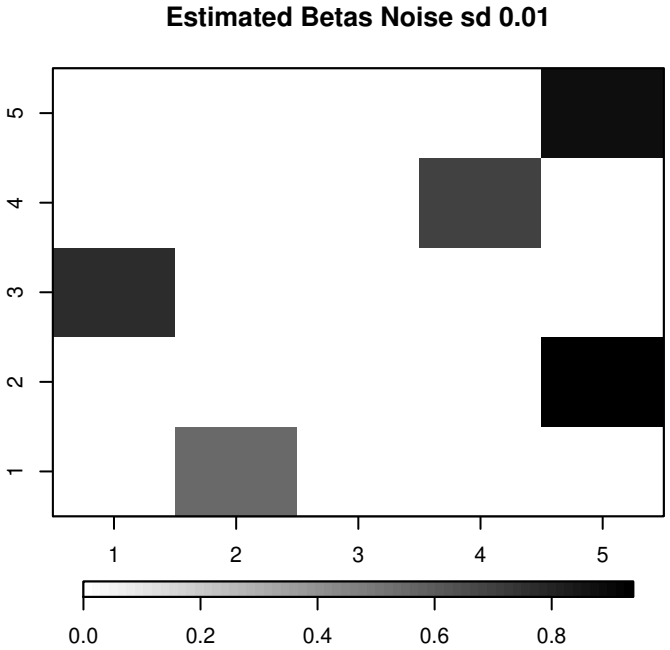
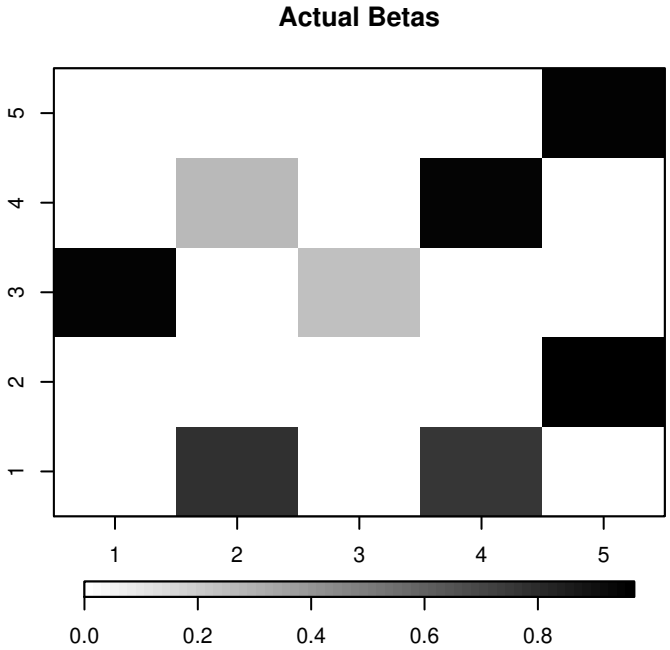
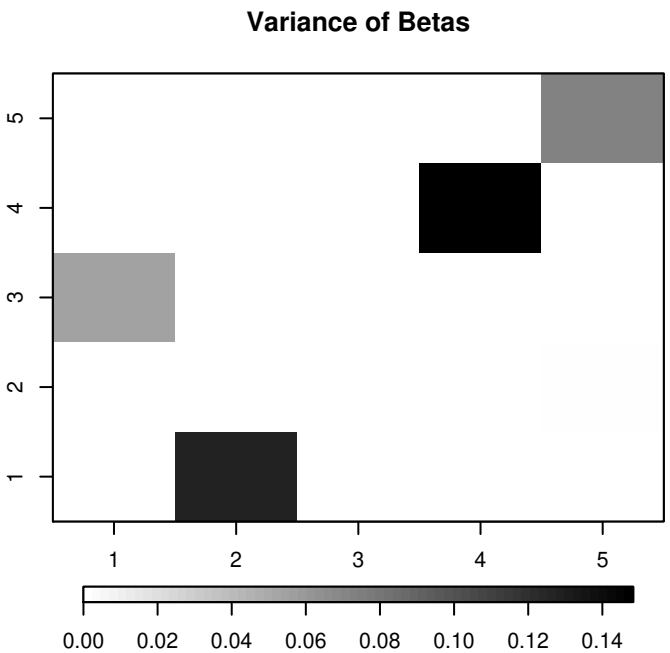
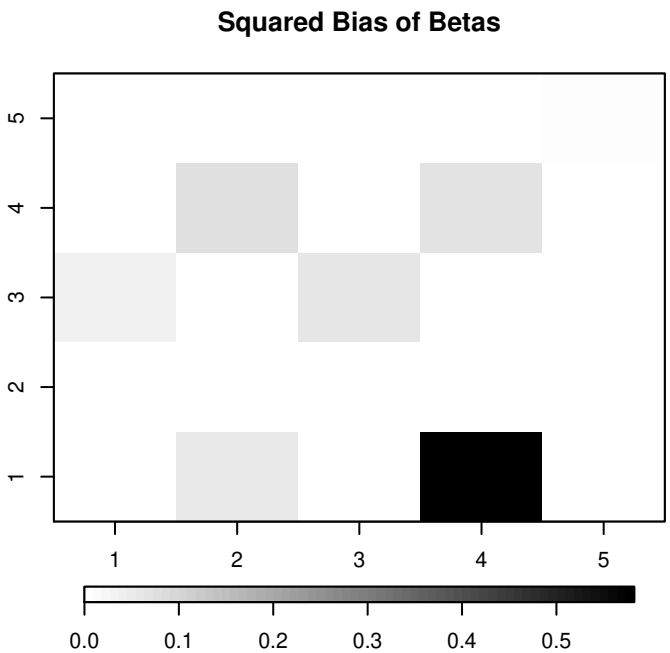
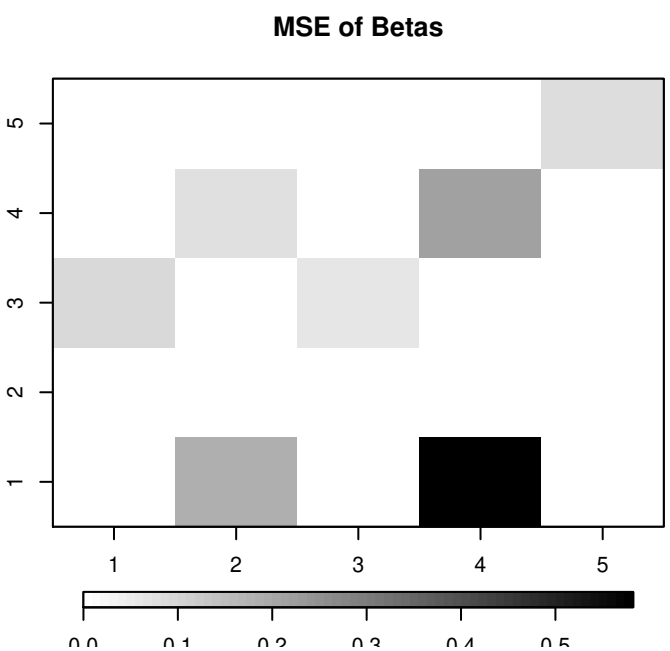
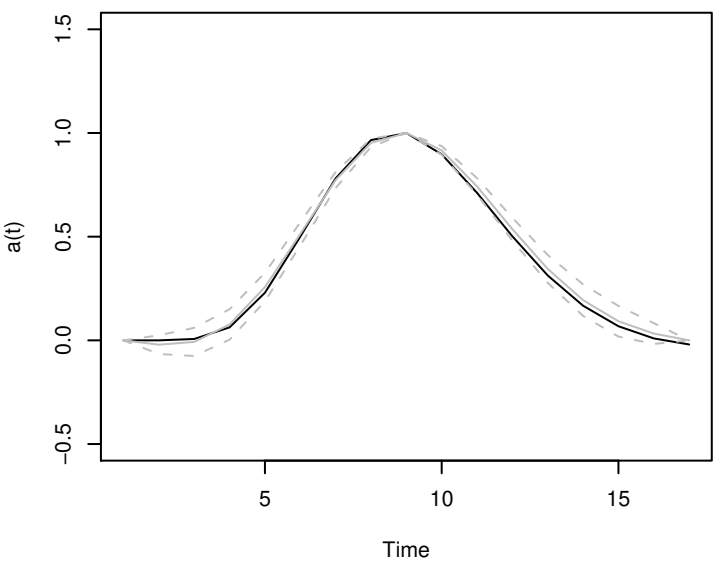

Estimated Betas Noise sd 0.01
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

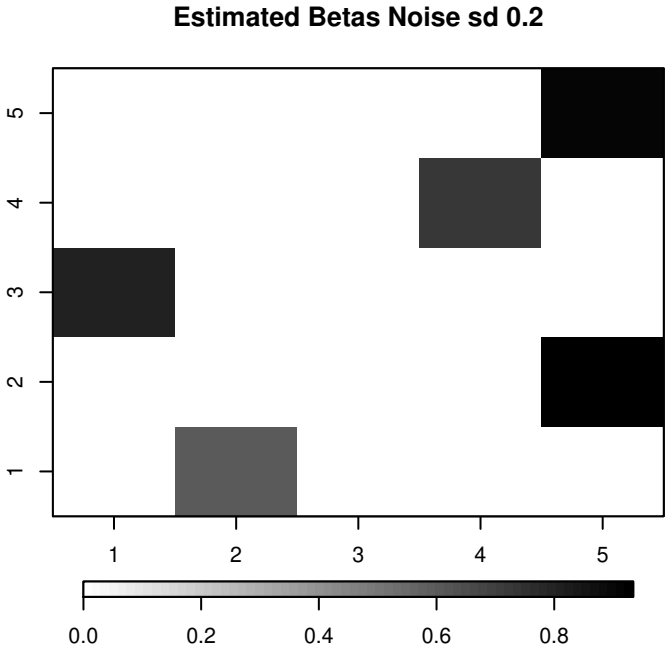

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

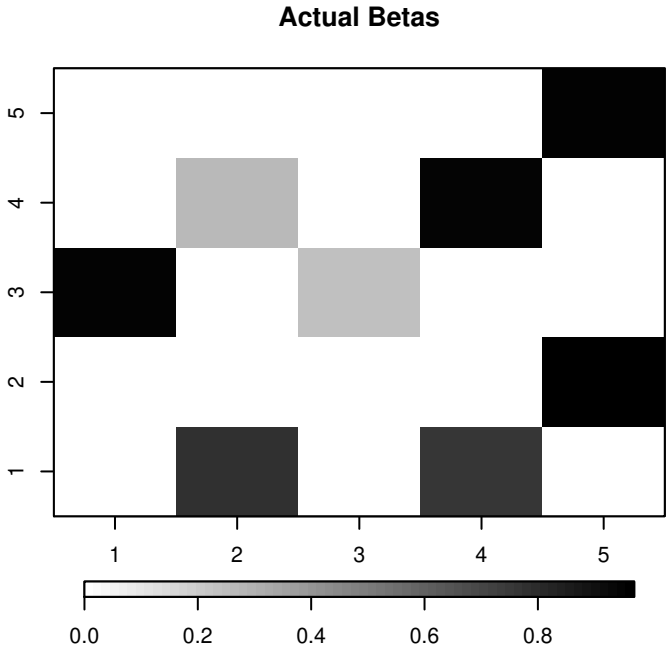

Variance of Betas
1
2
3
4
5
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14

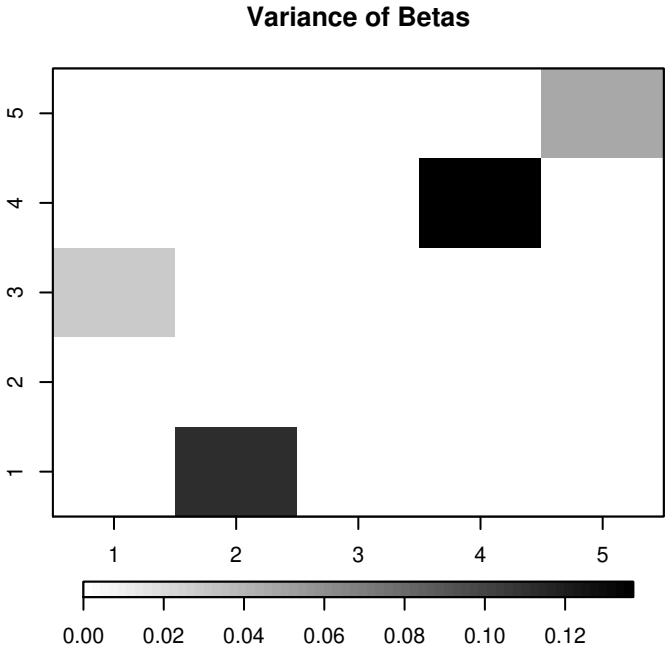

Squared Bias of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

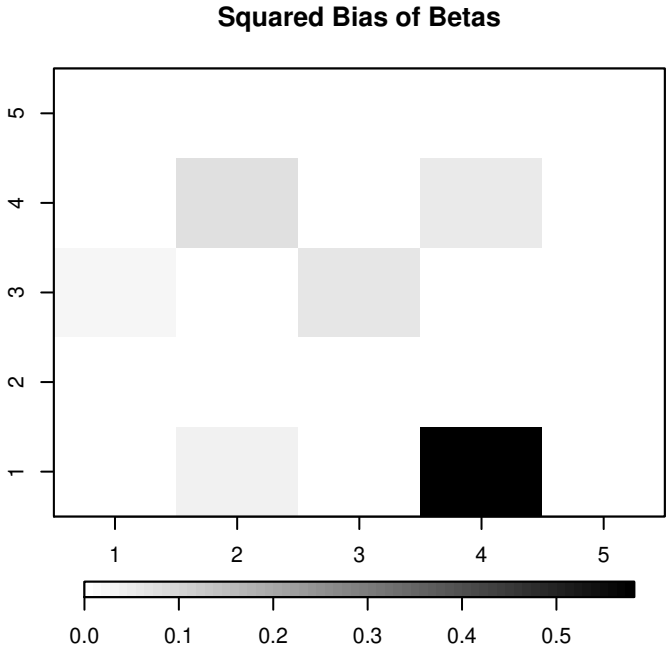

MSE of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

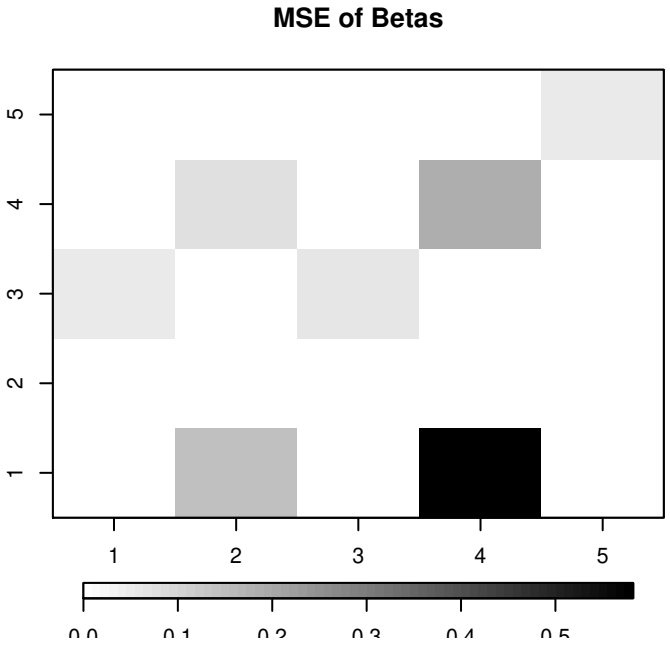

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

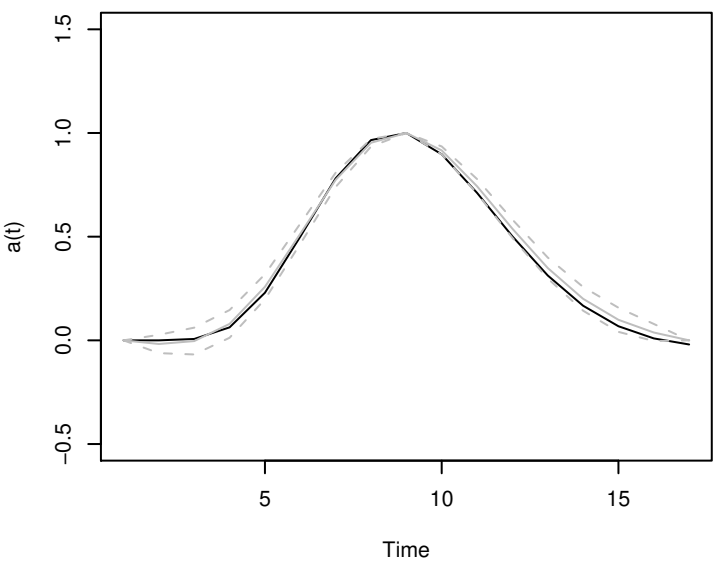

Estimated Betas Noise sd 0.2
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

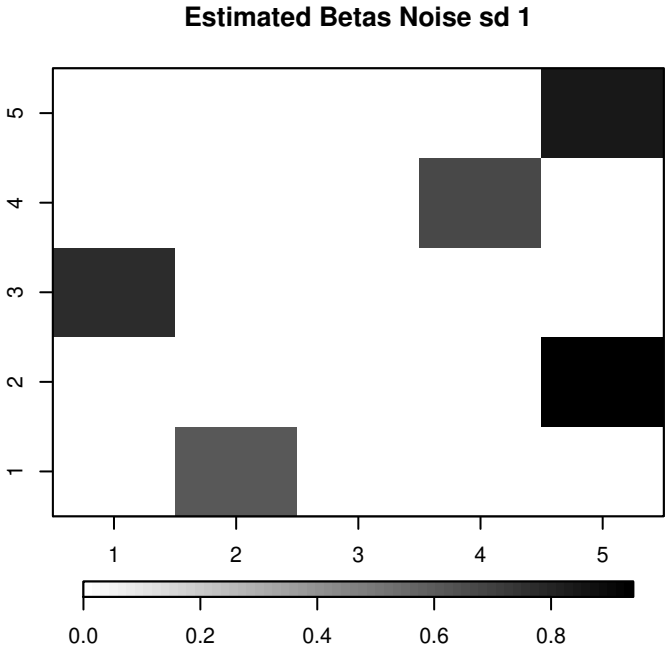

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

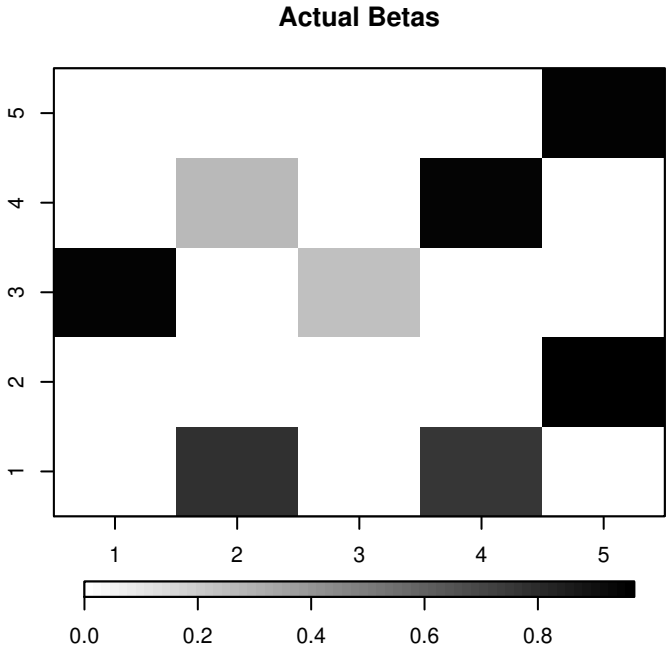

Variance of Betas
1
2
3
4
5
0.00
0.02
0.04
0.06
0.08
0.10
0.12

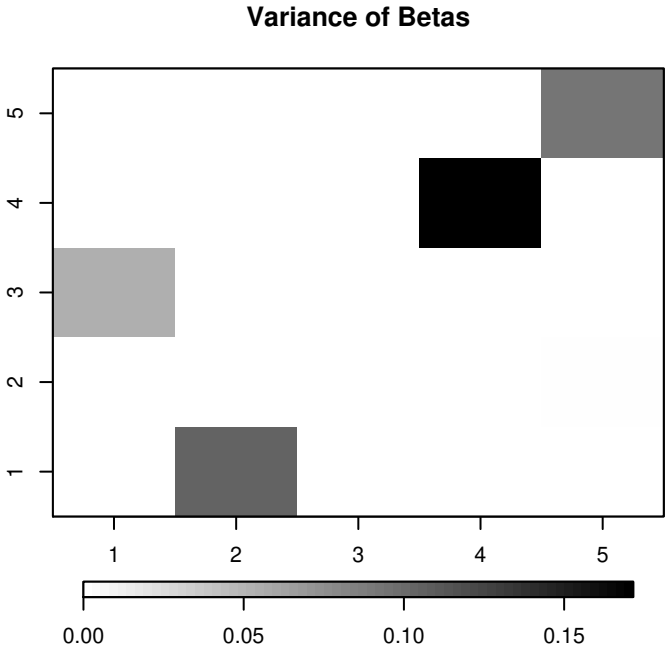

Squared Bias of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

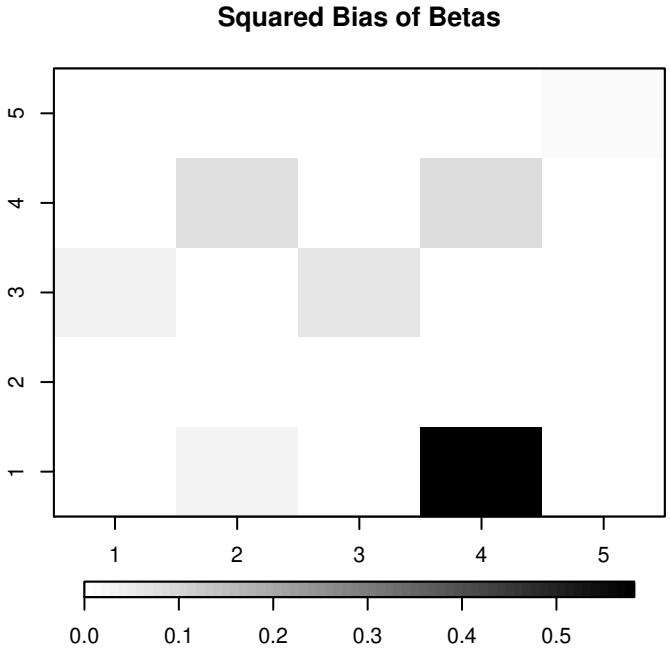

MSE of Betas
1
2
3
4
5

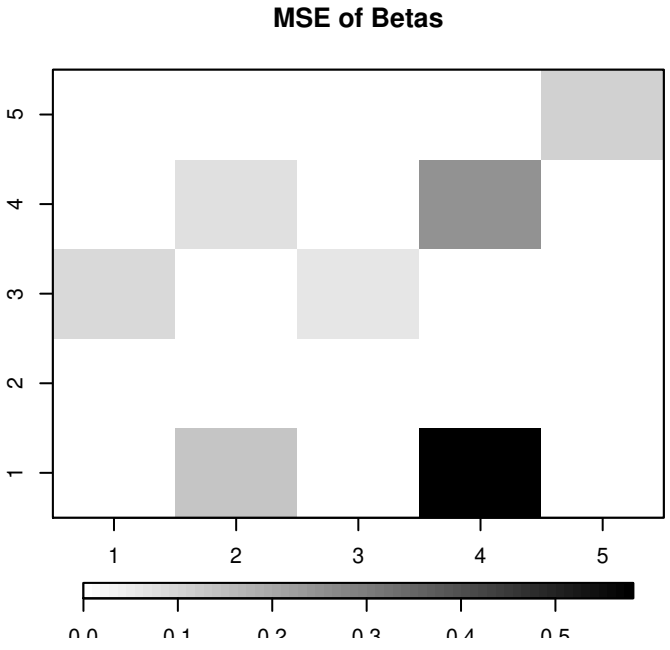

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

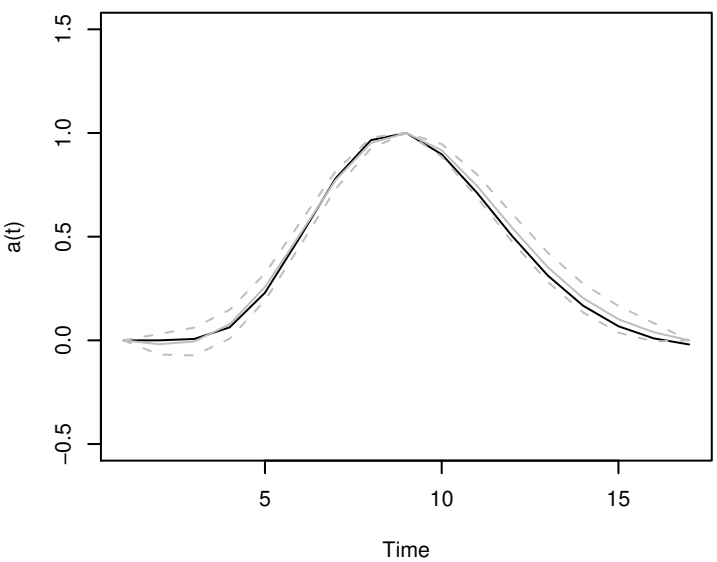

Estimated Betas Noise sd 1
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

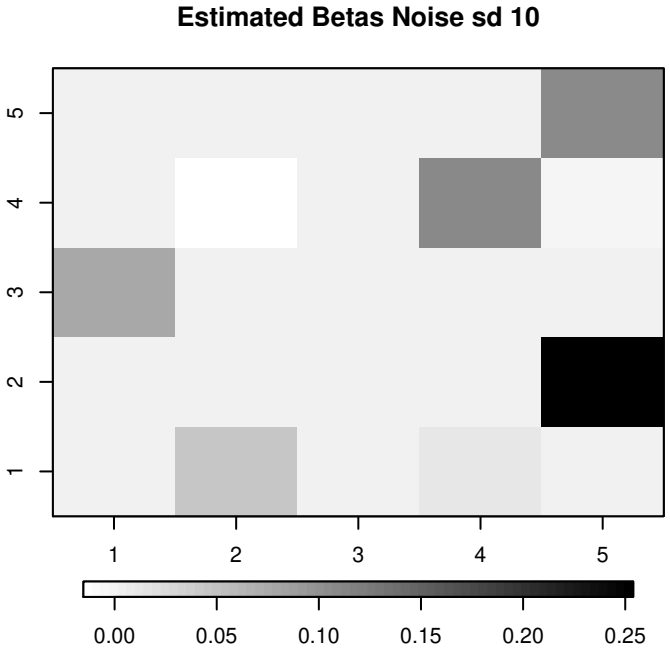

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

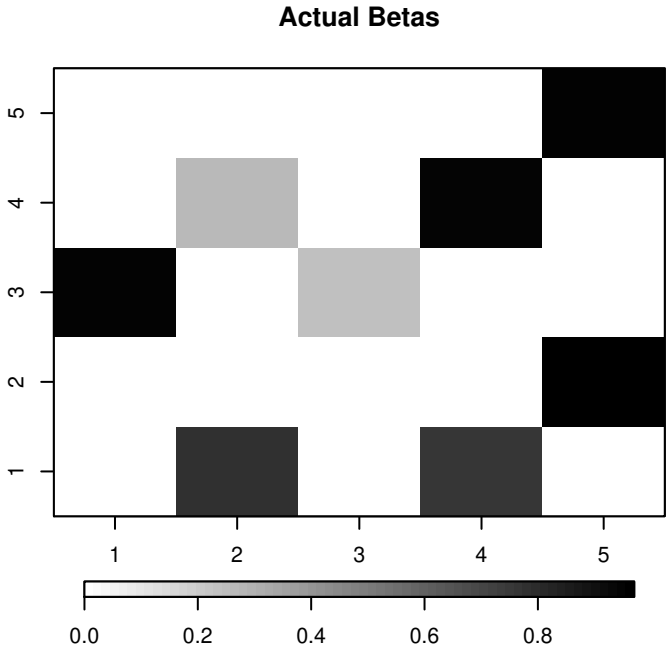

Variance of Betas
1
2
3
4
5
0.00
0.05
0.10
0.15

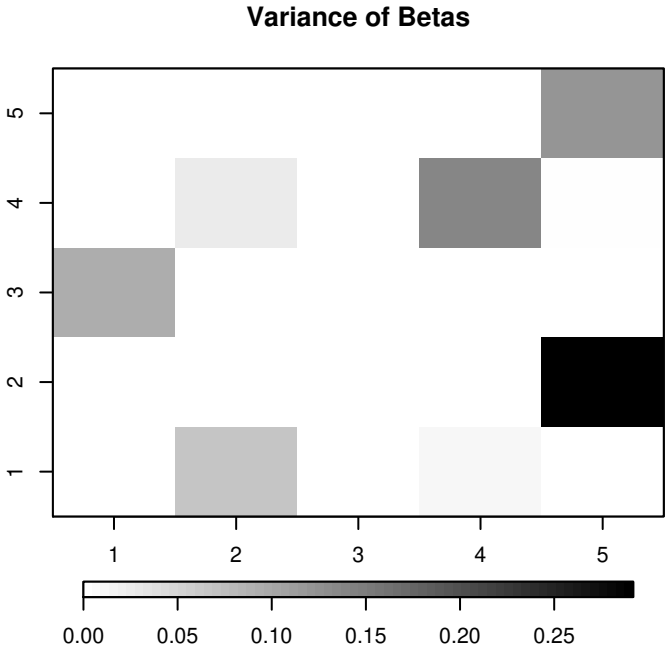

Squared Bias of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

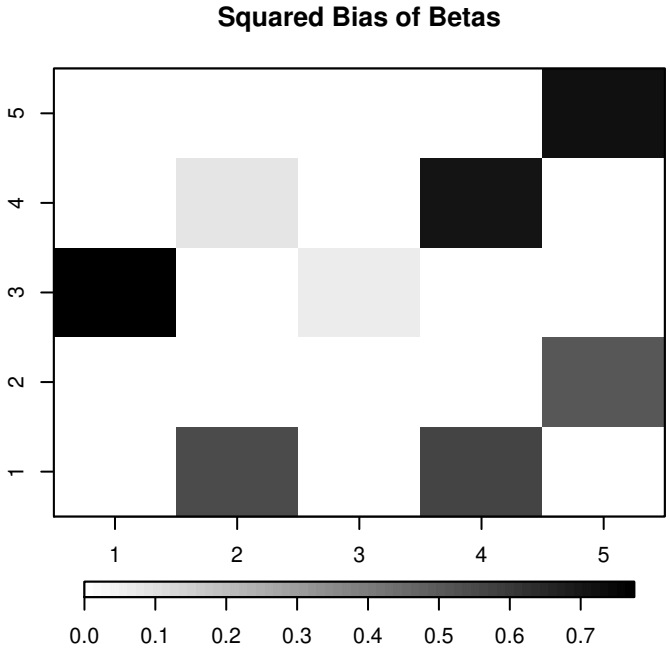

MSE of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

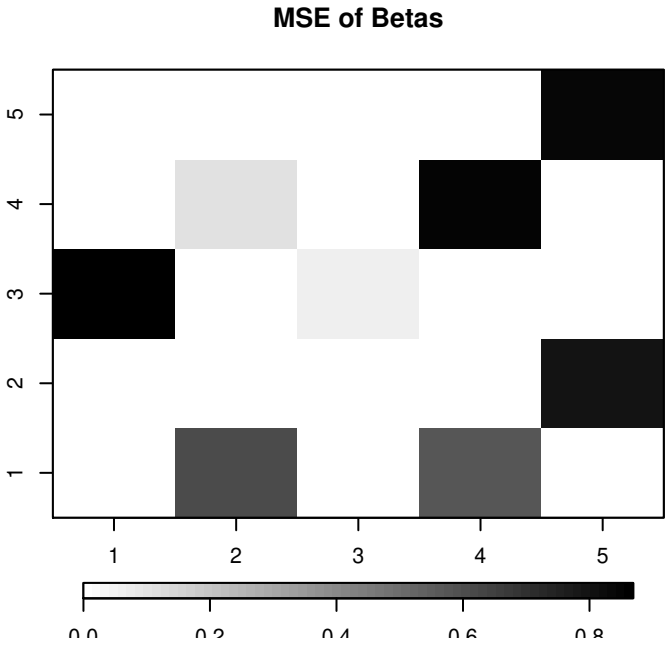

a(t)
Time
−0.5
0.0
0.5
1.0
1.5
5
10
15

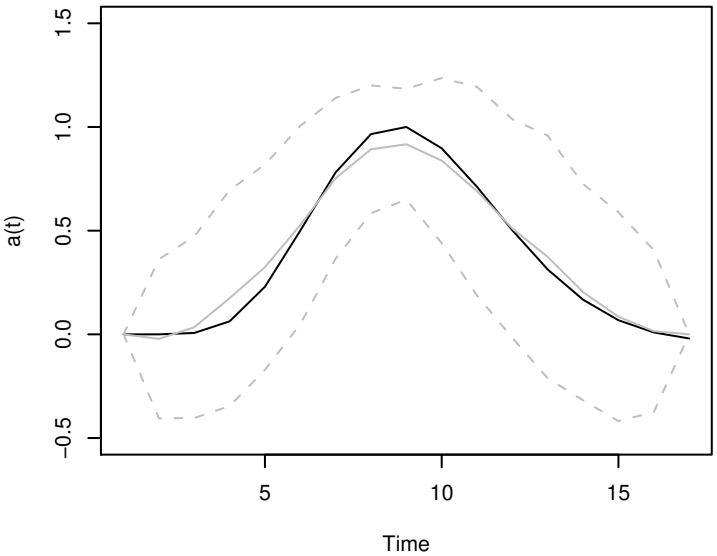

Estimated Betas Noise sd 10
1
2
3
4
5
0.00
0.05
0.10
0.15
0.20
0.25

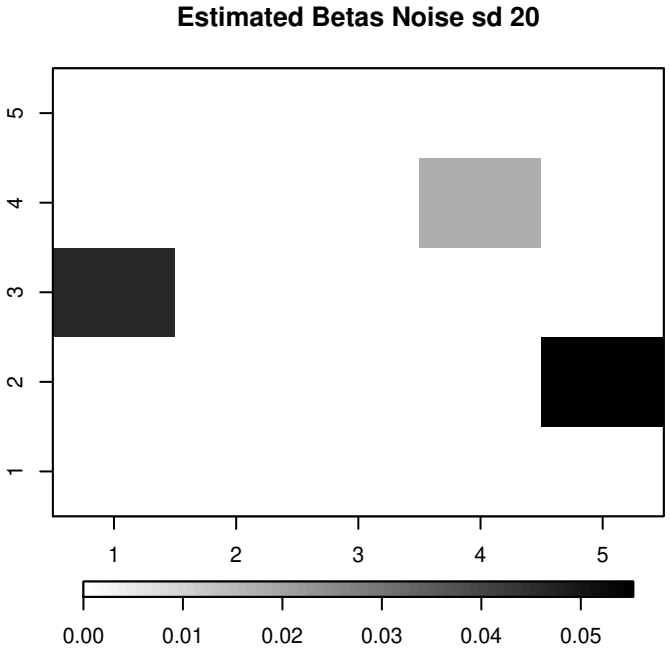

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

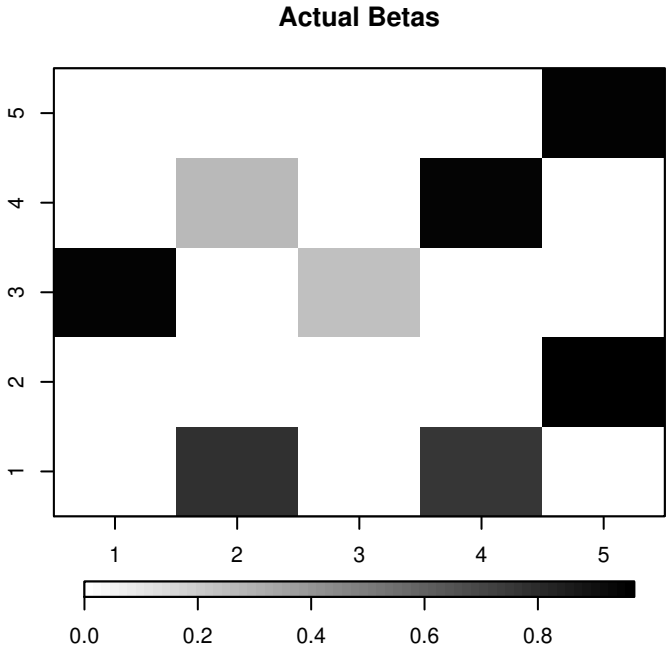

Variance of Betas
1
2
3
4
5
0.00
0.05
0.10
0.15
0.20
0.25

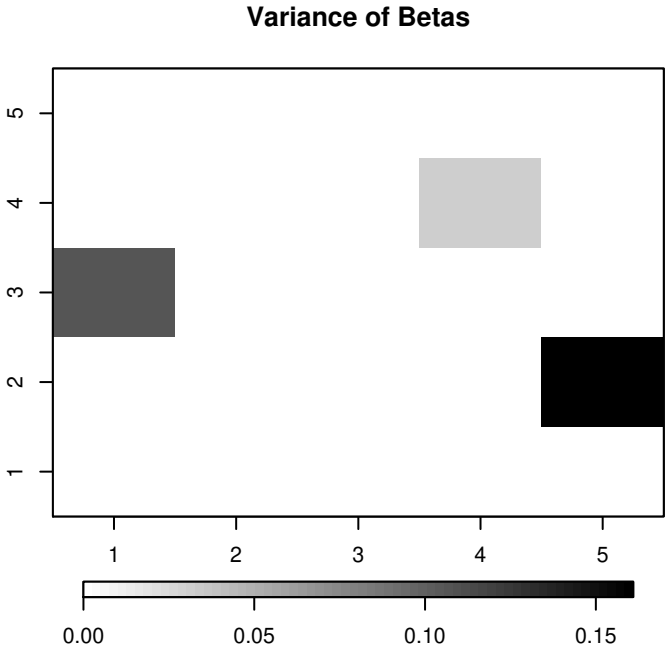

Squared Bias of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7

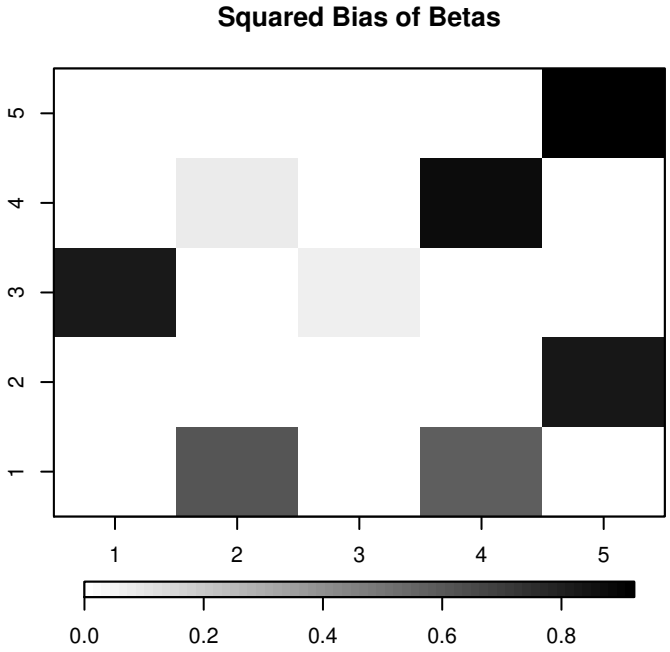

MSE of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

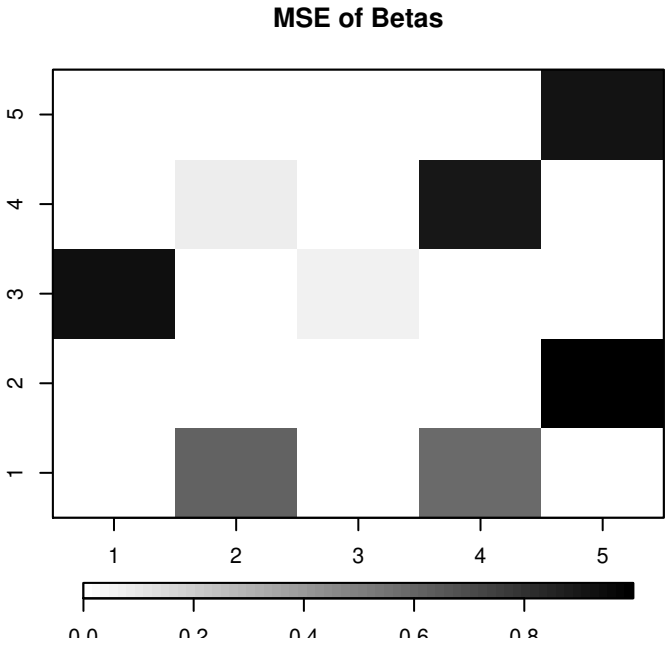

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

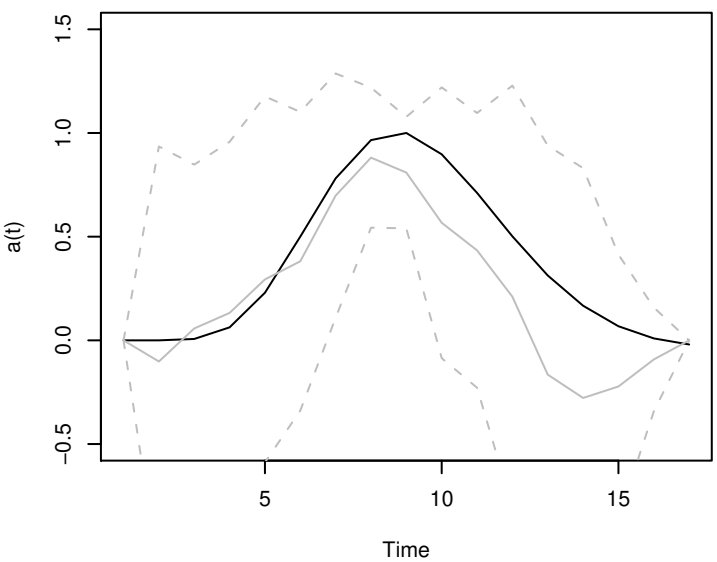

Estimated Betas Noise sd 20
1
2
3
4
5
0.00
0.01
0.02
0.03
0.04
0.05

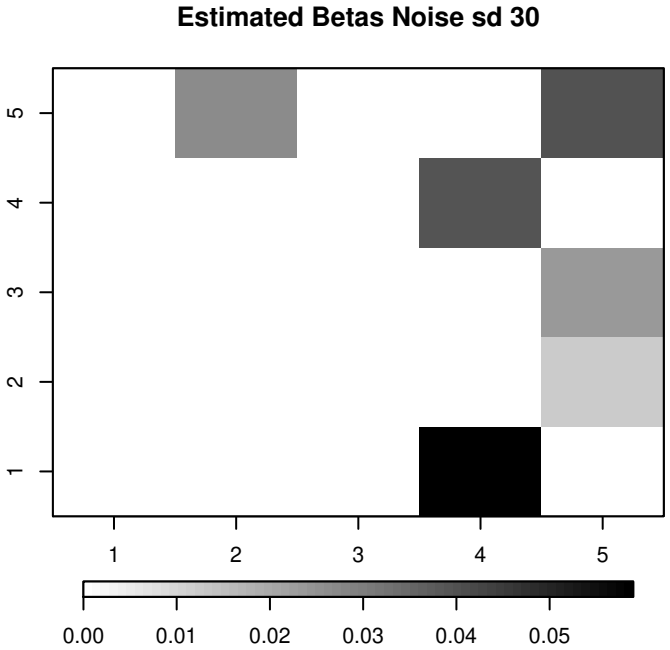

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

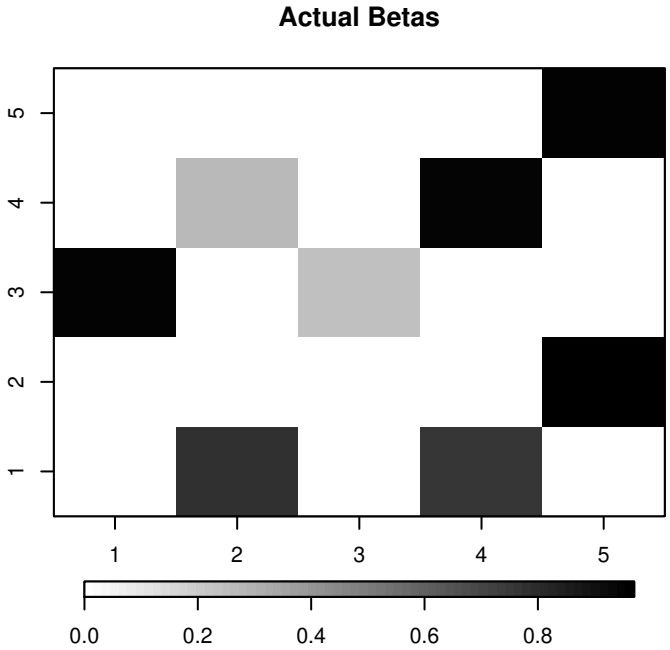

Variance of Betas
1
2
3
4
5
0.00
0.05
0.10
0.15

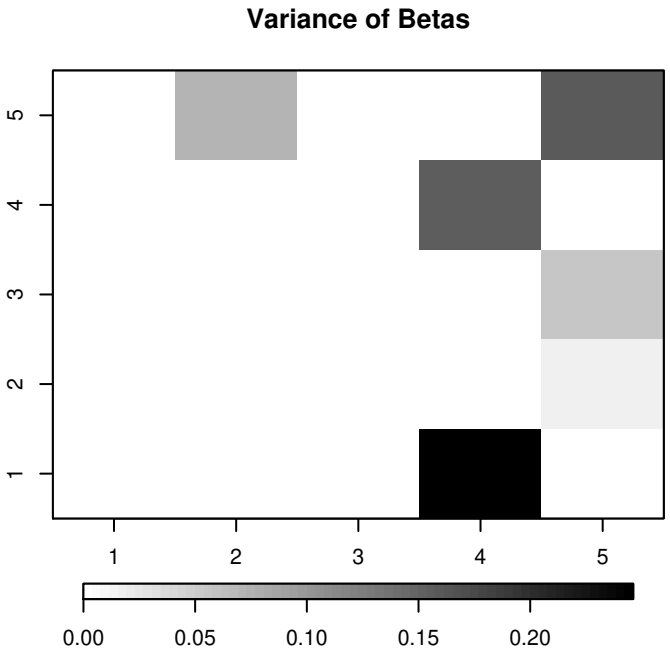

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

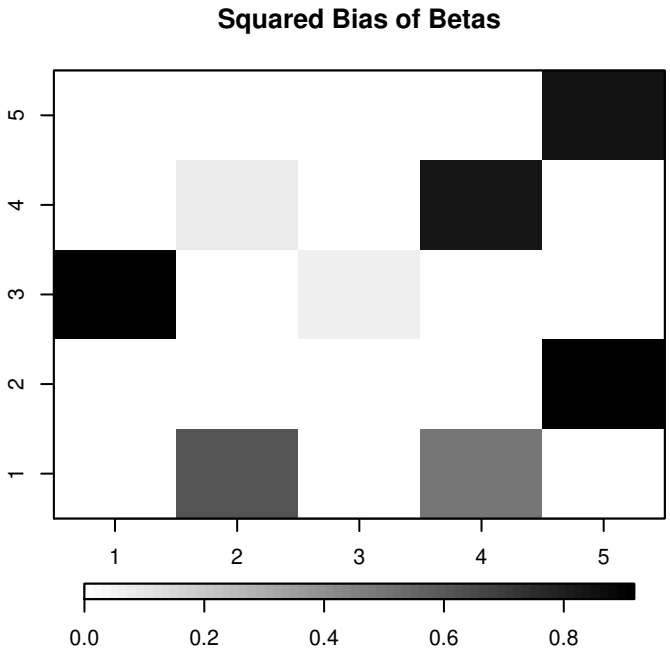

MSE of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

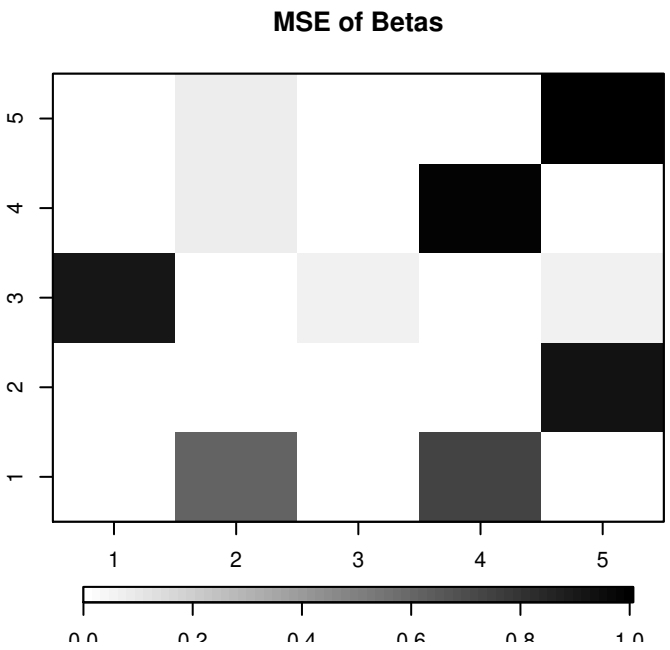

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

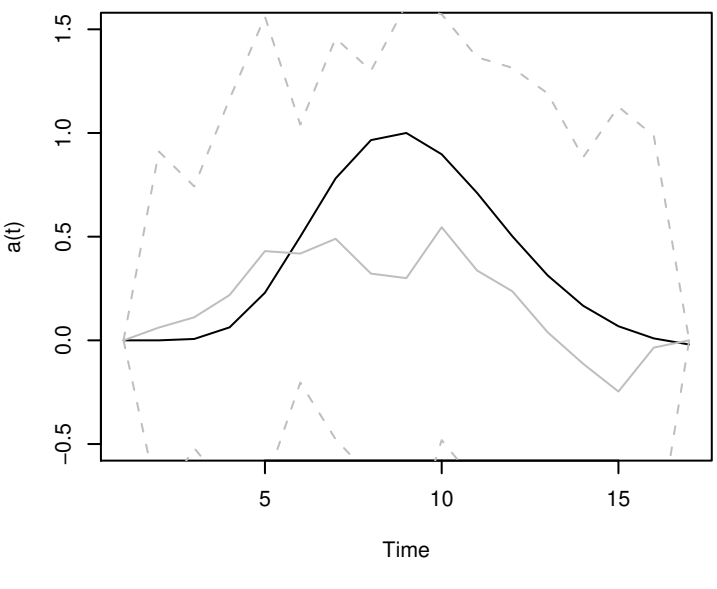

Estimated Betas Noise sd 30
1
2
3
4
5
0.00
0.01
0.02
0.03
0.04
0.05

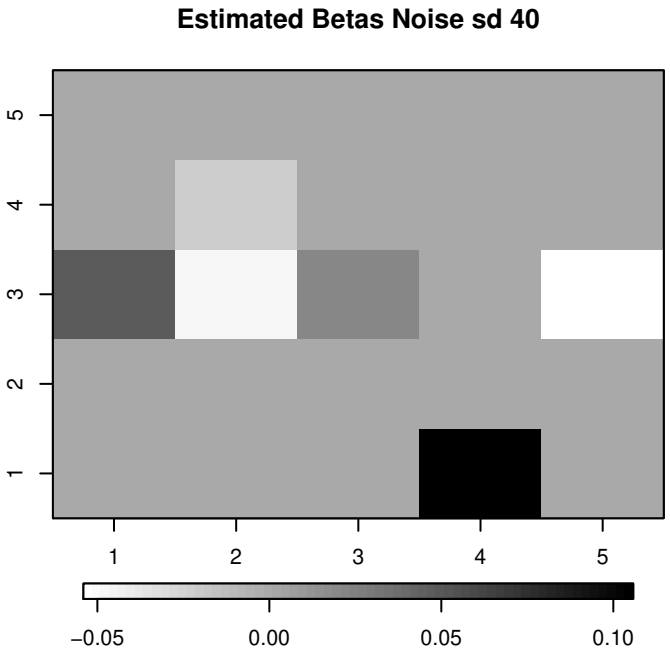

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

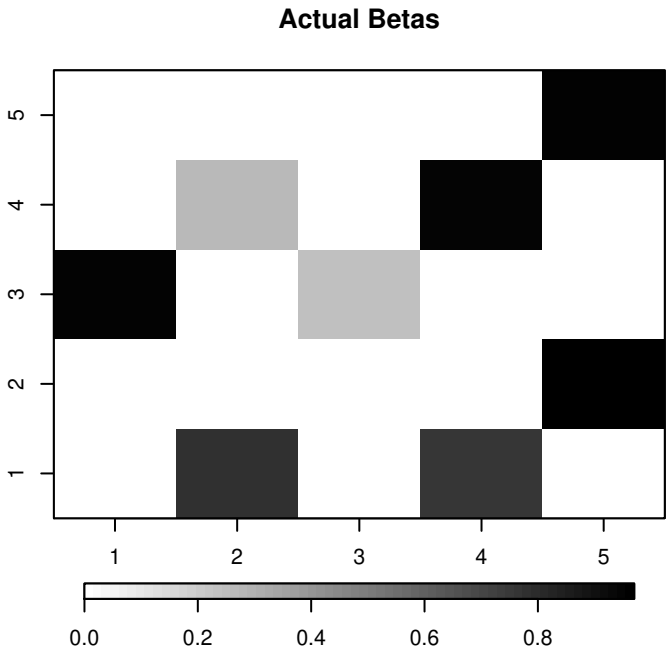

Variance of Betas
1
2
3
4
5
0.00
0.05
0.10
0.15
0.20

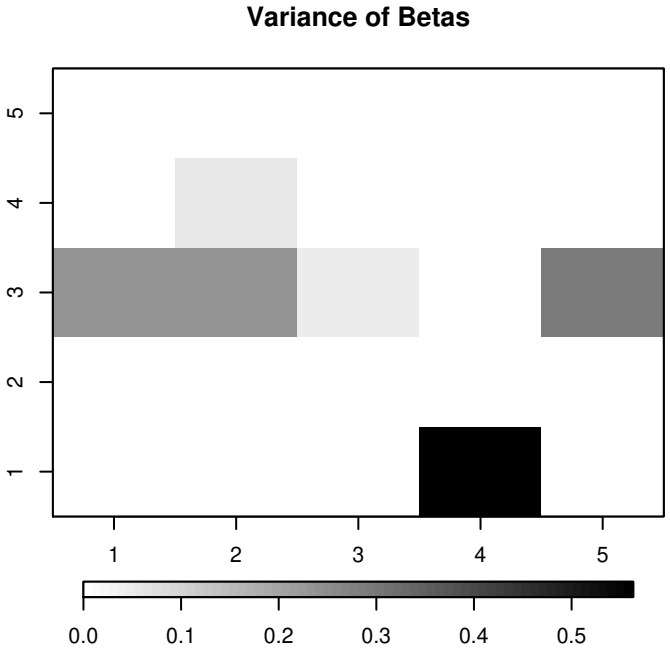

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

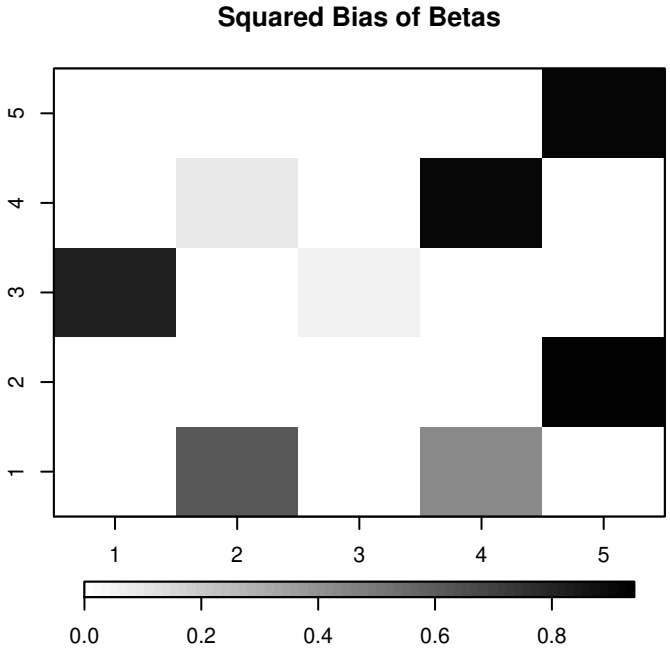

MSE of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8
1.0

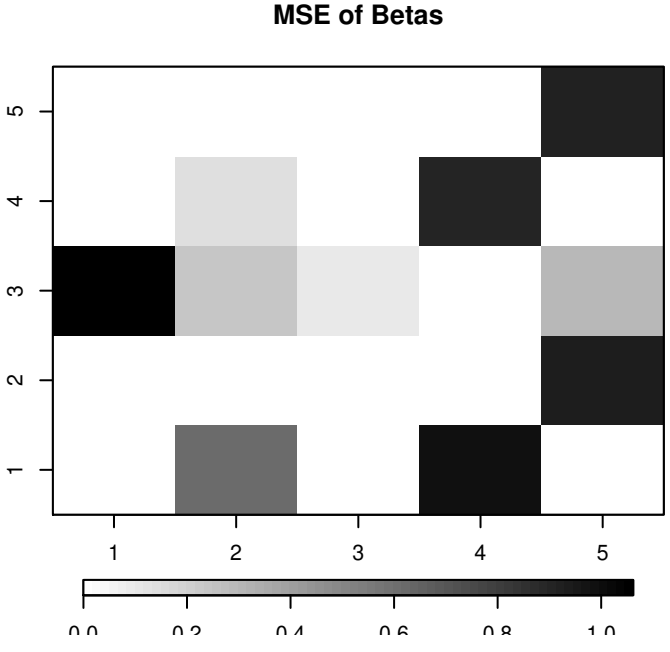

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

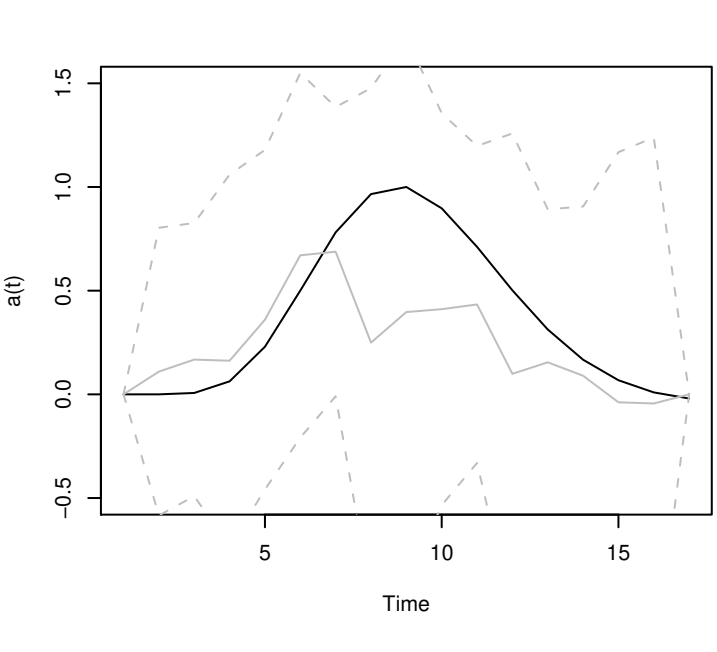

Estimated Betas Noise sd 40
1
2
3
4
5
−0.05
0.00
0.05
0.10

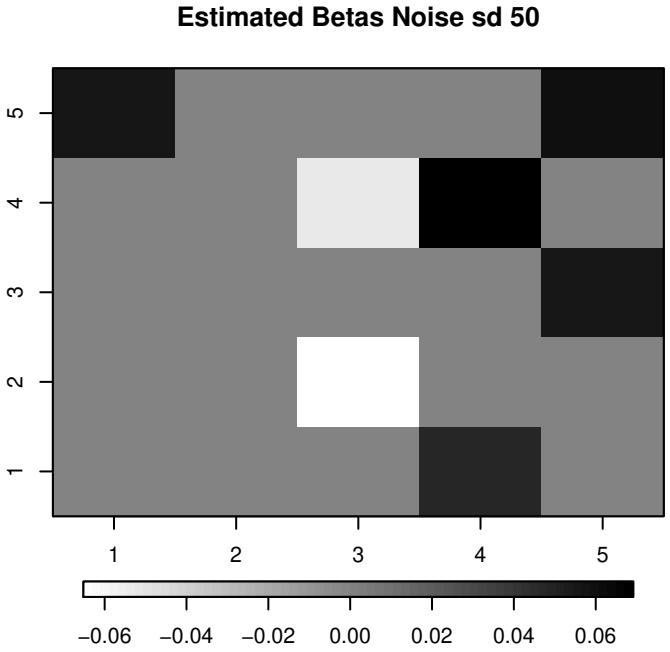

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

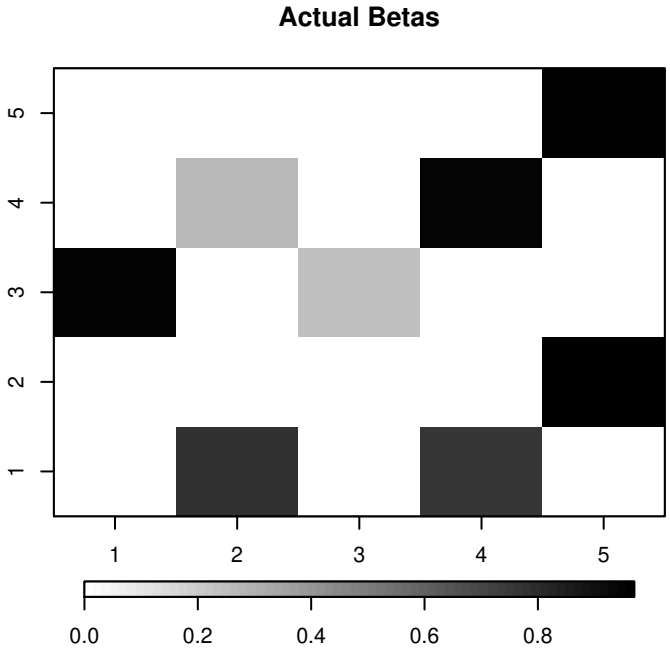

Variance of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5

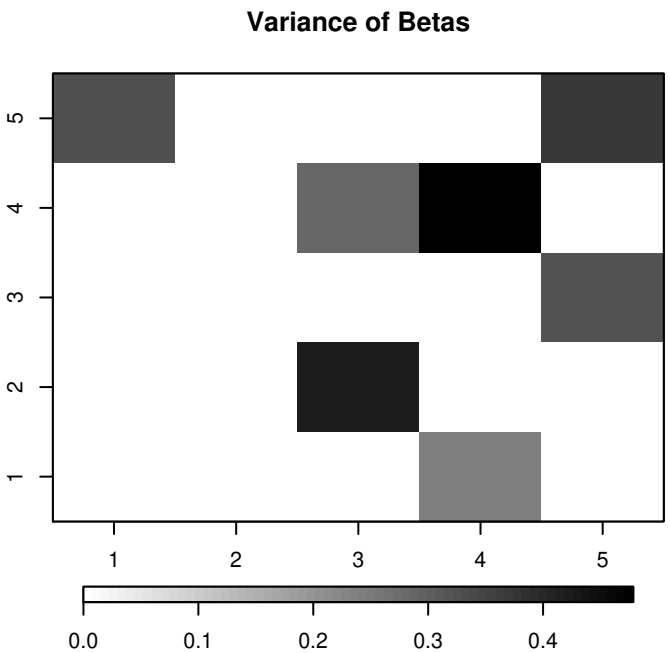

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

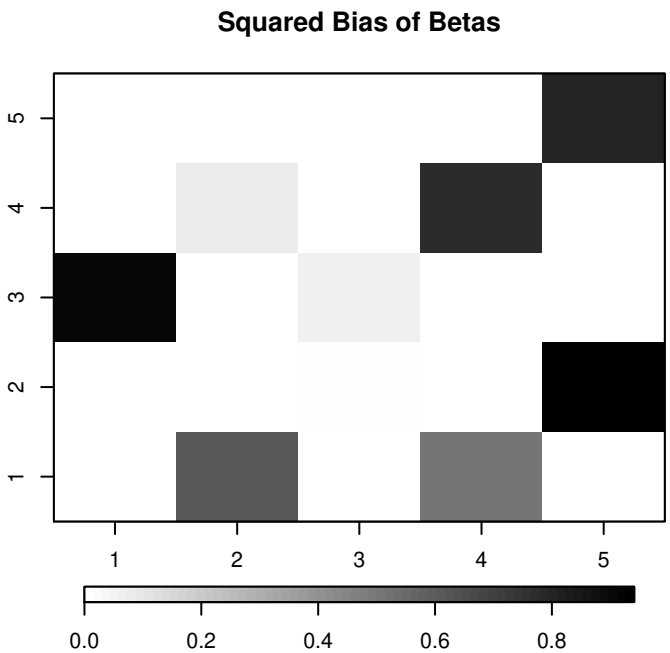

MSE of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8
1.0

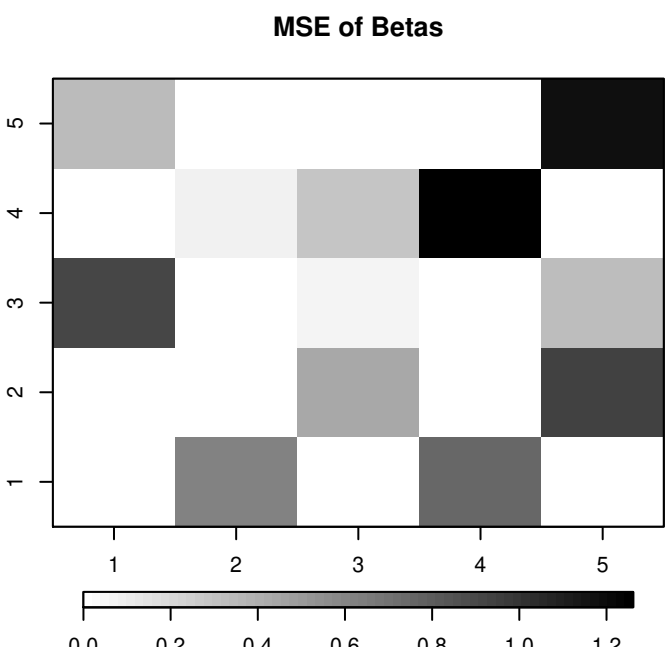

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

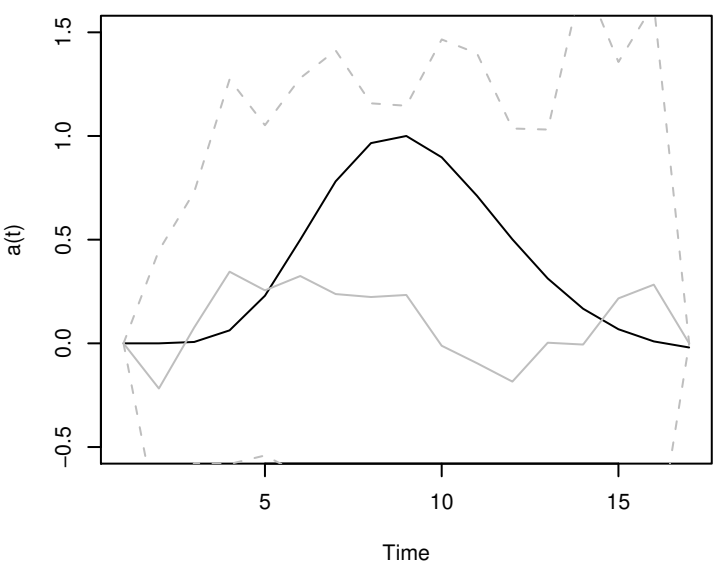

Estimated Betas Noise sd 50
1
2
3
4
5
−0.06
−0.04
−0.02
0.00
0.02
0.04
0.06

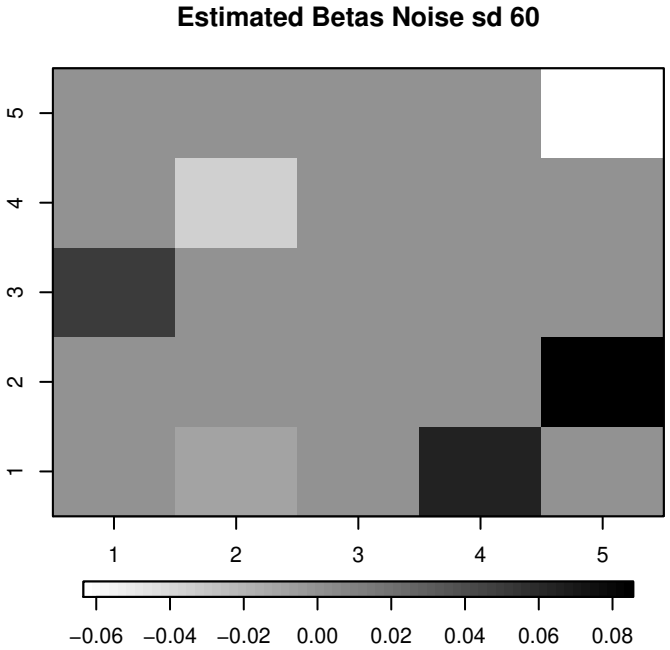

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

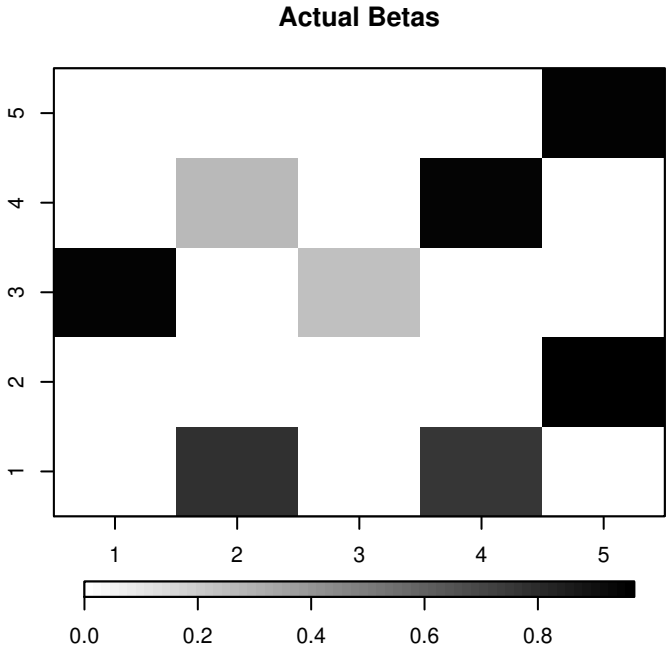

Variance of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4

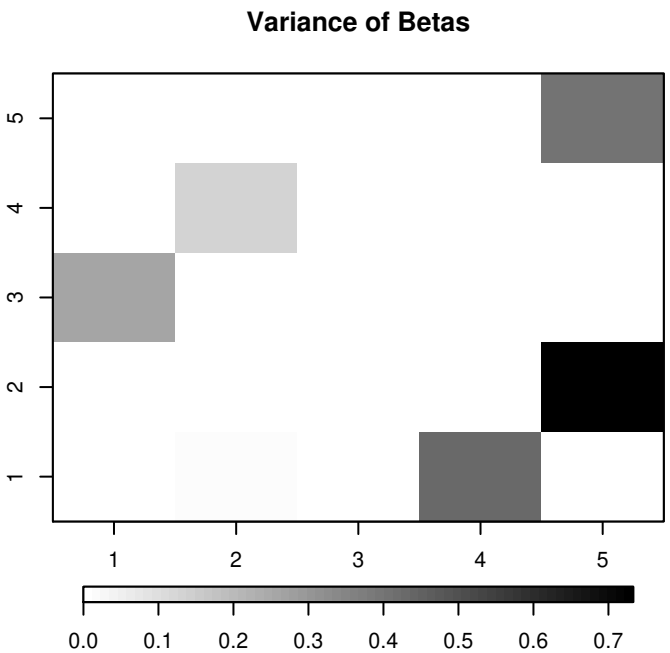

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

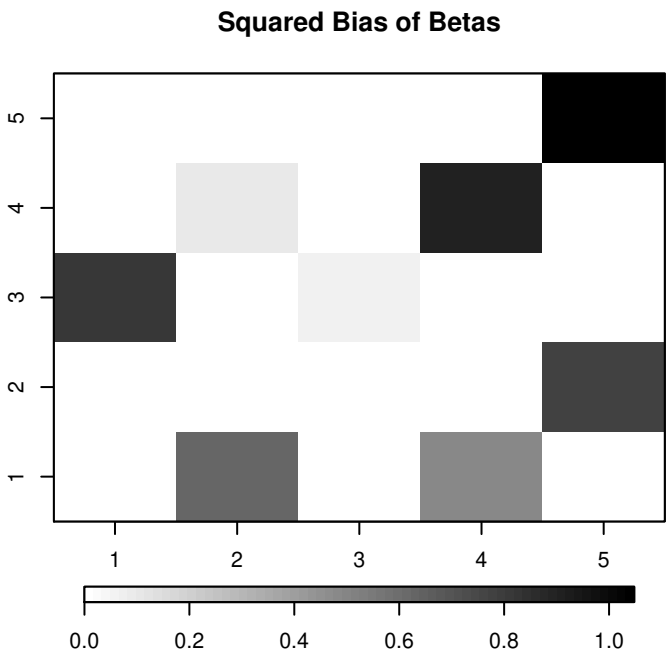

MSE of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8
1.0
1.2

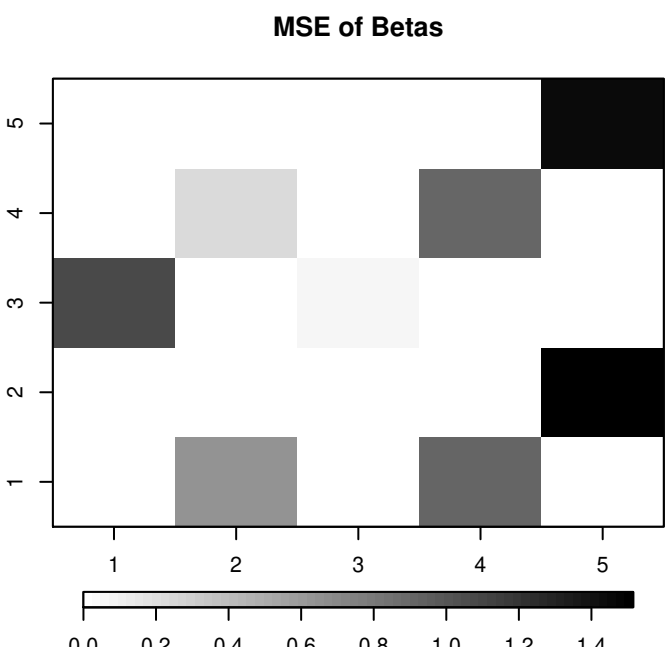

a(t)
1.5
1.0
0.5
0.0
−0.5
5
10
15
Time

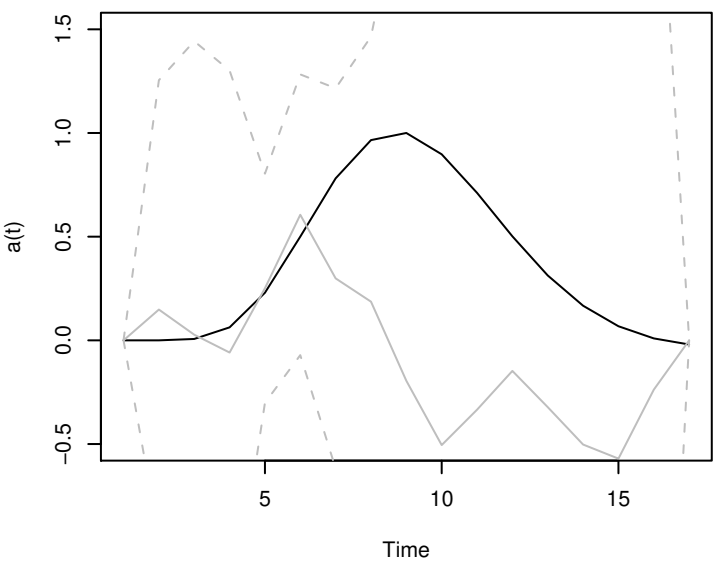

Estimated Betas Noise sd 60
1
2
3
4
5
−0.06
−0.04
−0.02
0.00
0.02
0.04
0.06
0.08

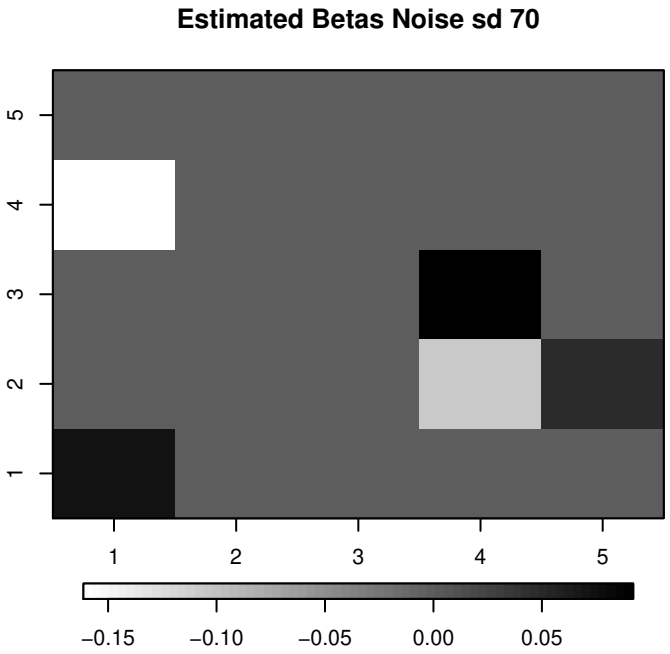

Actual Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8

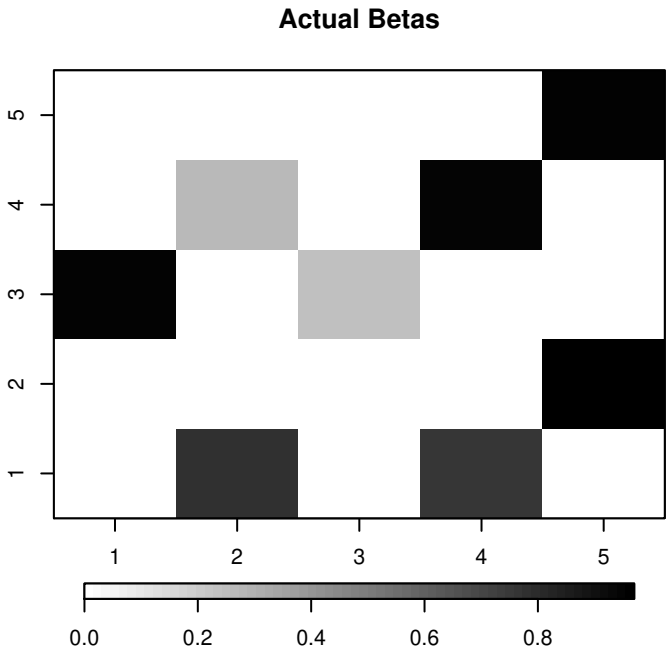

Variance of Betas
1
2
3
4
5
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7

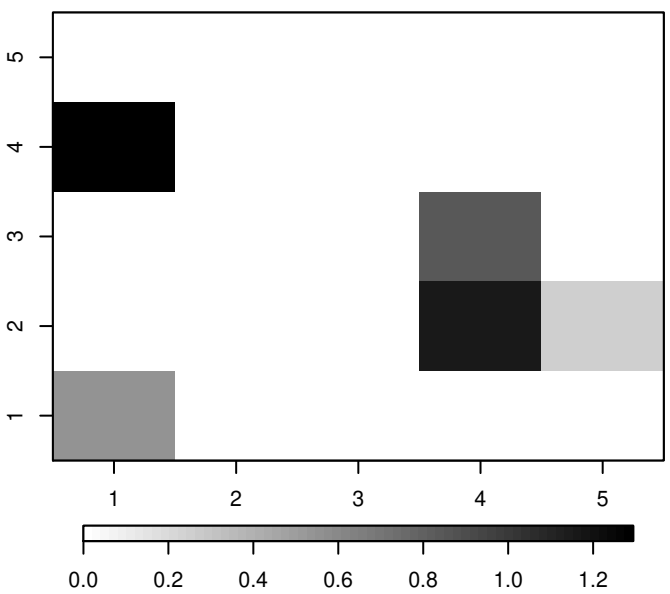

Squared Bias of Betas
1
2
3
4
5
0.0
0.2
0.4
0.6
0.8
1.0

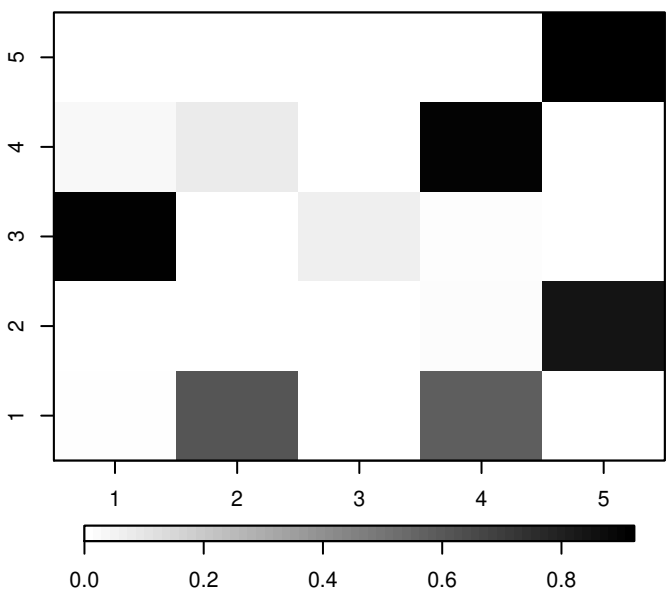

MSE of Betas
1
2
3
4
5

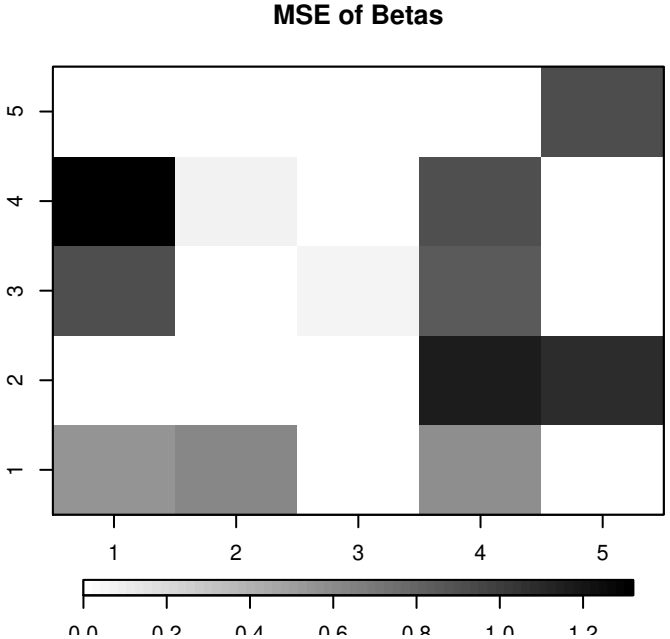

a(t)
−0.5
0.0
0.5
1.0
1.5
5
10
15
Time

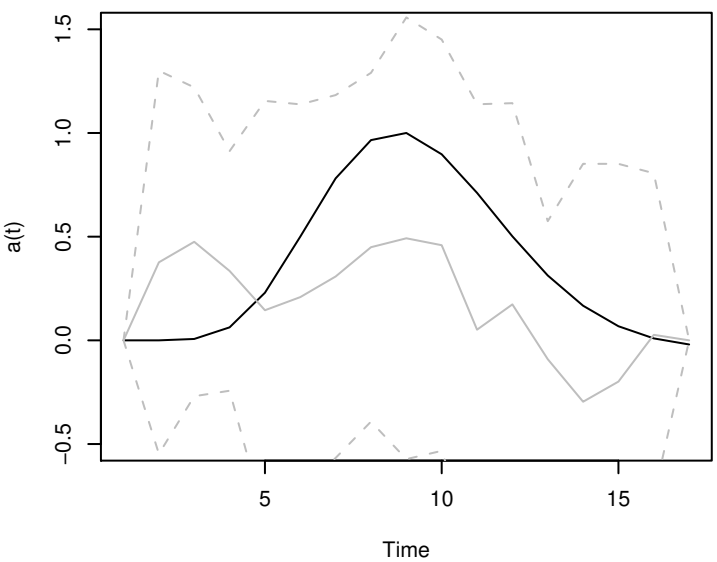

Estimated Betas Noise sd 70
1
2
3
4
5
−0.15
−0.10
−0.05
0.00
0.05


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
1.0
1.2


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
0.2
0.4
0.6
0.8
1.0
1.2


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