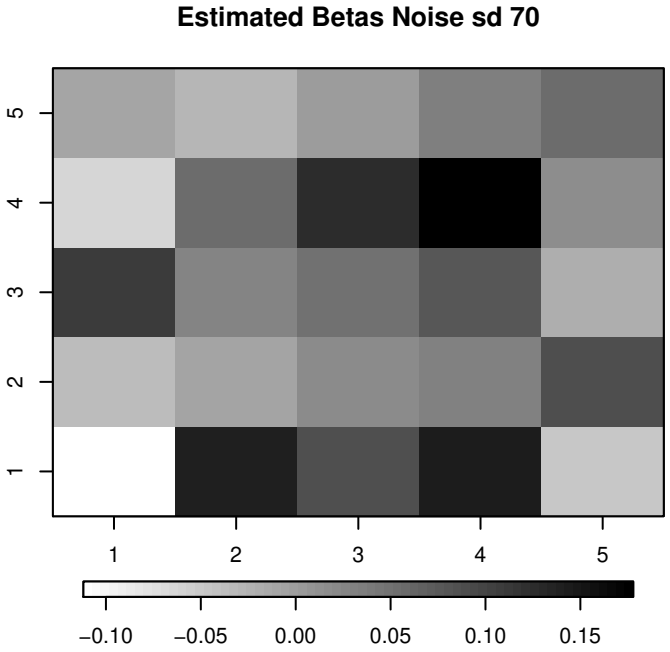

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

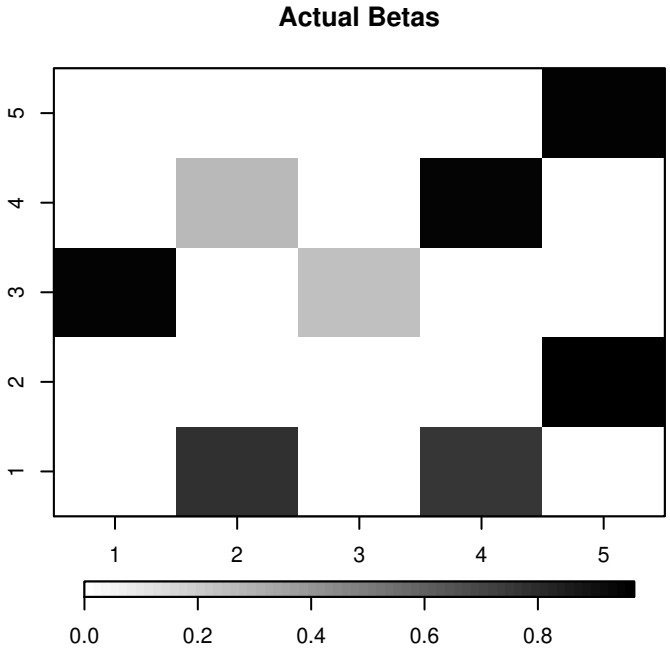

Variance of Betas
1
2
3
4
5
0.0
0.5
1.0
1.5

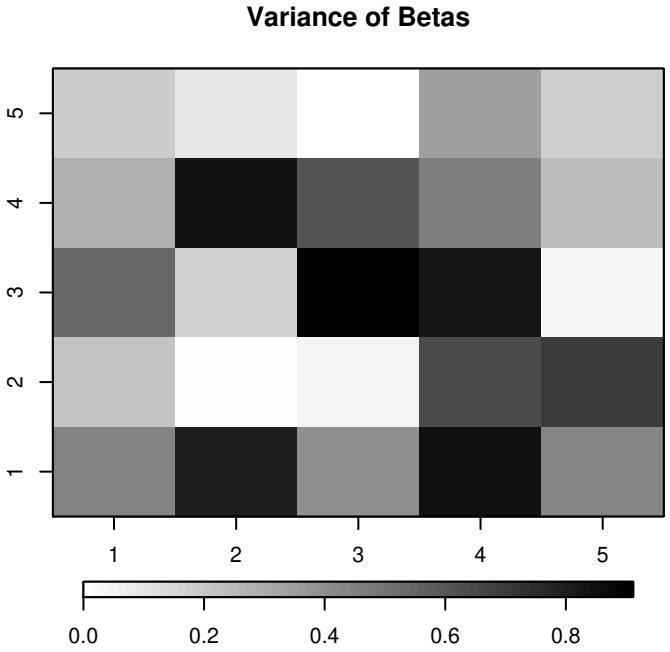

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

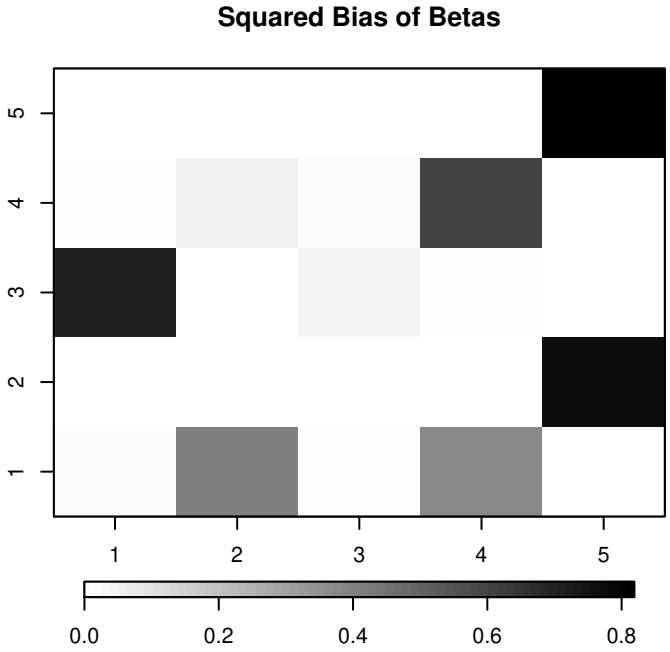

MSE of Betas
1
2
3
4
5
0.0
0.5
1.0
1.5
2.0

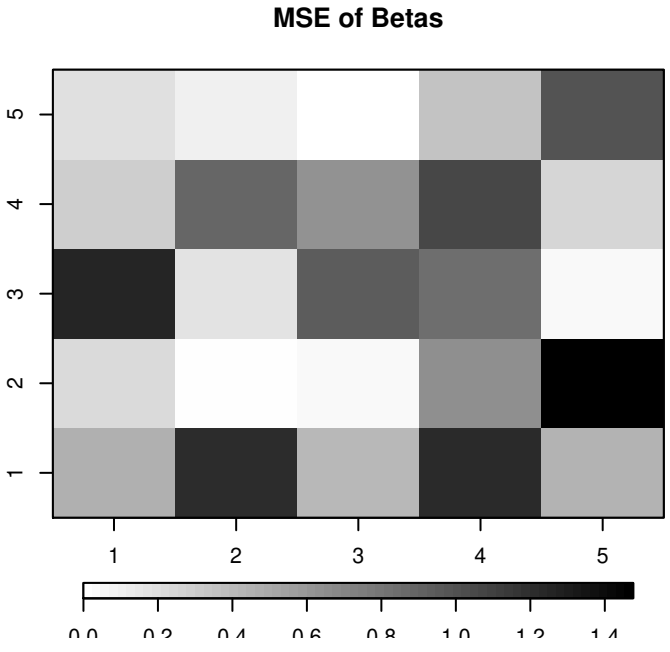

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

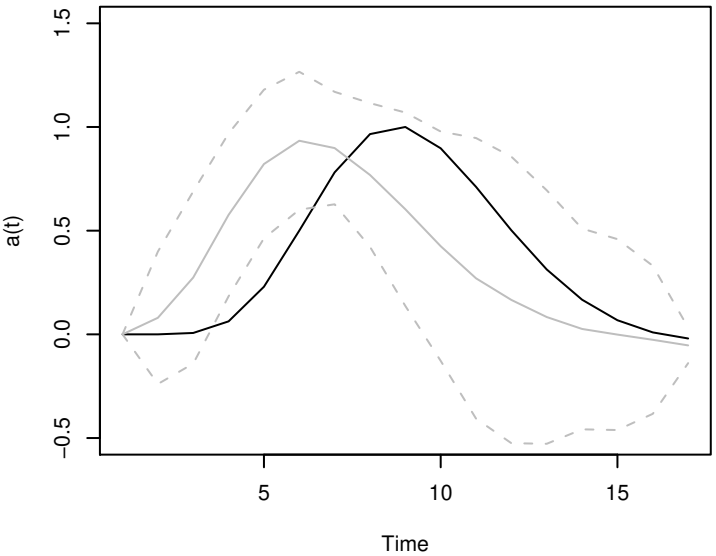

Estimated Betas Noise sd 70
1
2
3
4
5
−0.10
−0.05
0.00
0.05
0.10
0.15


Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8


Variance of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8


Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8


MSE of Betas
1
2
3
4
5


a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time