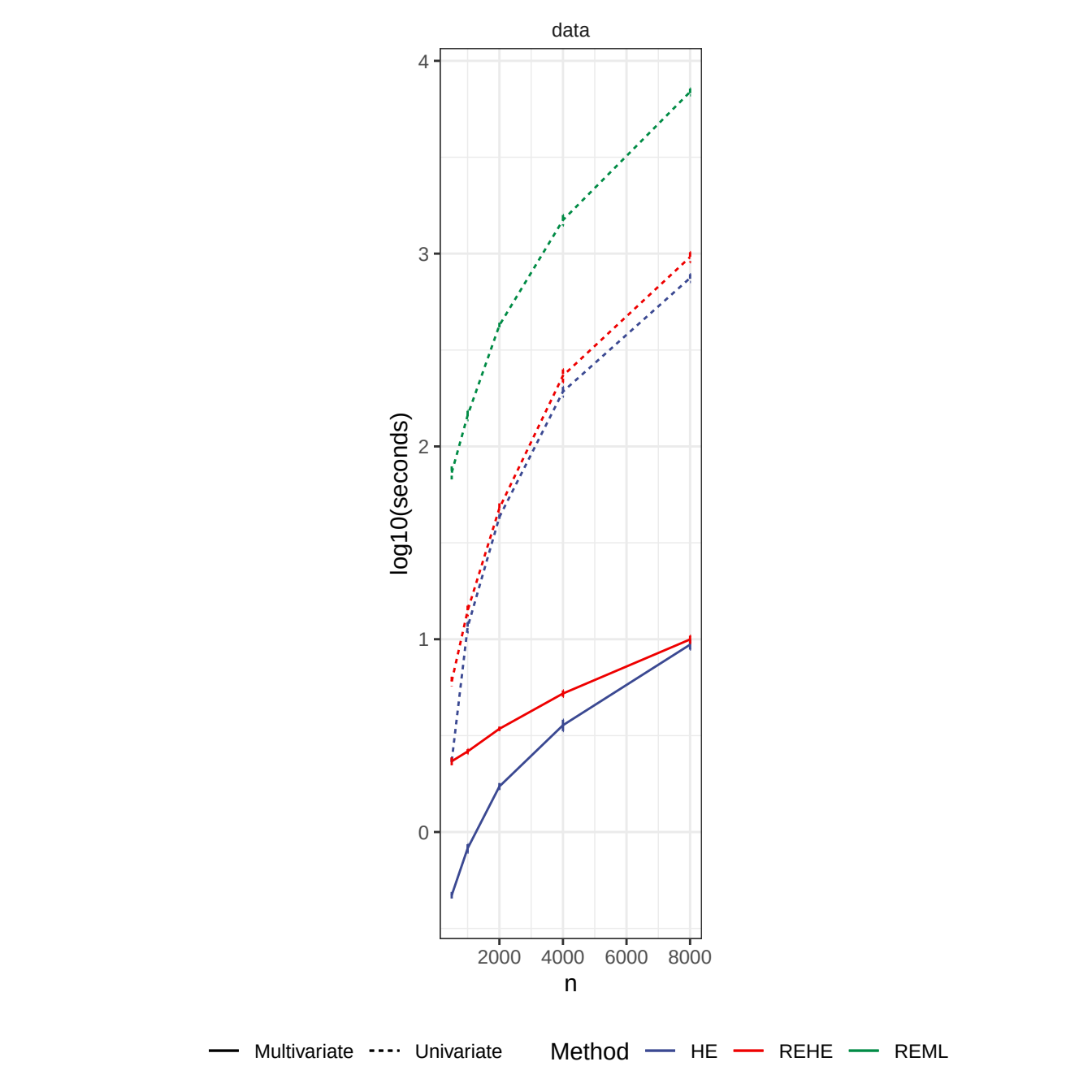
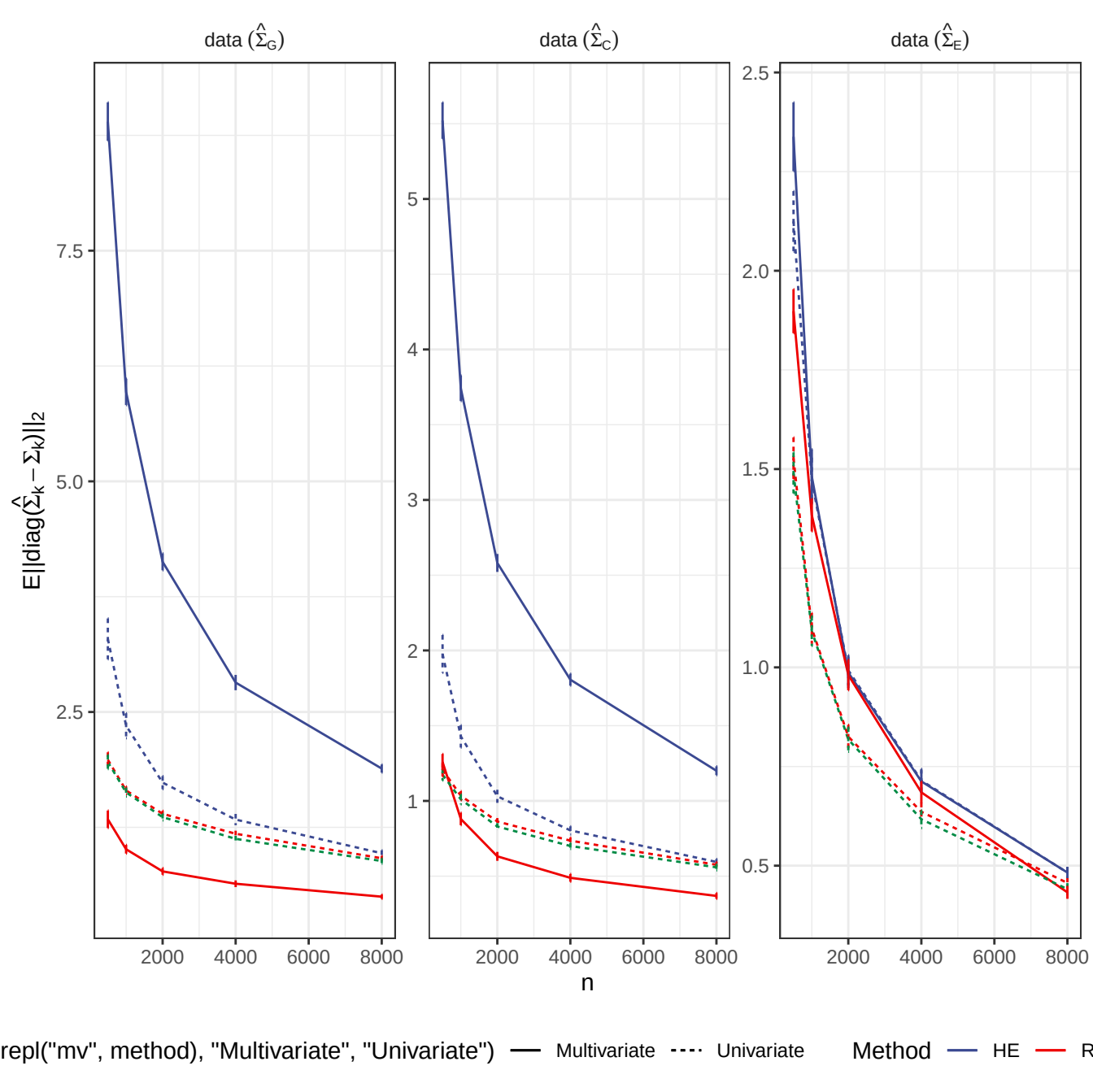
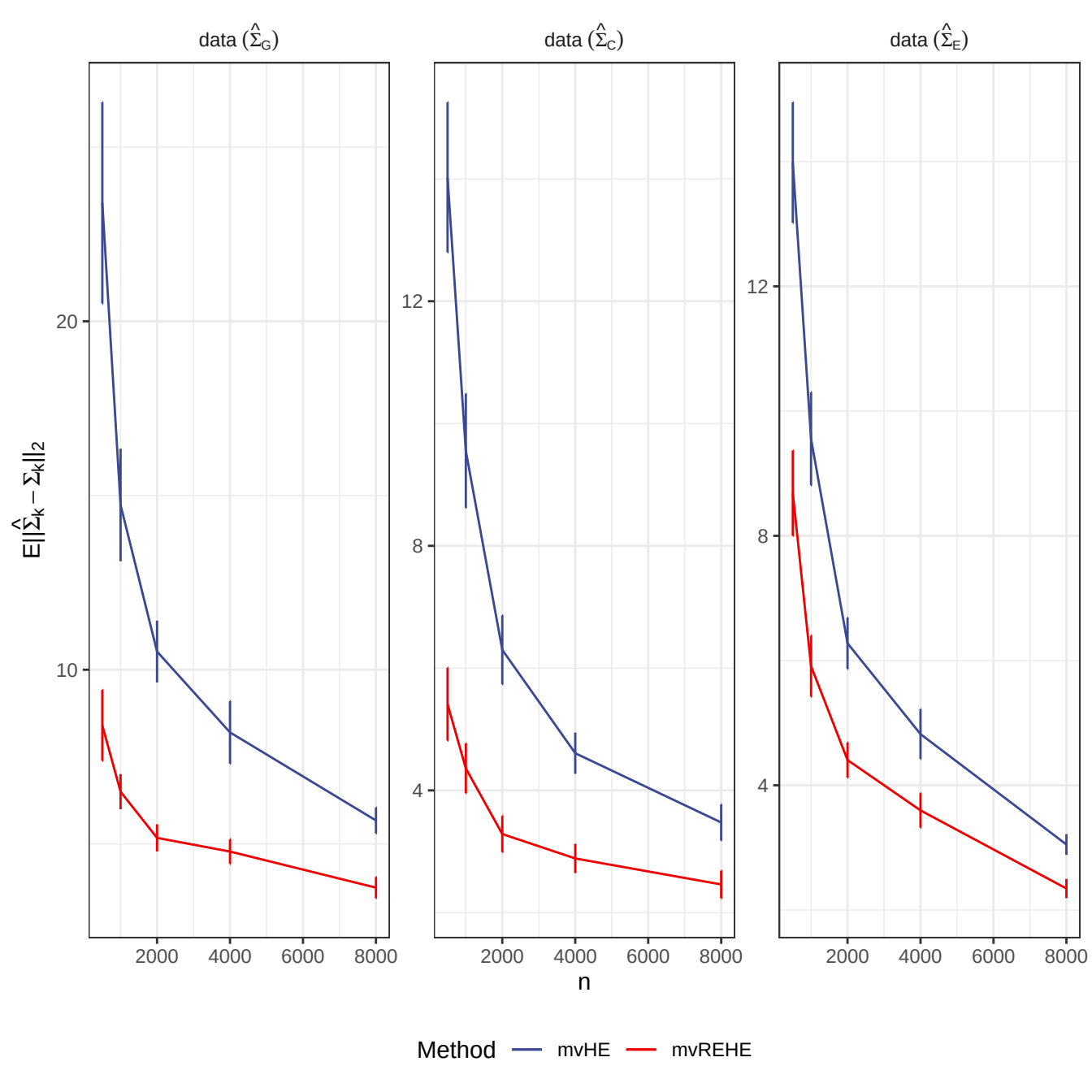
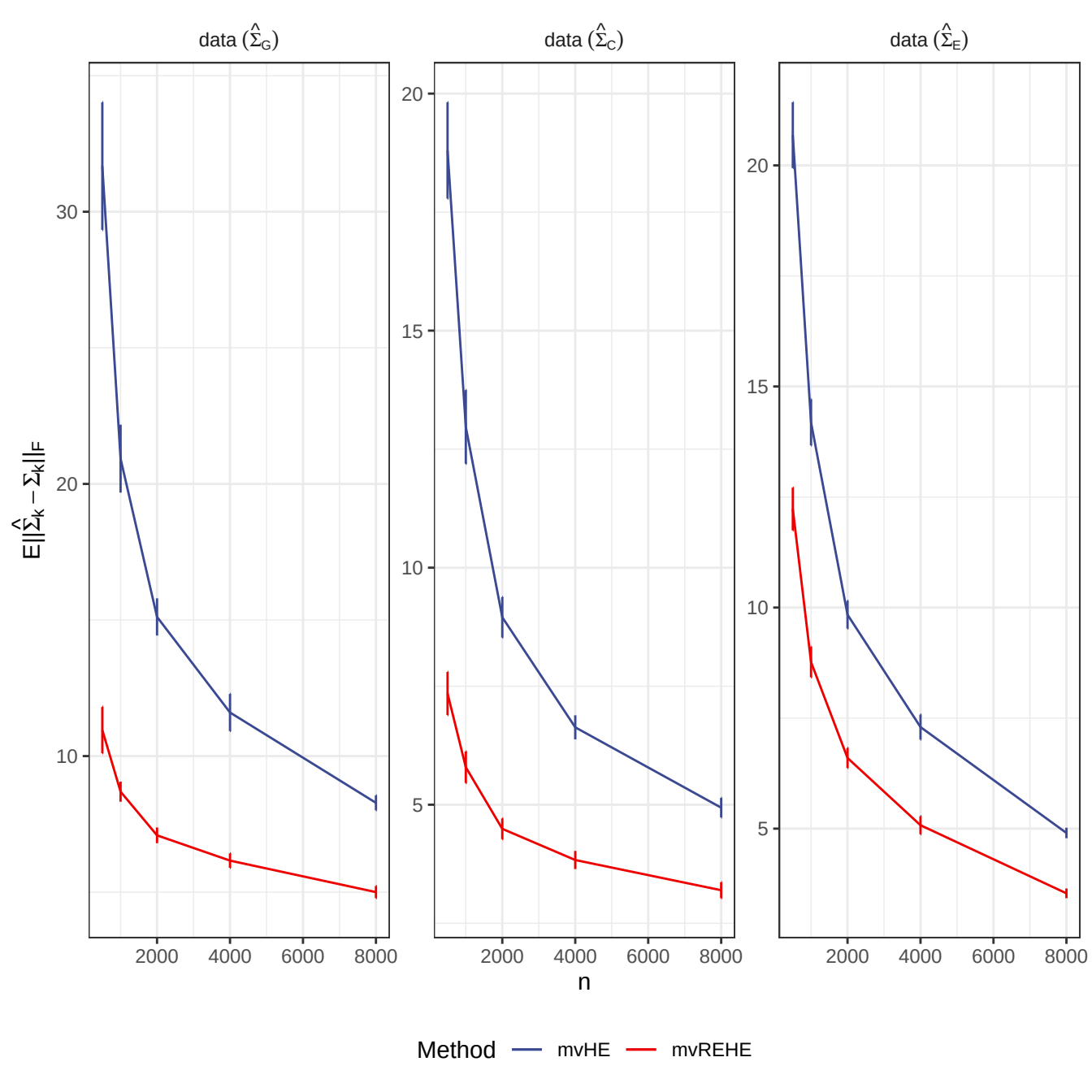
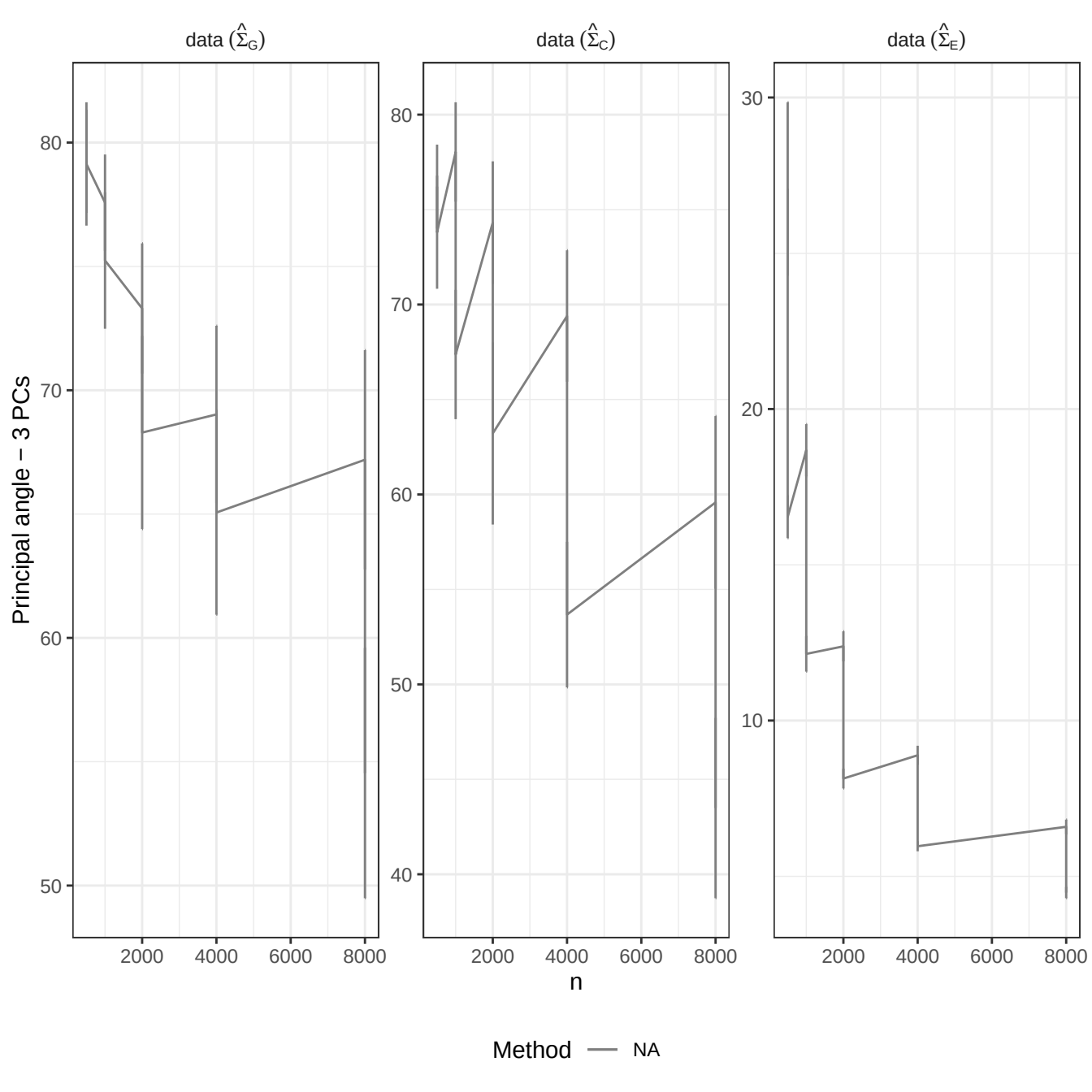
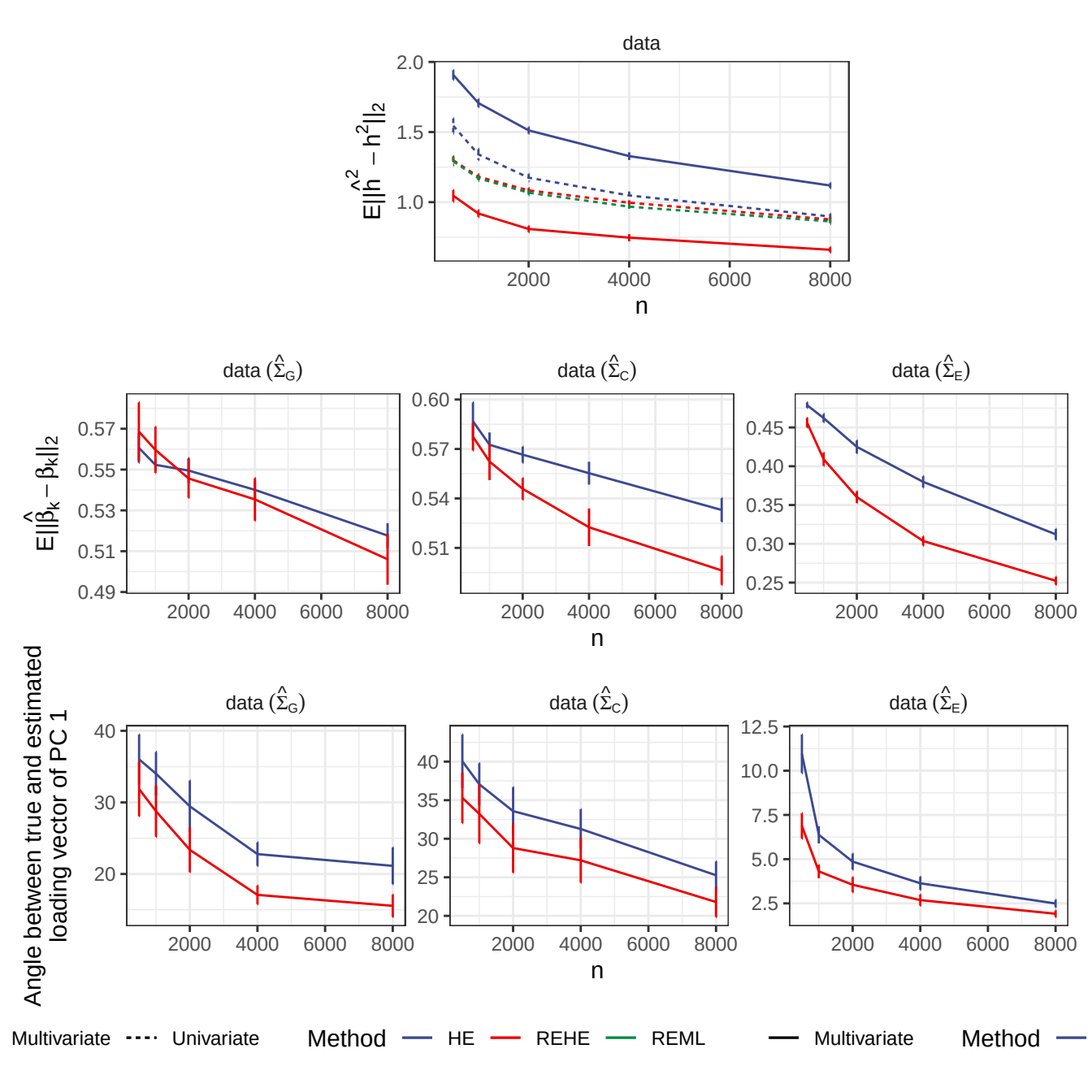

data
log10(seconds)
4
3
2
1
0
2000
4000
6000
8000
n
Multivariate
Univariate
Method
HE
REHE
REML


data ($\hat{\Sigma}_G$)
data ($\hat{\Sigma}_C$)
data ($\hat{\Sigma}_E$)
E||diag($\hat{\Sigma}_k - \Sigma_k$)||$_2$
n
repl("mv", method), "Multivariate", "Univariate")
Multivariate
Univariate
Method
HE
R


data ($\hat{\Sigma}_G$)
data ($\hat{\Sigma}_C$)
data ($\hat{\Sigma}_E$)
$E||\hat{\Sigma}_k - \Sigma_k||_2$
20
10
12
8
4
12
8
4
2000
4000
6000
8000
n
Method
mvHE
mvREHE


data ($\hat{\Sigma}_G$)
data ($\hat{\Sigma}_C$)
data ($\hat{\Sigma}_E$)
$E\|\hat{\Sigma}_k - \Sigma_k\|_F$
n
Method
mvHE
mvREHE


data ($\hat{\Sigma}_G$)
data ($\hat{\Sigma}_C$)
data ($\hat{\Sigma}_E$)
Principal angle – 3 PCs
n
Method
NA


data
$E\|\hat{h}^2 - h^2\|_2$
2.0
1.5
1.0
2000
4000
6000
8000
n
data ($\hat{\Sigma}_G$)
data ($\hat{\Sigma}_C$)
data ($\hat{\Sigma}_E$)
$E\|\hat{\beta}_k - \beta_k\|_2$
0.57
0.55
0.53
0.51
0.49
0.60
0.57
0.54
0.51
0.45
0.40
0.35
0.30
0.25
Angle between true and estimated loading vector of PC 1
40
30
20
35
25
12.5
10.0
7.5
5.0
2.5
Multivariate
Univariate
Method
HE
REHE
REML
Multivariate
Method